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Editorial
Rethinking devolution criteria for the Viksit Bharat

Institutions play an essential role in development. Since the institutions need to coevolve with development, any institutional inertia for change could act as a drag on development. In India, one such most influential institution is the Finance Commission (FC), with its prime constitutional mandate to recommend how much of the Union's net tax revenue is to be devolved to the States (size of the divisible pool) and how it to be shared among the States (read as subnational entities). Their role assumed significance because of the congenital inequality in the distribution of revenue and expenditure responsibilities between the Union and the States. As observed by the 15th FC, States together are responsible for over 62 percent of the combined expenditure of the Union and the States whereas their entitlement is limited to only about 37 percent of the total revenue.

The Finance Commissions have accomplished their constitutional mandate of fiscal devolution in a highly commendable manner by being sensitive to the inequality at the vertical (between the Union and the States) and horizontal (between States) level and contributed much towards holding India together. Yet, there remains a crucial issue with the core criterion being adopted in the devolution of the divisible pool as it is not in sync with the structural changes in the economy and India's new vision of a Viksit Bharat (Developed India) by 2047.

In devolving the divisible pool the FCs have been guided by three critical criteria, which are need-based, equity-based, and efficiency-based. The indicators and weights assigned for each criterion changed over time. The 15th Finance Commission, for instance, considered tax and fiscal efforts (2.5%), forest and ecology (10%), demographic performance (12.5%), area (15%), population (15%), and income distance (45%). The most important one is the income distance, capturing the difference in the per capita income of a State concerned from that of the State with the highest per capita income. Accordingly, the States with lower per-capita income received higher entitlement to the divisible pool, and their share declined as the per-capita income increased. The presumption is that the States with higher per capita income will have a higher tax capacity as measured by tax to GSDP ratio enabling them to mobilize the needed revenue for providing their citizens with basic minimum public goods.

However, studies by the Gulati Institute of Finance and Taxation (GIFT) and the National Institute of Public Finance and Policy (NIPFP) have shown a paradox of declining tax-to-GSDP ratio with rising per capita income across the Indian States. To illustrate, from the first half of the 1990s to the five years ending 2020, the own tax to GSDP ratio of high-income States declined from 8.8 percent to 6.1 percent, while that of low-income States increased from 5.9 percent to 6.2 percent. At the same time, given the devolution criteria, the share of the high-income states in the total divisible pool during the above period declined from 21.14 % to 15.4%. Thus, the higher-income states are faced with a double whammy; higher per capita income drives their own tax to GSDP downwards and it also causes a reduction of their share in the divisible pool. This being the reality, there are obvious limits to the use of per-capita income as a proxy for fiscal capacity.

The paradox of the negative relationship between per-capita income and own tax to GSDP ratio could be attributed to the structural change in the economy of the State concerned along with the division of taxing powers between the Union and the States. The growth of the Indian economy after the economic reforms is contributed mainly by the services sector. The relative contribution of the service sector to GSDP and their growth varies across the States. From 1990-94 to 2016-20, the share of services in GSDP increased by 25 percent in Karnataka, 19 percent in Kerala, and 17.3 percent in Haryana. Concomitantly, Karnataka experienced the highest decline (2.9%) in own tax to GSDP ratio followed by Kerala (2.8%) and Haryana (1.7%). Similarly, Madhya Pradesh and Orissa showed the lowest increase in the share of services, 1.1 percent and 3 percent, and their own tax to GSDP ratio increased by 1 percent and 1.7 percent respectively.

While the service sector emerged as the growth engine of certain states, the right to levy service tax since 1994 has been vested with the Union Government, depriving the State Governments of their potential tax revenue from the growing service sector. Further, the predominance of the informal sector in services also stood in the way of their contribution to the tax revenue. While the growing informal service sector added to the GSDP of states, their tax contribution remains limited. The introduction of GST could not resolve the issue because significant services like health and education are exempted from GST. In Kerala, the service sector which contributes 64 percent of GSDP accounts for only 17% of total GST collection. The output orientation of the state also does matter. Experts have argued that since exports are not subjected to taxation, the States deriving higher per capita GSDP from exports are losers of tax revenue. Hence, the states that derive higher per capita income from services and exports face a double whammy; they are confronted with a declining tax base and a reduced share in the divisible pool.

Apart from the structural changes in the economy of the States concerned, their output orientation also influences the tax base of the subnational economies. Experts

have argued that since exports are not subject to taxation, the States that derive their higher per capita GSDP from exports are bound to be losers of tax revenue. Thus viewed, States driven by export-oriented manufacturing and services like software lose heavily on their tax base and tax effort as seen in the case of Karnataka and Tamil Nadu.

The adoption of per-capita income as a prime devolution criterion when the service sector-driven structural change and exports emerged as the growth engine of the economy has acted as a double whammy for the high-income States. Their share in the divisible pool was cut because of their higher per capita income while their own tax effort declined as their growth was led by services and exports for which they were not entitled to tax. The persistence of the primacy of income distance as a devolution criterion suggests that the FC could be more sensitive to the changing character of the Indian economy and its new aspirations. Hence, in a context wherein the county is more aspirational than ever before, there is a need for a paradigm shift in the approach of the Finance Commission. This should involve a strategy of walking on two legs; while handholding the laggards, the performers shall not be penalised. The 16th Finance Commission may consider reducing the weight of income distance criteria with a corresponding increase in the weight of the need-based criteria. Alternatively, it could consider an adjusted per-capita GSDP weighed by the sectors of GSDP for which taxes are levied and the State's contribution to the country's exports.

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Fiscal sustainability in Kerala: The trend in the recent decades

V Mathew Kurian and S Muraleedharan

Abstract

The present study examines public debt management at the sub-national level, assessing its challenges and implications. It also analyses the use of public debt for revenue rather than capital expenditure and explores fiscal sustainability as the primary objective. It analyses six indicators of state government fiscal sustainability, analyzing the growth of public debt in relation to nominal State GDP, real interest rates, primary surplus, and revenue accounts. Utilizing data from RBI Statistics on Indian States and State Finances spanning 1990-91 to 2021-22, it provides a comprehensive overview of fiscal trends in the region. The study highlights both favorable and unfavorable trends in fiscal sustainability indicators, emphasizing the need for effective spending in critical sectors like health and education. It underscores the importance of mitigating potential fiscal crises associated with public debt through prudent fiscal management strategies.

Public debt management at sub-national level is a walk over a thread bridge. Questions are raised whether public debt can be used for meeting revenue expenditure rather than capital expenditure. The straight answer may be negative which raises a counter question that all revenue expenses are non-developmental. Anyway, public debt management is skill that should be able to meet the objective of fiscal sustainability which is the main motto of this article.

This study is organised in four sections. The theoretical frame and method of the study is outlined in the first part while the contextual theoretical development is briefed in the subsequent part. The data presentation based on the theoretical frame is attempted in the third section with conclusion in the final part.

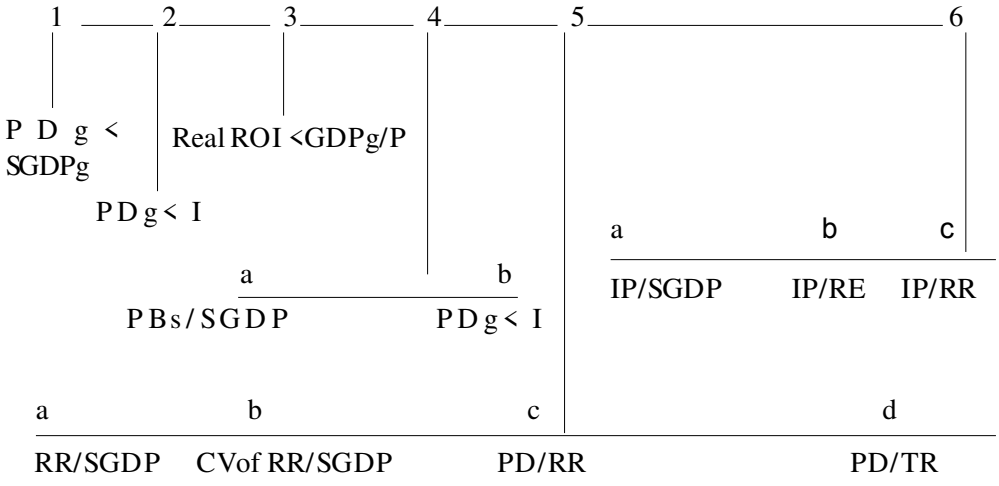
I. The theoretical framework and method of the study

There are six indicators of state government's fiscal sustainability (Kaur and Mukherji, 2023). One relates to the growth of PD and nominal State GDP. For fiscal sustainability, the rate of growth of PD should be less than that of the growth rate of the SGDP i.e., the difference between

the rates of growth of PD and SGDP must be negative. The second indicator demands that the rate of growth of PD must be less than the effective rate of interest (PD - I < 0). The third indicator refers to the real rate of interest (RROI) and real SGDP. The latter is expected to be higher than the former (i.e., RROI < RSGDP). Primary surplus (PR) and nature of revenue accounts are the sub indicators of the fourth indicator. The first sub indicator (4.a) of the fourth indicator demands that the ratio of primary surplus to SGDP should be positive while the ratio between primary balance in surplus and interest payments (IP) must be greater than 100 (4.b). It implies that PRB surplus are expected to meet the liability of IP (Chart -1).

The next main criterion (5th) deals with RR and public debt (PD). The first sub sector (5.a) shows the revenue receipts (RR) as a percentage of state GDP which is expected to rise continuously over time (RR/SGDP*100). Its variability (5.b) needs to be slipped down regularly as the passage of time (CV of RR/SGDP). The ratio between PD and RR should also come down overtime which is the third sub criterion (5.c). The fourth sub indicator (5.d) pertains to PD and tax revenue (PD/TR). Their ratio must decline continuously with respect to time. The last main indicator is primarily based on interest payments (IP) which has three sub indicators. They are interest burden, IP as a percentage of revenue expenditure (IP/RE) and IP/RR. The interest burden (6a) is defined as IP as a percentage of GDP which needs to slip down overtime. 6.b and 6.c are also designed to move down along time scale for fiscal sustainability. The above

Chart 1: Indicators of fiscal sustainability at state level



Source: Balbir kaur and mukherjee, 2023.

discussed indicators are presented schematically in chart 1. The required data are taken from RBI Statistics in Indian States and State Finances. The coverage of the study is from 1990-91 to 2021-22.

II. Theoretical context

The issue of public debt has been a hot content of discussion since the days of Classical Economics. Budget deficit (BD) instead of current consumption culminates in rise in aggregate demand (Barro, 1989). Then private saving increases at a level less than the fall in tax, that leads to a reduction in desired national saving. In income-expenditure framework, it connotes that,

$S + (T-G) = I + Nx$ (Gordon, 1990), where S, T, G, I and Nx stand for saving, tax, govt. expenditure, investment, and net exports respectively.

Then, BD pulls down saving as argued by Barro. Based on the standard model, Barro (1989) explains the impact of public debt (PD) in the place of current taxation in a closed or open economy. In a closed economy, BD leads to an increase in the real rate of interest (ROI) to restore equilibrium. This evolves into a small size of productive capital. In an open economy, BD takes the trajectory of external borrowing in place of a rise in the real rate of interest but ends in a current account deficit. Any expected rise in real ROI occurs in the home market if it is a large economy. However, there is a weaker tendency to crowd out its internal investment in the short period and its stock of capital in the long period. Barro also argues that the CAD can reduce national wealth in a long period.

The serious debate on the burden of public debt kicks started during the Classical period. David Ricardo, one of the pillars of Classical tradition, postulates that a BD-financed cut in current taxes emerges in increased future taxes which is the same as the present value (PV) as the initial reduction given the path of government expenditure (Barro, 1989). If the source of such finance is public debt, then such debts can expand forever at the existing rate of interest or higher, the PV of revenues cannot alter unless the government alters the PV of its expenditure. Provided the trajectory of government expenditure and non-tax revenues, a reduction in current-period taxes should be equalized by an equivalent rise in the PV of tomorrow's taxes.

Here comes the question of how households will settle their net wealth (Barro, 1989). Each one considers the difference between the PV of its income and the expected PV of taxes. In this context, fiscal policy can modify aggregate consumer demand, if only policy alterations influence the expected PV of taxes.

The above argument has important implications. BD and taxation have equivalent impacts on the economy. Thus, the name emerged as the Ricardian Equivalence Theorem (Barro, 1989). That is, a fall in government saving (T - G) is followed by a corresponding increase in desired private savings so that there is no change in desired national savings. Subsequently, there is no change in real ROI, no effect on investment, and no burden of the public debt or social security in the sense of Modigliani (1961) and Feldstein (1974).

Criticisms to ricardian equivalence theorem

The future burden of current period public debt linked to cut in current taxes is doubtful in the sense that private decisions are influenced by limited horizon (Gordon, 1993). Moreover, parents leave much of their net worth of houses to their children without a conscious decision to save for the future generation. He also argues that households borrow at a higher rate than the rate of the govt. securities. It indicates that households attach a higher 'discount rate' to future govt. taxes than the official interest rate on public bonds.

Keynesian approach

Public debt funding can have an enhanced multiplier effect on income and employment (Das, 2016). Yet, it fails to distinguish between govt. consumption and or investment expenditure. Its failure is also seen in showing different sources of financing such as monetization, external borrowing, or internal borrowing. Keynes argued later that full employment could be assured via raising capital expenditure with the condition that revenue expenditure was under control and capital expenditure was incurred efficiently. If the capital expenditure brings in a positive return, the deficit will remain in the controllable limit.

Keynesian approach was formally developed by Domar in 1944 and he argued that if the GDP would grow at an increasing rate, the rate of growth of debt would converge to the growth of GDP. Then, the Debt-GDP ratio would tend to a stationary state. It implied that a higher growth of GDP would bring down the Debt-GDP ratio. This could again facilitate enhanced economic growth provided a sizable quantity of the borrowed funds were invested in health, education, and R&D (Das, 2016; Domar, 1944).

Post-Keynesian view on public debt.

Increased future taxes to service PD will have not only a 'burden' but also an 'excess burden' (Phelps, 2022). The latter points to less work and saving which itself would result in increased taxes and reduced NI and saving. Another aspect that touches our mind is that enhanced interest income from government bonds pulls the income earners on higher marginal tax rates.

According to the Neo-classical view, PD creates a wedge between wealth and capital (Phelps, 2022). That is, PD raises wealth but may or may not reduce capital. This would augment consumption but slide down capital accumulation and productivity growth. US experience after World War I, the Spanish Flu pandemic, and World War II showed that PD accumulated, consumption zoomed but investment - output ratio shrank (Modigliani, 1961). Phelps and others (2022) held studies on the relationship between PD and employment between 1970 and 2019 in the context of G7 countries. The finding is that PD pushes down real ROI followed by a fall in wages, employment, and future consumption. There is another dimension to the Barro-Ricardo Equivalence theorem (Gordon, 1993). When the USA followed the tax cut in the early 1980s, it was expected that the saving rate would increase after the tax cut which did not take place then. In this

context, Phelps (2022) concludes that the views of both post-Keynesian and neo-classical economists have their own relevance while considering the macroeconomic issues in general.

III. Recent fiscal indicators in Kerala

The conceptual frame outlined in Chart I is elaborated in this section based on the data provided by RBI Statistics on Indian States and State Finances. The discussion is made in the sequence of the variables presented in the mentioned chart. The trend in the various fiscal variables in Kerala is discussed for a period since 1990-91.

As per the theoretical discussion in section I, the need for public debt arises in the context of budget-related deficits. In the Indian scenario, three types of deficits are referred to, such as revenue deficit, fiscal deficit, and primary deficit. A revenue deficit is the excess of revenue expenditure over revenue receipts. Fiscal deficit connotes the difference between total budget expenditure and total receipts except the borrowing. When the interest payment is deducted from the fiscal deficit, the primary deficit is obtained. The trend in these three deficits is discussed below.

Revenue deficit in Kerala

Revenue Deficit in Kerala as a percentage of all states and UTs in India moved with the trend till the mid-2000s. It deviated from the trend since then till 2018-19. During 2005-06 and 2018-19 when deviation took place, the ratio registered negative values for 7 years as there was revenue surplus for all states and UTs. Kerala did not register any surplus during that period (Figure 1).

Trend in gross fiscal deficit in Kerala

The gross fiscal deficit in Kerala as a percentage of GFD of all states and UTs has been oscillating throughout the three decades under consideration (1990-91 to 2021-22). Oscillations were higher after 2007-08. The share ranged from 3.40 in 2001-02 to 7.57 in 2012-13. (Figure 2). It implied that Kerala's share in gross fiscal deficit (GFD) out of GFD of all states and Union Territories in India was rising and fluctuating in the previous decade (Figure 2).

Primary deficit in Kerala.

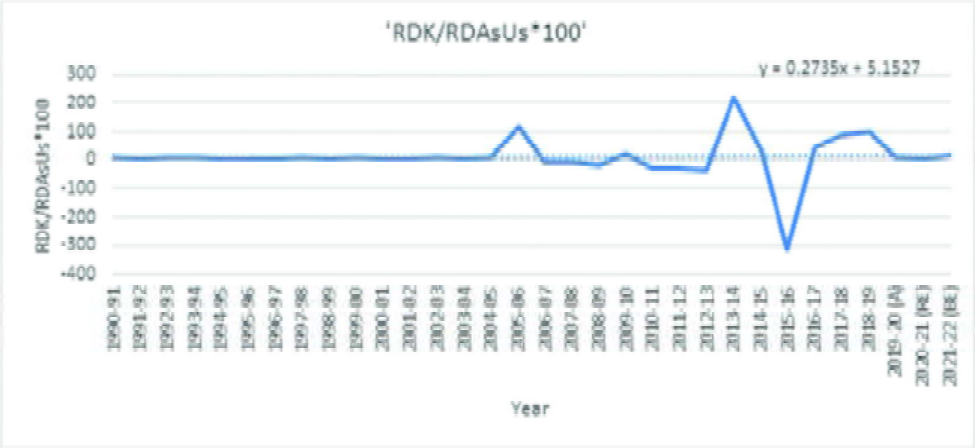
The primary deficit as a percentage of the primary deficit of all states and UTs in India showed oscillations after 1990-91. It has been higher after 2006-07, especially between 2006-07 and 2015-16. The share started to decline after 2017-18 (Figure 3). The share of Kerala in PRD ranged from 2.32 in 2000-01 to 20.63 in 2010-11. It may be noted that wider oscillations were noted in the GFD case too in the previous decade (Figure 3).

Fiscal sustainability indicators in Kerala

It is time to analyse the public debt in Kerala in the light of the conceptual frame as outlined in chart 1. It is presented in the order of the six sustainable indicators mentioned in that chart. Initially, the case of the relationship between growth in PD and State Domestic Product (SGDP) is contemplated.

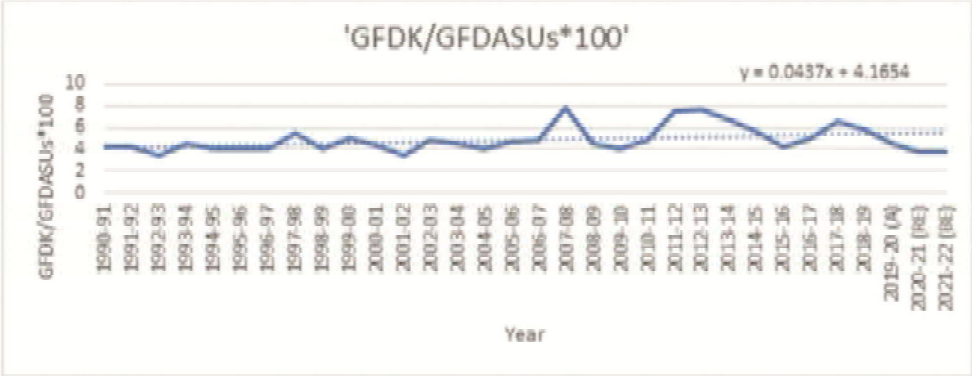
The trend of annual percentage variation of PD was very low and positive compared to the negative trend of annual percentage variation in Kerala's SGDP

Figure 1: Revenue deficit in Kerala (RDK) as a percentage of revenue deficit of all states and union territories (ASUTs) in India during 1990-91 and 2021-22



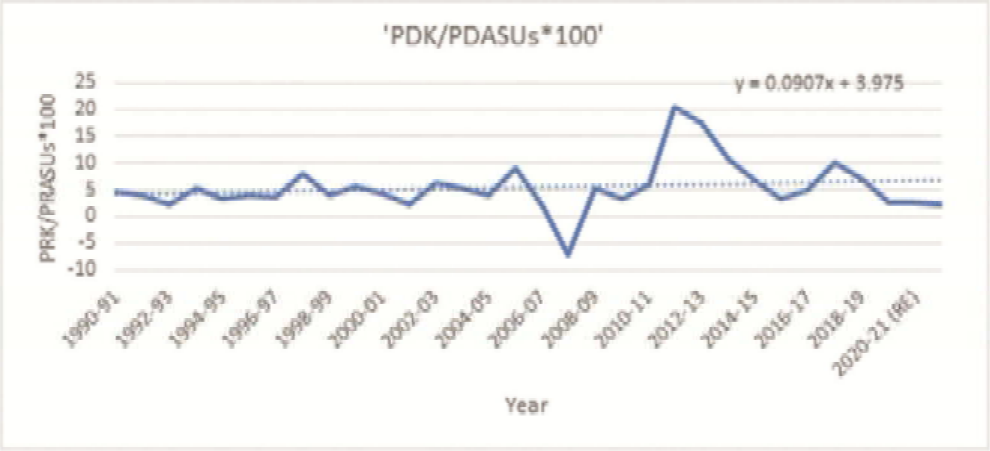
Source: Based on RBI Data.

Figure 2: Gross fiscal deficit in Kerala as a percentage of gross fiscal deficit of all states and UTs in India during 1990-91 and 2021-22



Source: Based on RBI Data.

Figure 3: Primary deficit in Kerala as a percentage of the primary deficit of all States and UTs in India during 1990-91 and 2021-22



Source: Based on RBI Data.

since 1990-91. There is only a weak but positive correlation (0.198) between the percent annual variation of SGDP and PD in Kerala during 1990-91 and 2021-22. Moreover, fluctuations in percentage annual variation in SDGP were more than that of PD in Kerala. As per the first fiscal sustainability indicator, the growth rate of PD should be less than the growth rate of SGDP, but the former was greater than the annual growth of the SGDP of Kerala during the reference period (Figures 4 & 5).

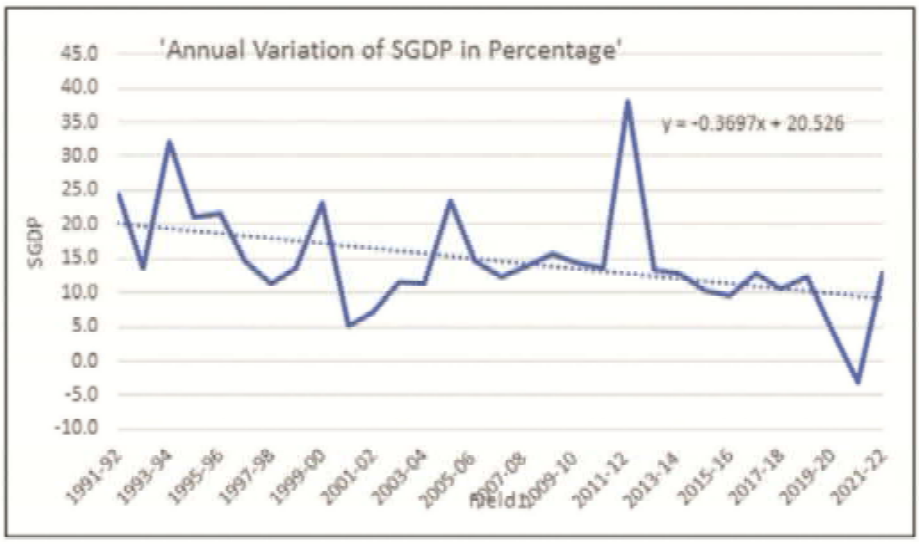
Growth in real rate of interest (RROI) and real SGDP

The second indicator is not elaborated here as reliable data is not available at present. The third indicator of fiscal sustainability shows the relation between RROI and real SGDP. The annual growth rate of real GDP was greater than the RROI in 20 years between 1991-92 and 2021-22 (Figure 6). The annual growth rate of the former was moderately higher in 1993-94, 95-96, 2004-05, and 2011-12, 2015- 16 and 2017-18. The sustainability indicator demands that the growth rate of real SGDP must be greater than the RROI which generally pointed towards fiscal sustainability since 1990-91 (Figure 6).

Fourth Criterion: Primary surplus and primary revenue deficit (Figure 7).

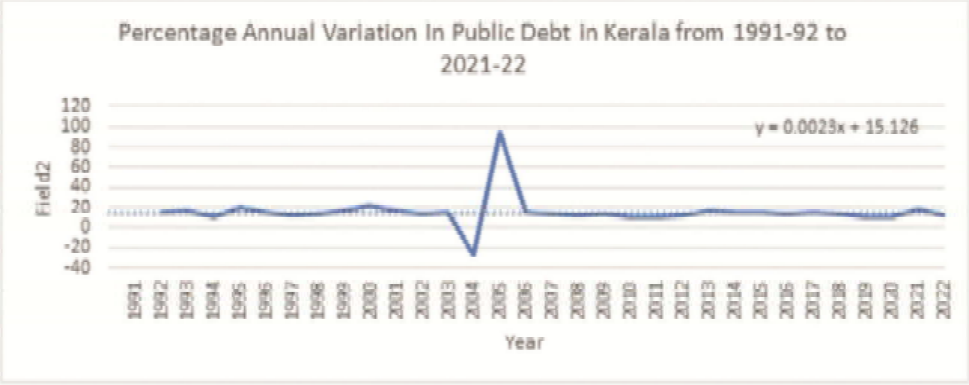
The fourth indicator is related to primary balance and primary revenue balance, which have two sub-indicators. One deals with primary balance surplus (deficit) and SGDP (4a) which must be greater than zero. As the original data is deficit form except in 2006-07, their ratio may be treated as negative and is against the fiscal

Figure 4: Annual variation of SGDP in percentage



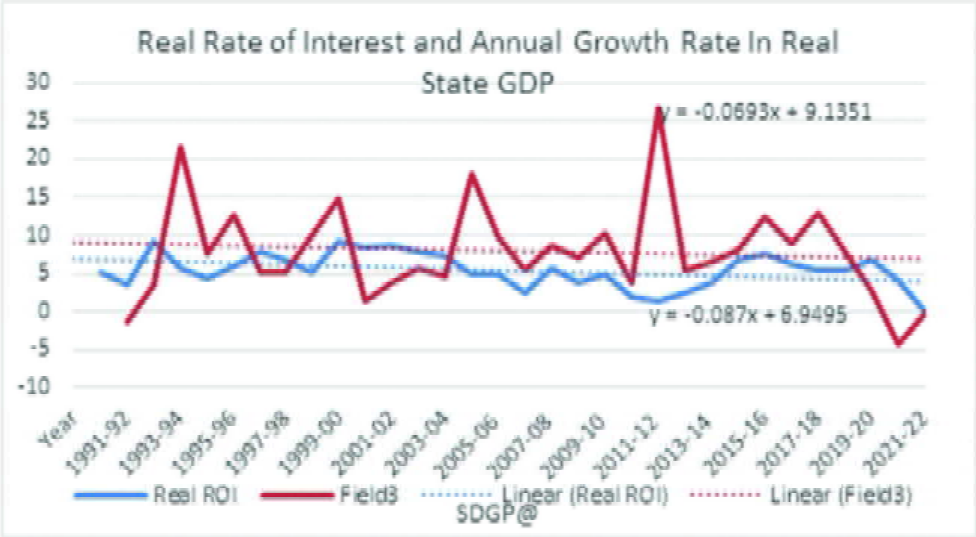
Source: Based on RBI Data.

Figure 5: Percent annual variation in public debt in Kerala from 1991-92 to 2021-22



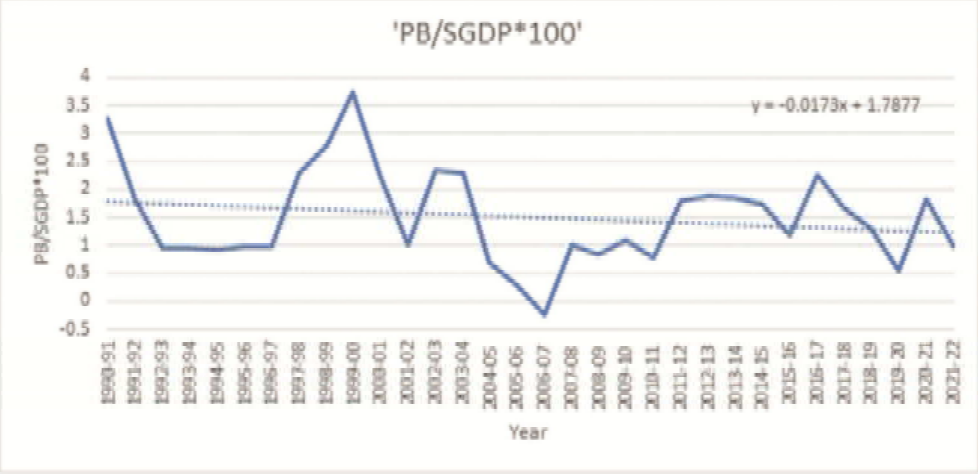
Source: Based on RBI Data.

Figure 6: Real rate of interest and annual growth rate in real state GDP



Source: Based on RBI Data.

Figure 7: Primary surplus (deficit)/ SGDP in Kerala in percentage from 1990-91 to 2021-22



Source: Based on RBI Data.

sustainability indication. The primary deficit in Kerala was the highest in 1990-92 and 1999-00 (Figure 7). This ratio (deficit) has generally declined during the last three decades (Figure 8).

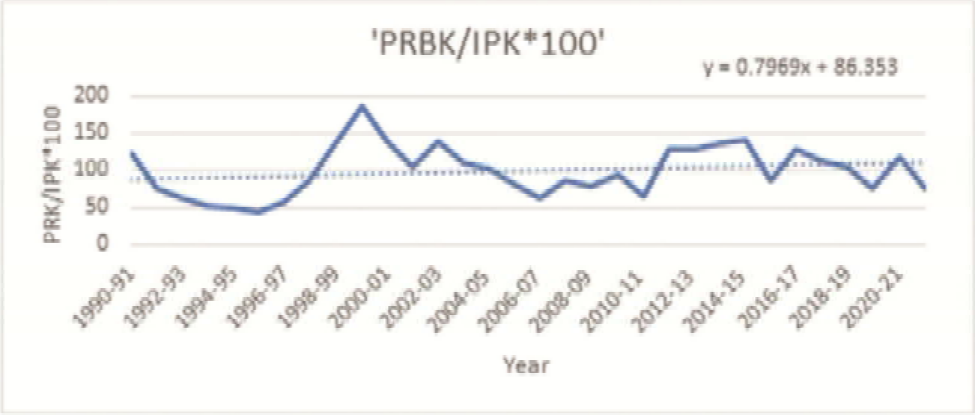
The second sub-indicator (4b) in the fourth indicator of fiscal sustainability wants the primary revenue balance as a percentage of interest payments (IP) to be more than 100. Considering the primary revenue deficit in Kerala throughout the study, the number of years with less than 100 may be taken as a step towards fiscal sustainability. There were only 10 such years between 1990-91 and 2021-22 (Figure 8). Thus, this sub-indicator was not favorable to Kerala.

The fifth indicator: RR and PD.

The fifth indicator is mainly based on revenue receipts (RR) and public debt (PD). It has four sub-indicators viz. RR/SGDP, coefficient of variation (CV) of RR/SGDP, PD/RR, and PD/TR, where TR stands for tax revenue.

The percentage of RR/SGDP (5.a) of Kerala ranged between 10.44 and 13.07 with a mean value of 11.723 during 1990-91 and 2021-22). The mean value remained at comparable levels even if the period is divided as before and after 2010-11. The mean values are 11.72, 11.82, and 11.81 for the whole period, 1990-91 to 2010-11 and 2011-12 to 2021-22 respectively. The general trend line in the RR as a percentage of SGDP (5a) had been declining since 1990-91 in Kerala. The declining trend reversed after 2014-15. It implies that the state's effort to raise more revenue started getting positive results during the recent years. In the case of the second sub-indicator (5b), the CV of RR/SGDP need

Figure 8: Primary revenue balance (deficit)/ IP in Kerala in percentage from 1990-91 to 2021-22



Source: Based on RBI Data.

to come down in the long run. Its CV was 4.28 for the whole period of analysis but it was 2.17 and 6.88 respectively before and after 2010-11. It connoted that the CV of RR/SGDP increased after 2010-11 which indicated against fiscal sustainability. However, the revenue efforts were better than the trend after 2014-15. The general trend showed sluggish progress in recent years where this criterion demanded a continuous increase (Figure 9). It implies that more efforts in revenue receipts are required (Figure 9).

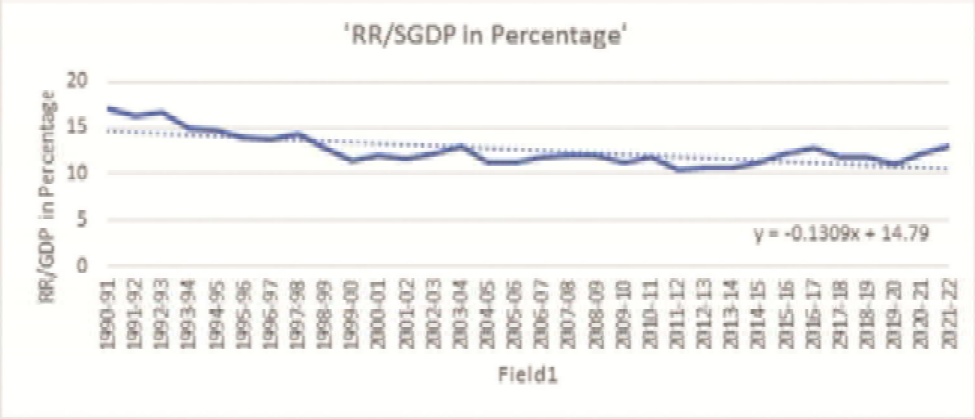
The third sub-indicator (5c) deals with the ratio between PD and RR. To achieve fiscal sustainability, this ratio needs to fall continuously but it did not take place in Kerala during the reference period (Figure 10). It increased during 2004-5 and 2006-07 but declined later up to the pre-covid year (2019-20). PD/RR ratio was above the trend line between 1990-00 and 2010-11 except in 2003-04. This again increased after 2019-20. This ratio had a general upward trend with a small slope (Figure 10).

The PD/TR (5d) is also expected to decline over time to achieve fiscal sustainability. The general trend was rising with a slope of 0.035 between 1990-91 and 2021-22. The actual path of PD/TR had a higher level of movement in the early 1990s, and in the decade of 2000s except in 2003-04 and since 2019-20. It implied that this ratio declined below the trend line in the late 1990s and the previous decade (Figure 11).

Interest payments in Kerala

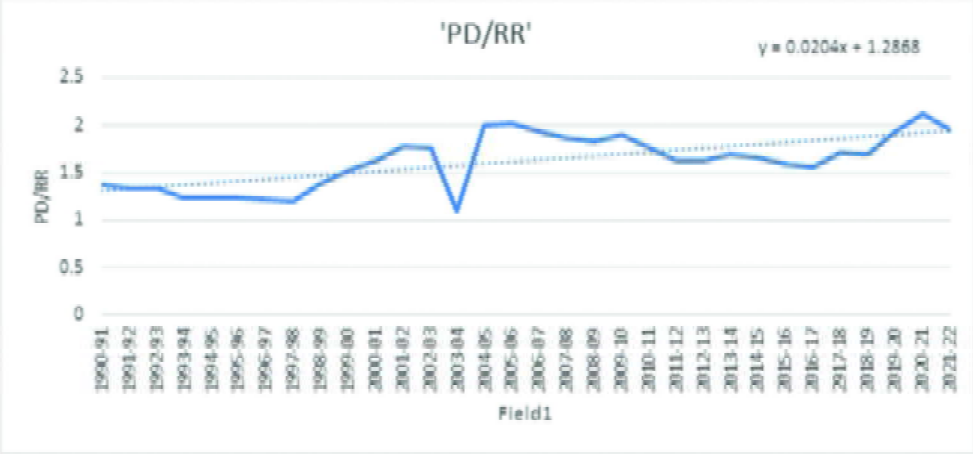
The sixth indicator is prominently linked to the interest payments. The percent of interest payments (IP) of Kerala to the IP of all states and UTs in India was 3.9 in 1990-91 which gradually moved to 5 percentage by 2014-15. It hovered around

Figure 9: Trend in RR/SGDP in Kerala in percentage from 1990-91 to 2021-22



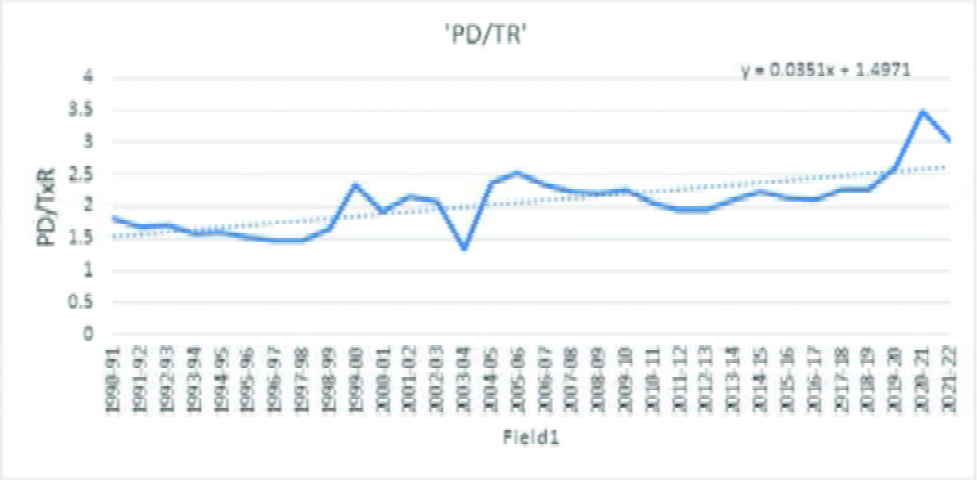
Source: Based on RBI Data.

Figure 10: Trend in PD/RR in Kerala in percentage from 1990-91 to 2021-22



Source: Based on RBI Data.

Figure 11: Trend in PD/TR in Kerala in percentage from 1990-91 to 2021-22



Source: Based on RBI Data.
Based on RBI data.

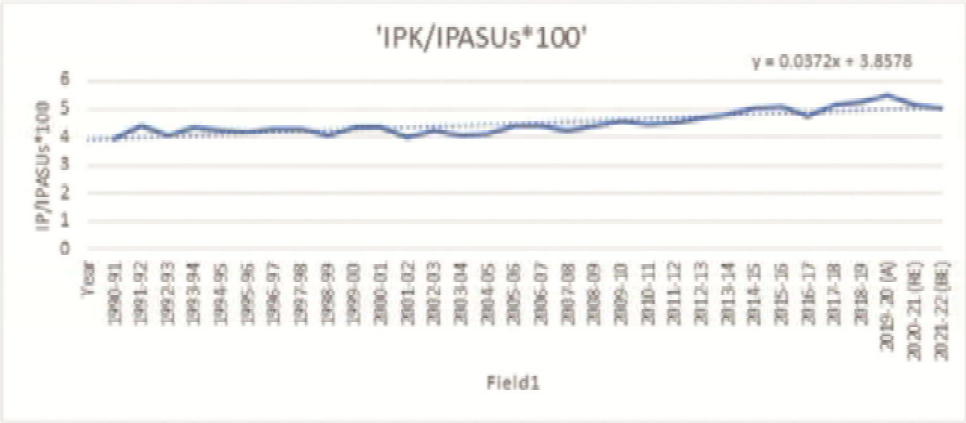
it until date. It implies that the IP of the state has been rising generally not only in absolute but also in relative terms. The ratio of IP in Kerala to IP of all states and UTs in India was above the trend line till 1997-98 and after 2014-15 except in 2016-17 (Figure 12).

As per the conceptual framework of the study, IP/SGDP (6a) must move down over time. It started to decline in 2003-04 which continued till 2011-12 but turned to rise since then (Figure 13). The general trend since 1990-91 had been slipping down but the trend between 2000-01 and 2005-06, and since 2017-18 was that the ratio was above the trend line. The increase in this ratio since 2017-18 is a serious issue to be tracked (Figure 13).

The IP as a percentage of revenue expenditure (6b) showed a trend in the expected line. It had a negative slope during the last 22 years, especially during the previous decade. The fiscal sustainability indicator demands a continuous decline over time as far as this ratio is concerned. Thus, this ratio is favourable to Kerala (Figure 14).

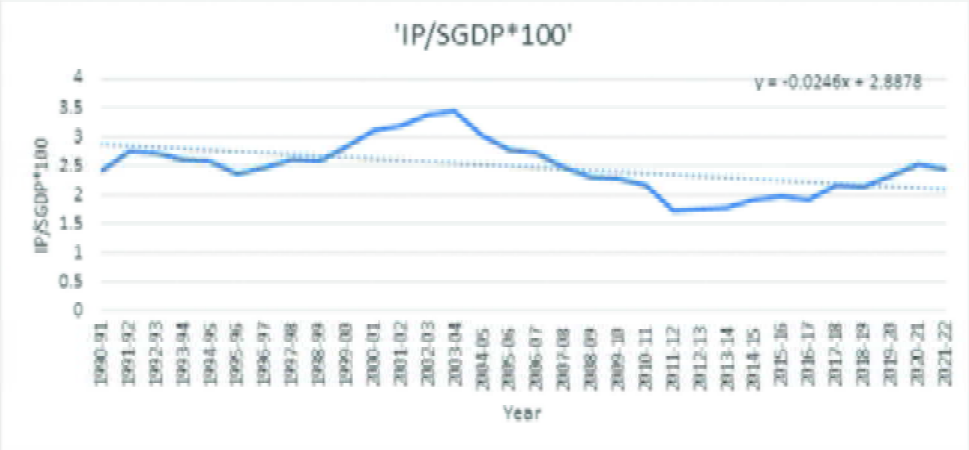
The third sub-criterion (6c) had a sluggish declining trend as per the expected lines. The interest payments about RR were the above trend during the early part of the 2000s, and the downward march continued till 2016-17 (Figure 15). After that, the ratio had an oscillated upward trend which must be corrected. A look from 1990-91 showed that this ratio increased up to 2002-03 though it was below the trend line till 1998-99. As per the argument by Kaur and Mukherjee (2023), if the mean of interest payments exceeds one-fourth of revenue receipts, it is treated as above the tolerable level. It was so

Figure 12: IP in Kerala as a percentage of IP of all States and UTs during 1990-91 and 2021-22.



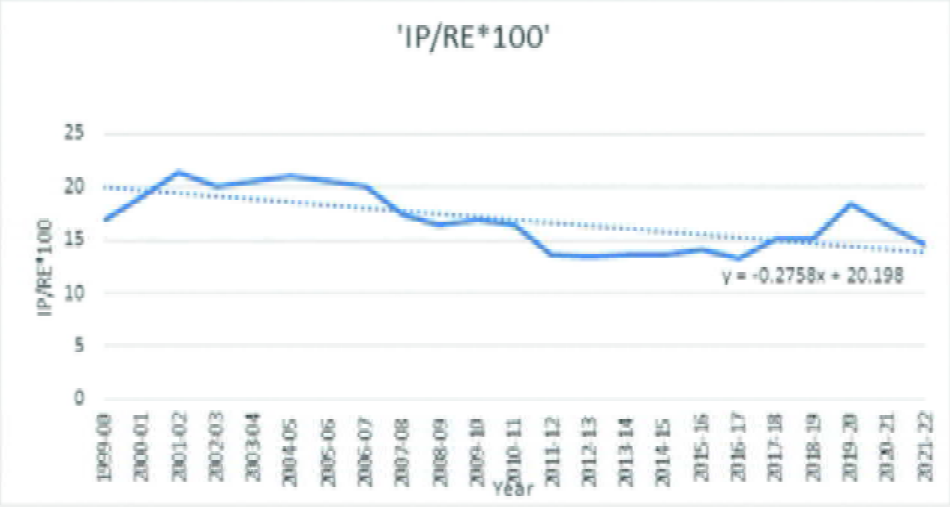
Source: Based on RBI Data.

Figure 13: Trend in interest payments/ SGDP in Kerala between 1990-91 to 2021-22



Source: Based on RBI Data.

Figure 14: Trend in interest payments/ revenue expenditure in Kerala between 1990-91 to 2021-22



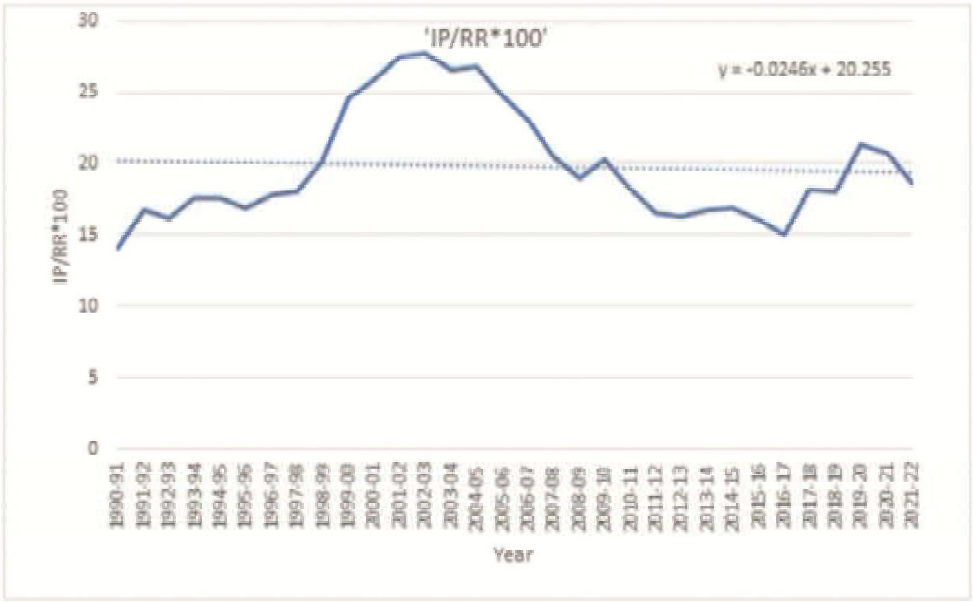
Source: Based on RBI Data.

between 2000-01 and 2004-05 but was not so after that (Figure 15)

IV. Conclusion

This study considered five main indicators and their sub-indicators to fix the fiscal sustainability in Kerala for 1990-91 and 2021-22. In the case of the first indicator, the percentage annual growth of public debt was greater than the percentage annual growth of SGDP which is opposite to the set principle. Fluctuations in the growth of SGDP were more than the slow rise in the growth of PD during 1990-91 and 2021-22. The third indicator requires that the real rate of interest (RROI) must be less than the real growth of SGDP. It is observed that the latter was greater than the former for 20 years out of the three decades of analysis. In this sense, the third indicator pointed towards fiscal sustainability in the state. The fourth indicator is composed of two sub-indicators such as primary balance in surplus by SGDP (4a) and primary revenue balance and IP (4b). The 4a is expected to be positive but it has been negative throughout the reference period except in 2006-07. This is against the fiscal

Figure 15: Trend in interest payments/ revenue receipts in Kerala between 1990-91 and 2021-22



Based on RBI Data.

The emerging ideas are summarised in the following section.

sustainability indicator, though it has a general declining tendency. The second sub-indicator (4b) should have been more than 100 continuously (less than 100 if the deficit persists). There were only 10 such years since 1990-91 and hence was not favourable to fiscal sustainability in Kerala. Though the first and third indicators represent the sufficient condition of fiscal sustainability, the necessary condition is represented by the fourth indicator which is not favourable to Kerala. Four sub indicators composed the fifth indicator. The ratio of RR and PD is the first sub-indicator (5a) of the four sub-indicators in the 5th main indicator. Its general trend has been declining against a rising requirement, but the trend reversed after 2014-15. This is a favourable change. The coefficient of variation of the second sub-indicator (5b) should have come down over time, instead, it increased. So, this sub-indicator did not satisfy fiscal sustainability. The third sub-indicator (5c) has a general sluggish upward trend which should have been declining. Thus, this indicator also did not warrant fiscal sustainability in the state. The ratio between PD and tax revenue (TR) is expected to fall regularly but increased instead in Kerala (but had only a small slope). The sixth indicator is mainly based on IP which has two sub-indicators (6a&b). The 6a deals with IP/SGDP which ought to have come down in general, and it was so in general. However, the trend started to reverse after 2016-17. The second sub-indicator (6b) refers to the declining IP as a percentage of revenue expenditure. This was on the expected line as per the fiscal sustainability indicator. The third sub-indicator (6c) of the 6th indicator has a sluggish declining trend as per the expected lines.

In short, out of the eleven indicators and sub-indicators, three indicators are favorable to the state (3 and 6b &c), while six indicators are unfavorable (1, 4a, 4b, 5b, 5c, and 5d) and two indicators had a mixed trend (5a, 6a). Thus, fiscal sustainability in Kerala has been showing a mixed trend since 1990-91 though the state must consider the necessary condition of fiscal sustainability. As long as the state spends on health and education effectively (Domar condition), public debt need not create a fiscal crisis in Kerala.

■

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An interstate analysis of vertical fiscal imbalance in India

Surya K and Aswathy Rachel Varughese

Abstract

Vertical Fiscal Imbalance (VFI) across Indian states has shown a consistent upward trajectory, notably spiking after the advent of demonetization and unprecedented pandemic shock. There exist wide inter-state disparities in the VFI during 1990-2022. States like Bihar, Uttar Pradesh, West Bengal, Odisha, Rajasthan, and Madhya Pradesh face significant fiscal hurdles, marked by relatively higher levels of VFI. Therefore, the present study examines the trends in VFI across Indian states during (1990-2022). The study also analyses the inter-state variations in VFI and delves into the factors responsible for VFI across the states. Given central transfers are tailor-made to plug in the gap, the study also examines how far the central transfers aided states in reducing the imbalance. Given the changing pattern of central transfers, this study advocates for subnational governments to meticulously scrutinize these contributing factors to mitigate fiscal disparities in the coming years.

1. Introduction

India's constitutional framework delineates powers between the Union and the States, as outlined in the seventh schedule of the Indian Constitution. This quasi-federal arrangement establishes distinct spheres of authority but also exposes an inherent imbalance in power distribution. While the central government enjoys significant revenue mobilization capacities, the states at the sub-national level, shoulder substantial spending responsibilities, albeit hindered by limited tax collection capabilities. Rao (2005) underscored the fiscal incongruity arising from this constitutional setup. Despite states shouldering nearly 58 percent of expenditures in the 2000-01 fiscal year, their share of overall revenues stood at a mere 38 percent. Consequently, states faced the daunting task of covering nearly half of their expenses, relying heavily on transfers, which accounted for approximately 57 percent of their total spending. The prevalent mismatch between revenue inflows and expenditure obligations has given rise to the concept of Vertical Fiscal Imbalance (VFI). This

term encapsulates the challenges states grapple with insufficient resources to meet their expenditure needs, thus fuelling ongoing discourse on fiscal reform and equitable resource allocation. Intergovernmental transfers address the problem of fiscal imbalances in the country. The states' reliance on fiscal transfers, measured by the ratio of transfers to their expenditure moderated recently (RBI, Study of State Finances, 2023). Although the states' share in the divisible pool of central taxes increased over time, the actual tax devolution to the states has lagged the recommended share due to the exclusivity of cess and surcharges. Against this backdrop, the present study examines the trends in VFI across Indian states during (1990-2022). The study also analyses the inter-state variations in VFI and delves into the factors responsible for VFI across the states. Given central transfers are tailor-made to plug in the gap, the study also examines how far the central transfers aided states in reducing the imbalance.

Vertical fiscal imbalance: Definition and calculation

VFI is higher in India compared to other countries like Brazil and Canada. States attempt to bridge the gap by increasing efforts towards their own revenue mobilization and streamlining expenditure patterns. However, there exist large spatial variations on those fronts. Asymmetries arise from the mismatch between the decentralization of revenues and expenditures, which results in a VFI. The phrase "vertical fiscal gap" describes a scenario when there is a surplus of federal revenue relative to its assigned duties and a matching shortfall in state budgets where spending exceeds internally generated revenue. In academic discourse, the terms "transfer dependency," "vertical fiscal gap" (VFG), and "VFI" are interchangeable to refer to this fiscal mismatch. According to Ehraud and Lusinyan (2013), a vertical fiscal imbalance arises when there is a difference between the amount of money that is independently generated income (total revenues minus transfers received) and the amount of money that is independently incurred spending (total spending minus transfers paid) at a particular level of government. The concept of vertical fiscal imbalances aims to quantify the extent to which subnational governments' spending is supported by their income rather than through financial assistance or grants from the federal government. (Seiferling, M. M., and I. Aldasoro (2014). According to Luc Eyraud and Lusine Lusinyan's (2013) suggestion, the basic measure of VFI is

VFI= 1- (Subnational govt own revenue/ subnational own spending)

Or, VFI= transfer dependency+ Sub national govt deficit

Where,

Transfer dependency= Net transfers/ SNG own spending

Sub-national govt deficit= SNG net borrowing/SNG own spending

VFI, then, is the gap between own expenditure and own revenue at various levels of the federal government. the

underlying question here is to what extent states are autonomous concerning the amount of their taxes, as well as the constituent parts of their total revenue. If they have little ability to 'manage' or exert influence, there will undoubtedly be a significant vertical fiscal imbalance (Hunter, J. S. H, 1977). Horizontal fiscal imbalance is one related idea, in which discrepancies arise from different subnational governments' imbalance between revenue and spending. According to Bird and Tarasov (2004), there is an association between horizontal imbalances and VFI. Even if VFI is rectified in one region, the persistence of imbalances in another region signifies the presence of horizontal imbalances among those regions. The imbalances lead to a higher level of borrowing from the central government, but the approach to handling debt differs significantly. In this context, the interest rate for central borrowing from external sources is considerably lower than the interest rate for borrowing by the states (Rangarajan, C., & Srivastava, D. K. 2005).

Thus, the vertical imbalance needs to be corrected and this is done through the distribution of central tax devolution and grants, by the recommendations of the Finance Commission as outlined in Article 280(3)(a), established to allocate the proceeds of specific taxes fairly and equitably between the Union and the states. These financial transfers can create some fiscal effects namely; soft budget constraints and a common pool of resources. The soft budget constraint occurs when the fiscal gap is financed by a supporting authority. Relying on borrowing would heighten the risk for subcentral governments in managing fiscal and financial policies, particularly when the possibility of a bailout exists. This would amplify the extent of vertical fiscal imbalance, intensifying the demand for bailouts and potentially leading subnational governments to display fiscal irresponsibility Strauch, R., & Hagen, J. V. (2001). Similarly, a positive fiscal imbalance results from a lack of committed fiscal policies, which may cause extreme situations with a soft budget constraint Boadway, R., & Tremblay, J. F. (2006). In the same way, there is another factor that should be taken into account. An increased vertical fiscal imbalance makes the common pool problem worse because it encourages subnational governments to overspend when the majority of their financing comes from the federal government. Subnational governments have access to the common pool of national tax resources under a federation with a vertical fiscal gap (Pisauro, G. 2003).

2. Inter-state analysis of vertical fiscal imbalance in India

This section presents a comprehensive interstate examination of VFI spanning the decade from 1990-91 to 2021-22 (Figure 1), with particular emphasis on the post-liberalization epoch. The VFI is evaluated utilizing the formula advanced by Luc Eyraud and Lusine Lusinyan (2013), as mentioned earlier. Despite observable fluctuations, the VFI has manifested an overall upward trajectory across nearly all

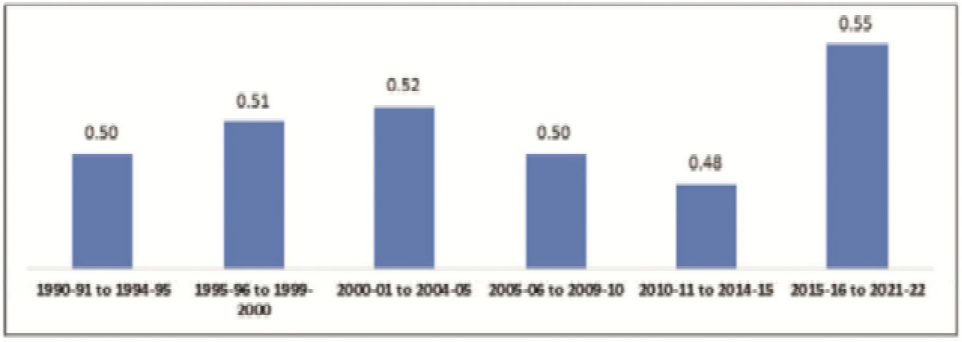
states. The national average fiscal imbalance escalated from 0.50 in the period 1990-1995 to an average of 0.55 in the span from 2015-2022. Notably, the post-demonetization era witnessed a pronounced upswing in the fiscal imbalance during 2016-17. A marked surge in VFI is evident from 0.48 in 2010-15 to 0.55 in 2015-22, attaining its zenith in 2020-21 at 0.60. This notable escalation aligns with the advent of the COVID-19 pandemic, supported by empirical evidence indicating a 5 percent augmentation in expenditure obligations concomitant with a 9.24 percent contraction in own revenue sources. Despite the average increase, the actual value reflects a subsequent downturn in the post-pandemic period, regressing from 0.60 to 0.55 in 2021-22 (Figure: 1).

The overall trend across major Indian states shows an upward movement from 1990-91 to 2021-22, notably there is a sudden surge in VFI for all states in the last decade (Figure 2). States such as, Odisha (0.69), Bihar (0.65), Uttar Pradesh (0.63), west Bengal (0.57) Madhya Pradesh (0.52) held the highest VFI above the national average in 1990-1991, where national average was 0.51. These same states remained as states with higher fiscal imbalance till 2021-22 with Bihar (0.82), Odisha (0.74), West Bengal (0.68), Uttar Pradesh (0.64), Madhya Pradesh (0.62), along with some additional states Punjab (0.60), Andhra Pradesh (0.59), and Rajasthan (0.58) where national average is 0.56. It is not surprising that these states are remaining highest imbalance in their fiscal space, as supported by the evidence that, these are states with low income and high population leading to lower revenue and higher expenditure in India (Figure: 2).

3. Key factors influencing vertical fiscal imbalance:

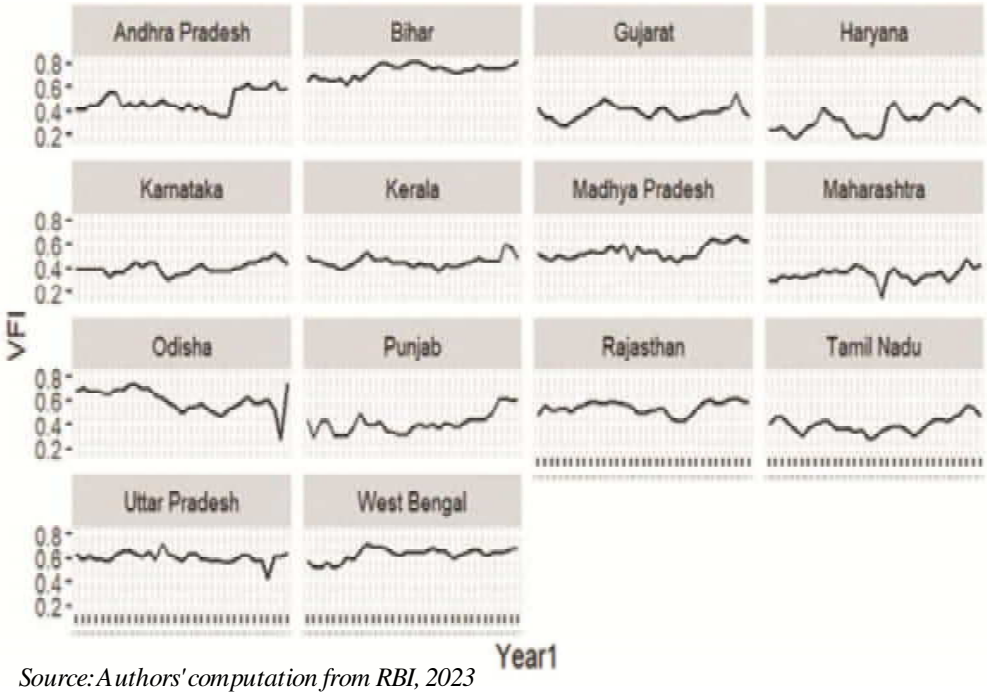
The inter-state analysis shows the VFI for some states is above the national average. Therefore, it is worth pondering that why do some states have persistent imbalance in their fiscal space? What are the

Figure: 1 Trends in average VFI of Indian states



Source: Authors' computation from the Study of State Finances, RBI (2023)

Figure: 2 Trends in average VFI across major states over past three decades



Source: Authors' computation from RBI, 2023
Notes: Years from 1990-91 to 2022-23

plausible factors contributing to their tenacious imbalance? The following section discusses the key factors influencing VFI across the states.

Tax buoyancy

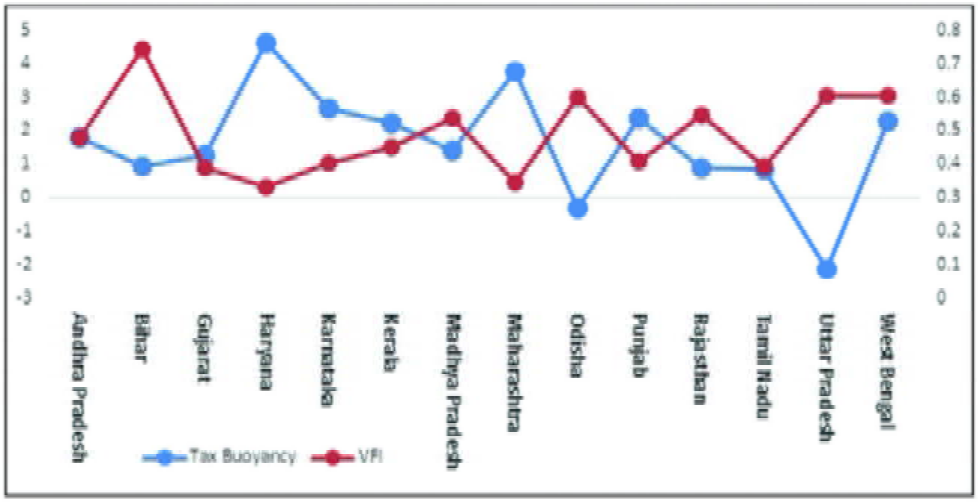
Tax buoyancy constitutes a metric denoting the sensitivity of tax revenue to fluctuations in the broader economic activity or gross domestic product (GDP). An escalation in tax buoyancy signifies that tax revenues are expanding at a pace surpassing that of the underlying economic activity. This phenomenon may ensue due to enhancements in tax compliance or alterations in the tax base. In instances where a state exhibits buoyancy, it indicates that its revenue demonstrates growth without a concomitant elevation in the tax rate, thereby exhibiting progressivity relative to income augmentation. Ideally, as tax buoyancy increases, VFI decreases. There is a strong negative correlation (-0.63) is observed across the Indian states during the period under study. However, the impact of state buoyancy on VFI hinges upon whether the augmented tax revenue stems from the state's tax sources or is attributable to an increased share in central taxes. Specifically, if the rise in tax revenue is solely attributable to an augmented share in central taxes, it does not mitigate the state's VFI (Figure: 3).

Figure 3 provides an explanation on how VFI of the individual states moved with the tax buoyancy. Tax buoyancy and VFI largely moves in the opposite direction during the period. However, in a state-wise analysis, states like, Andhra Pradesh, Gujarat and Tamil Nadu are seen as exceptions for this trend as they move in the same direction. Therefore, as mentioned earlier, it is required to have further analysis on their reliance on central transfers. Buoyancy reflects largely the efforts for mobilizing tax revenues along with the pace of economic activities. Additionally, in states where buoyancy is relatively strong, the higher VFI can also be attributed to the stagnation of their non-tax revenue.

Expenditure quality

Quality of expenditure is another important factor determining VFI across the states. Any deterioration in quality leads to widening imbalances. The expenditure quality is measured by using the ratio of revenue expenditure to the capital outlay. This ratio helps assess the composition of government spending by comparing the resources allocated to ongoing operational expenses (revenue expenditure) with those directed toward long-term investments and capital projects (capital outlay). In Figure 4, the state is divided according to the quality of expenditure measured by the Revenue - Capital outlay (REV/CO) ratio during 1990-2022. Karnataka, Gujarat, Rajasthan and Madhya Pradesh fall into the category of states with high quality expenditure as the ratio is small. Meanwhile, states like Odisha, Maharashtra, Uttar Pradesh, Bihar and Haryana are middle quality states with higher VFI. However, low-quality expenditure states have lower VFI

Figure: 3 Trends in Average Tax buoyancy and VFI of major states



Source: Author's computation from state finances: a Study of State Finance (RBI), MOSPI, 2023

compared to the middle-quality expenditure states. The plausible reason could be higher own revenue mobilization and comfortable share in central transfers. It's worth pondering these aspects in the following sections (Figure 4).

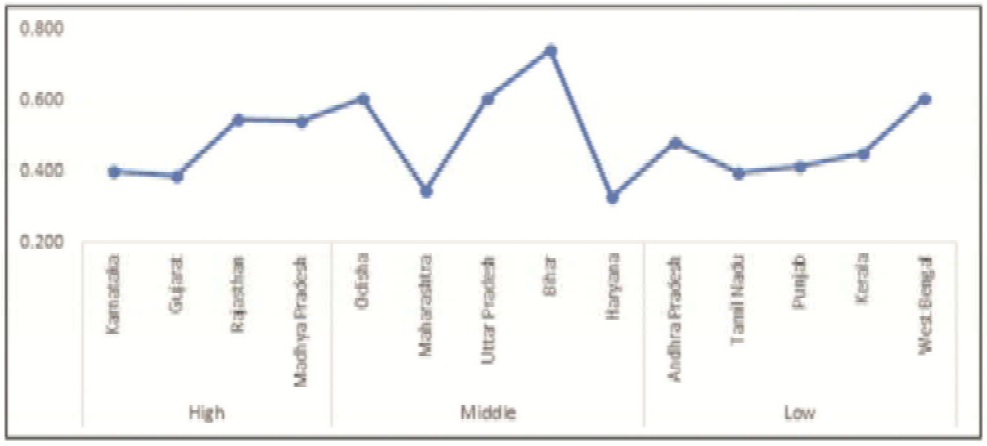
Gross state domestic product and vertical fiscal imbalance

The economic prosperity of states constitutes a pivotal factor influencing VFI. States endowed with higher per capita income typically exhibit a better revenue-raising capacity, attributable to elevated tax receipts from sources such as personal income tax, corporate tax, and consumption taxes. Conversely, states characterized by diverse per capita incomes may manifest distinct expenditure requirements. States with augmented per capita income often possess the capacity to allocate more resources to infrastructure, education, and healthcare, while those with lower per capita income may need to allocate a larger proportion of their budget to fundamental services and poverty alleviation initiatives. This section primarily concentrates on elucidating how the income levels of states, measured in percapita Gross Domestic Product (GSDP) growth contribute to their respective VFI over the past three decades. Figure 5 illustrates those high growth states exhibits a lower VFI while middle growth states have slightly higher VFI and finally the low growth states have higher VFIs (Figure: 5).

Population

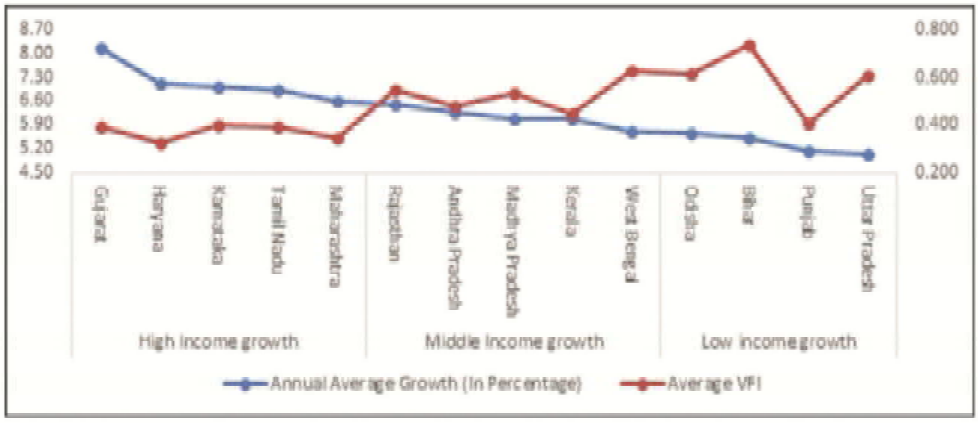
Population is one of the demographic determinants of VFI, implying the size and composition of population of a region influences their revenue regeneration capacities and expenditure commitments from the demand for public services.

Figure 4: Average VFI for high, medium and low-quality expenditure states



Source: Author's computation from RBI, 2023

Figure: 5 State-wise average GSDP (in percentage) and VFI



Source: Authors' computation from RBI and MOSPI

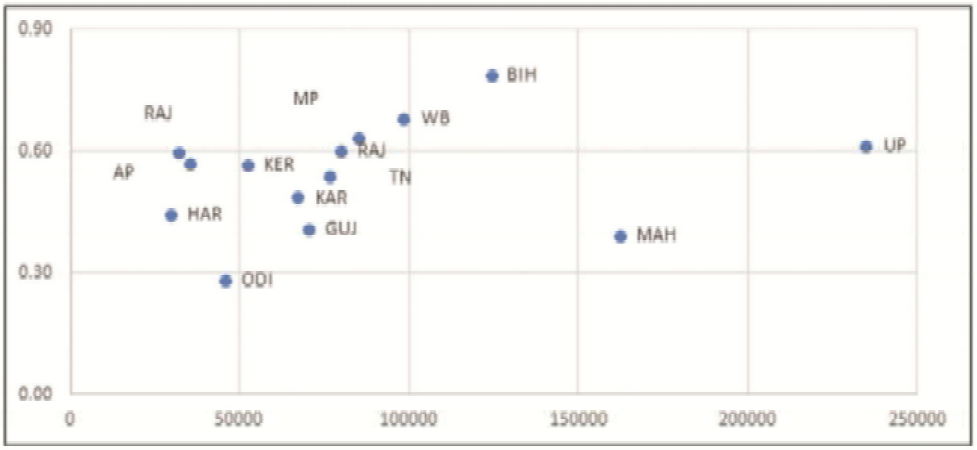
Notes: GDSP growth is Left Hand Side of the Diagram and VFI is measured on the Right-Hand Side

Regions with a larger population may require more extensive public services such as education, healthcare, and infrastructure and if the population is composed of an aged and more disabled population, their expenditure increases more than that of their revenue-raising capacity. The scatterplot below shows the relation between population in the year 2021-22 and their respective VFI (Figure 6). States such as Uttar Pradesh, Bihar and West Bengal grapples with high VFI partially because of the high population base. Although Maharashtra has high population, the VFI is relatively lower owing to its better demographic dividend and enhanced revenue mobilization. On the contrary, states with lower population base also suffers from high VFI on account of their limited revenue generation capacity due to lack of stock of human capital (Figure 6).

Central transfers

Central transfers constituting the central share of taxes and grants - in aid are important components determining the VFI. The reliance on central transfers may be a key factor in adjusting the VFI. The reduced central transfers may spell severe challenges for the governments faced with constraints in raising own tax revenue and meeting the expenditure responsibilities. On the other hand, additional support may hamstring their efforts for raising potential revenue. Therefore, effectively devising the central transfers becomes imperative for establishing a balanced and efficient fiscal relationship across various levels of government within a federal system. The proportion of total central transfers in the overall expenditure of the states indicates the degree of dependence on central transfers. While these may not

Figure 6: State's population and VFI for major states over last three decades



Source: Authors' computation based on Census 2011 sourced from Economic and Political Weekly Research Foundation (EPWRF)

Note: Population 2021 is the projected population from 2011 Census

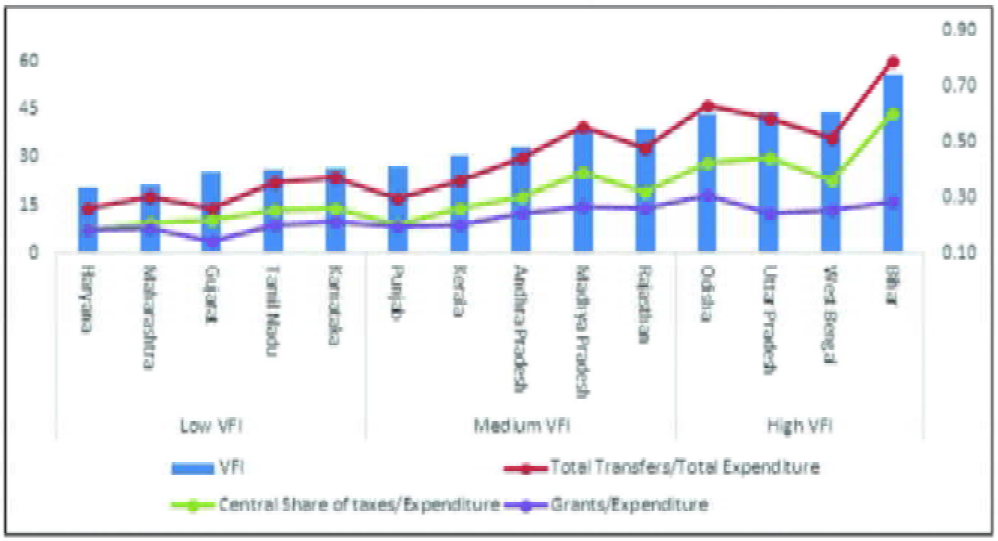
have a direct impact on their immediate fiscal matters, they potentially exert indirect consequences on their fiscal responsibilities and the emergence of subsequent vertical fiscal imbalances. In Figure 7, states are divided into low, medium and high VFI categories. Central transfers play a vital role in meeting their expenditure responsibilities. Madhya Pradesh, Odisha and Bihar are the states which are heavily dependent on central transfers (Figure7:).

4. Conclusion

The preceding analysis delves into Indian states' trajectory of VFI over the past three decades, underscoring the contributing factors. Notably, India's VFI has displayed a consistent upward trend, with a notable spike following the event of demonetization, warranting further exploration. States such as Bihar, Uttar Pradesh, West Bengal, Odisha, Rajasthan, and Madhya Pradesh exhibit pronounced fiscal challenges, characterized by elevated VFI levels. Several determinants, including the lack of synergy between buoyancy and VFI, subpar expenditure management, burgeoning population, diminished income levels, and pattern of central transfers have been pinpointed as influential factors driving VFI in India.

The divisible pool, as a percentage of Gross Tax Revenue, has witnessed a decline from 88.6 percent in 2011-12 to 78.9 percent in 2021-22 (RBI, Study of State Finances, 2023). This reduction underscores the imperative for states to augment their own tax resources. Consequently, with the diminishing central tax share, there's been a recent uptick in grants from the centre,

Figure7: VFI and the reliance of states in central transfers



Source: Authors' computation from RBI,2023

amounting to 3.2 percent of Gross Domestic Product (GDP), notably channelled through Centrally Sponsored Schemes (CSS), comprising two-thirds of the total grants. This study advocates for subnational governments and policymakers to meticulously scrutinize these contributing factors to mitigate fiscal disparities in the coming years.

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End Notes

SNF=Sub National Government

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Slip between the cup and the lips: Payment of GST by the consumers and receipt by the Government

Thomas Joseph Thoomkuzhy and U P Anilkumar

Abstract

This article investigates the Goods and Services Tax (GST), a crucial reform in India's tax system. It explores the significance of GST in boosting national revenue and explores the potential for GST leakage, where tax collected may not reach the government exchequer. The article dissects the mechanisms designed to ensure seamless GST flow to the government's treasury. It then delves into potential areas where leakages occur, jeopardizing revenue collection. Further, it explores the initiatives undertaken by the Indian government to mitigate these leakages and strengthen tax collection. Finally, the article contrasts the ideal scenario of GST collection and payment with the practical realities encountered. This analysis provides valuable insights into whether consumers' hard-earned GST translates into robust government finances.

Introduction

The Goods and Services Tax (GST) represents a transformative paradigm shift in India's tax system, aiming to streamline and rationalize indirect taxation. Introduced on July 1, 2017, the GST replaced a complex web of cascading indirect taxes levied by both the Central and State Governments (e.g., excise duty, VAT, service tax) with a unified, destination-based tax on the supply of goods and services. GST creates a single national market, eliminating tax barriers between states and simplifying compliance for businesses operating across India and minimises the cascading effect of taxes levied at each stage of production and distribution, leading to lower prices for consumers and improved competitiveness for businesses. The online GST portal and e-way bill system ensure greater transparency and traceability in transactions, reducing tax evasion and corruption. Unlike its predecessor, which included a cascade of taxes at various stages of the supply chain, GST operates on a value-added tax principle, ensuring that tax is levied only on the value added at each stage of the production and distribution process. [1] This shift not only simplifies the

tax structure but also reduces tax cascading, fostering efficiency and competitiveness within the economy.

Importance of GST in India's tax system

The introduction of GST marked a significant departure from the erstwhile complex and fragmented tax system. India's tax landscape underwent a substantial overhaul with the unification of multiple indirect taxes, such as Central Excise Duty, Service Tax, Value Added Tax (VAT), and others, under the GST umbrella.[2] This harmonization not only simplified tax compliance for businesses but also created a common market, promoting ease of doing business and facilitating interstate trade.

The GST structure is bifurcated into Central GST (CGST) and State GST (SGST), levied by the central and state governments, respectively. Additionally, an Integrated GST (IGST) is applicable on interstate transactions, ensuring a seamless flow of credit between states and promoting a unified market across the country.[2] One of the notable features of GST is its tiered tax rate structure, with multiple slabs ranging from 5% to 28%. This tiered approach allows for a nuanced taxation strategy, catering to the diverse economic activities and income levels prevalent in the country. Essential commodities are generally taxed at lower rates, while luxury items attract higher rates.[3] GST not only addresses the challenges of the pre-existing tax structure but also aligns with global best practices, enhancing India's position in the international business landscape. The unified tax system encourages transparency, reduces corruption, and fosters a business-friendly environment, attracting foreign investments and contributing to economic growth.[4]

Sectorial contribution of GST

This table 1 shows the contribution of different sectors to India's Goods and Services Tax (GST) collection between the period June 2020 and June 2023.The Sector wise contributions shows that Public Ltd companies consistently the largest contributor, responsible for around 35% of total GST collection throughout the period representing only 0.62% of the total tax payers. The Private Ltd companies are the second largest contributor, averaging around 27% of the total representing only 5.87% of the total tax payers. Third largest contributor, averaging about 13% of the total is the Proprietorship concerns representing majority of tax payers, ie 80.18 % of the total tax payers and the Partnership firms representing only 10.78% of the total tax payers contributed around 7% of the total GST collection. The Other sectors which comprised 16.5% of the total, is contributed by the rest of the Tax Payer community, namely Public Sector Undertakings, Govt. Depts., Local Authorities, Societies & clubs etc. representing only 2.56% of the total tax payers.

During 2022-23, the Sector wise contributions shows that Public Ltd companies consistently the largest contributor, responsible for around 34 % of total GST collection throughout the period representing only 0.52% of the total tax payers. The Private Ltd companies are

Table-1 Contribution to GST Revenue from Different Constitutions of Business* (Status as on 30th June 2020 & 2023; Return period accounted up to March 2020 & 2023) (Amount in crores)

Constitution of business	No. of Tax Payers who has entry in cash ledger against R3B/R4 up to		% age of Tax Payers up to		Collection up to		%Age of collection up to	
	June 2020	June 2023	June 2020	June 2023	June 2020	June 2023	June 2020	June 2023
Public Limited Company	71,151	84,513	0.62%	0.52%	8,35,298	19,37,533	35.29 %	34.40%
Private Limited Company	6,75,875	10,00,266	5.87%	6.11%	6,51,141	15,89,707	27.51 %	28.23%
Proprietorship	92,38,097	1,31,72,419	80.18%	80.41%	3,15,948	7,50,373	13. 35 %	13.32%
Partnership	12,41,540	16,93,314	10.78 %	10.34%	1,74,032	4,09,578	7.35 %	7.27%
Others	2,95,524	4,30,958	2.56%	2.62%	3,90,275	944355	16.50%	16.78%
Total	1,15,22,187	1,63,81,470	100.00%	100.00	23,66,694	56,31,547	100.00	100.00

**Figures doesn't include IGST on imports*

Source: GSTIN site

the second largest contributor, averaging around 28 % of the total representing only 6.11% of the total tax payers. Third largest contributor, averaging about 13% of the total is the Proprietorship concerns representing majority of tax payers, ie 80.41 % of the total tax payers and the Partnership firms representing only 10.34 % of the total tax payers contributed around 7% of the total GST collection. The Other sectors which comprised 16.72 % of the total collection, is contributed by the rest of the Tax Payer community, namely Public Sector Undertakings, Govt. Depts., Local Authorities, Societies & clubs etc. representing only 2.62 % of the total tax payers. The Growth trends show that most sectors showed increasing GST contributions over the years.

The analysis of above tables reveals that large companies play a significant role in India's GST revenue, with public and private limited companies collectively contributing over 60% of the total. Proprietorship and partnership firms are also important contributors, highlighting the presence of smaller businesses in the Indian economy representing more than 90% of the tax payers though their contribution is around 20% of the total collection. The impact of the pandemic on different sectors is evident in the decline of GST contributions in 2020-21.

The potential concerns about GST leakage and its impact on revenue collection.

GST leakage refers to situations where the tax that should be collected does not make its way into the government coffers, leading to potential revenue shortfalls. One major concern is the intricate nature of the GST structure, which comprises multiple tax slabs and exemptions. This complexity can create loopholes and opportunities for evasion, as businesses may exploit ambiguities in the system to underreport sales or overstate input tax credits.[5] Such practices contribute to GST leakage, directly affecting the amount of revenue collected by the government.

The input tax credit mechanism, designed to prevent tax cascading, introduces another layer of complexity and vulnerability. If not diligently monitored, businesses might manipulate or fraudulently claim input tax credits, leading to a reduction in the overall tax liabilities they owe to the government. This potential misuse poses a direct threat to the revenue collection objectives of the GST framework. Additionally, the sheer scale and diversity of businesses in India make effective enforcement challenging. Smaller businesses, in particular, may lack the resources or understanding to comply fully with GST regulations, creating opportunities for leakage at various stages of the supply chain.[6]

Mechanisms for ensuring GST Flow to the exchequer in India

The GST collection process involves intricate coordination between businesses and consumers. Businesses act as intermediaries, collecting GST from consumers during transactions and subsequently remitting it to the government. Consumers, on the other hand, assume that the tax they pay is duly transferred to the national treasury. The complexity of the GST structure, with

multiple tax slabs and input tax credits, adds a layer of intricacy to this process.

One crucial aspect of safeguarding the flow of GST to the exchequer is ensuring compliance among businesses. The government has implemented various measures to curb tax evasion and non-compliance. Technology-driven tools, such as the Goods and Services Tax Network (GSTN), play a pivotal role in real-time monitoring of transactions, reducing the scope for evasion. Moreover, stringent penalties and enforcement actions against non-compliant businesses act as deterrents, fostering adherence to GST regulations.[7]

To strengthen the GST collection mechanism, it is imperative to enhance consumer awareness. Many consumers may lack a comprehensive understanding of the GST structure and their role in the tax-paying process. Government initiatives and awareness campaigns can bridge this knowledge gap, empowering consumers to make informed decisions and ensuring that the taxes they pay are directed towards the exchequer. The complexity of GST return filing can contribute to delays in the transfer of GST to the government. Streamlining this process through digital platforms and simplified documentation can expedite the flow of funds to the exchequer. The government's continuous efforts to refine and simplify return filing procedures aim to enhance efficiency and reduce bottlenecks in the GST collection process.

Potential areas of GST leakage in India

Other significant area of concern for potential GST leakage lies within the informal sectors and unorganized businesses. These entities may operate outside the formal tax structure, making it challenging for authorities to track and enforce compliance. As a result, transactions within the informal sector may go unrecorded, leading to revenue leakage for the government. Cash transactions present another potential avenue for GST leakage. Businesses engaged in substantial cash transactions may be tempted to underreport sales to minimize their tax liabilities. The anonymity associated with cash transactions makes it difficult for tax authorities to verify the accuracy of reported sales, creating opportunities for businesses to manipulate their financial records.

The intricate nature of the GST structure, comprising multiple tax slabs and input tax credits, creates room for sophisticated tax evasion practices. Some businesses may engage in activities such as invoice manipulation, fictitious transactions, and claiming illegitimate input tax credits.[8] These practices not only result in revenue loss for the government but also undermine the integrity of the entire tax system. In the context of GST, interstate trade introduces complexities in tax collection. Smuggling of goods across state borders without proper documentation can lead to revenue leakage.[9] The lack of a seamless and fool proof mechanism for monitoring interstate trade poses challenges in ensuring that the correct amount of GST is collected and remitted.

Government initiatives to mitigate GST leakage and enhance tax collection

Addressing GST leakage requires a multifaceted approach. To tackle GST leakage, the government has intensified efforts to strengthen compliance measures. Stringent penalties for non-compliance and the introduction of advanced technology-driven tools, such as the Goods and Services Tax Network (GSTN), enable real-time monitoring of transactions. These measures act as deterrents, compelling businesses to adhere to GST regulations and mitigate the risk of revenue leakage.

The government has leveraged technology to create a more transparent and accountable GST ecosystem. Initiatives such as e-invoicing, data analytics, and artificial intelligence have been introduced to identify patterns of tax evasion and irregularities in transactions.[10] This technological integration aids tax authorities in promptly addressing potential areas of leakage and ensuring that businesses comply with GST norms. Recognizing the complexities within the GST structure as a potential source of leakage, the government has taken steps to simplify the tax system. Rationalization of tax slabs, reducing unnecessary complexities, and streamlining the input tax credit mechanism aim to create a more straightforward and efficient system. A simplified structure not only enhances compliance but also minimizes opportunities for businesses to exploit ambiguities.

To combat GST leakage, the government has recognized the importance of consumer awareness. Initiatives such as awareness campaigns and educational programs aim to inform consumers about their role in the tax-paying process. Informed consumers are more likely to demand proper invoices, reducing the scope for businesses to engage in underreporting or other evasion practices. A collaborative approach involving the government and businesses is integral to addressing GST leakage. The government has engaged in dialogues with businesses to understand their challenges and concerns. Such collaborative efforts foster a sense of responsibility among businesses to comply with GST regulations, reducing the likelihood of leakage.

To curb GST evasion practices, the government has increased its focus on enforcement actions and audits. Regular audits of businesses, particularly those with a higher risk of non-compliance, help in identifying and rectifying instances of tax evasion.[11] This proactive approach reinforces the government's commitment to maintaining the integrity of the GST system.

Whether the consumer-paid GST reaches to the government exchequer?

"Whether the GST paid by consumers actually reaches the government exchequer?" This query underscores the need to investigate the efficacy of the GST collection system in ensuring that the taxes levied on consumers find their way to the national treasury. The GST collection process involves both businesses and consumers playing pivotal roles. Businesses are responsible for collecting

GST from consumers and remitting it to the government. Consumers, in turn, pay GST on their purchases, assuming that the funds are duly transferred to the government exchequer. However, the complexity of the GST structure and the input tax credit system introduces challenges in accurately tracking the flow of consumer-paid GST to the government coffers.[12]

Several challenges contribute to uncertainties regarding whether the GST paid by consumers indeed reaches the government exchequer such as lack of awareness among consumers about the GST mechanism, complexities in the tax structure, compliance issues among businesses, and the potential for tax evasion and fraud are critical factors.[13] These challenges collectively pose a risk to the seamless transfer of consumer-paid GST to the government. Addressing the fundamental question of whether the GST paid by consumers reaches the government exchequer is imperative for maintaining the integrity of the tax system. As India continues to navigate the nuances of GST implementation, collaborative efforts between the government, businesses, and consumers are essential to ensure the seamless flow of consumer-paid GST to the national treasury.

GST collection and payment: Actual practice in an ideal situation

In order to explore the collection and payment of GST system, the actual practice in terms of billing pattern followed in different channels of distribution in traditional as well as direct selling models needs to be examined.

In an ideal scenario, GST collection and payment entail a seamless, transparent, and efficient process. It involves meticulous record-keeping, timely submission of returns, and compliance with regulatory requirements. However, achieving this ideal state necessitates not only robust infrastructure and technological support but also comprehensive understanding and adherence to GST taxation laws in terms of billing pattern and distribution channels prevailing and practiced by the businesses community. Here we portray how GST collection and payment works practically in an ideal situation (Table -2).

The table 2 shows the flow of goods and taxes at each stage of the supply chain in an ideal situation, from the factory to the consumer. At each point of sale, the seller collects tax from the buyer and pays it to the government, after deducting input tax credit (ITC) on taxes paid at previous stages. The total tax collected at each point of sale is equal to the tax paid by the buyer, except for the final sale to the consumer where the retailer keeps the additional tax collected. The total tax remitted to the government by all dealers is 9 which matches the tax collected at the final point of sale. However, this 9 rupee collection and 9 rupee payment to Exchequer can be ensured only if the dealers at all sale points billed without under-invoicing the dealer price. If the dealer at any stage makes any under-invoicing, then to that extent the tax collection and tax payment will be reduced. Therefore, in order to safeguard the revenue of the State, the billing price at each levels of sale point needs to be examined

Table-2 Biling and Tax Collection/Payment Pattern

Point of Sale	Distribution Channel	Billing Price (Assuming the product MRP is 100)		Tax Collection @10%	Tax payment to Exchequer (after input Tax credit)
1st point	Factory to Distributor	DP	50	5	5
2nd point	Distributor to Wholesaler	DP	60	6	1
3rd point	Wholesaler to Retailer	DP	70	7	1
4th point	Retailer to Consumer	DP	90	9	2
Tax Remitted to Govt by Dealers after ITC DP means Dealer Price					9

in compared to the MRP of such product. This can be explored only through the effective implementation of the Audit System (Table-3).

The table 4 shows the flow of goods and taxes through the traditional distribution channel, from the factory to the end consumer in an ideal situation. At each stage (except the last one), the goods are sold to a dealer who then resells them to the next stage in the chain. The final sale is made to the end consumer, who pays the tax. The total tax remitted to the government by dealers is 9, which is the tax collected at the final point of sale. The above table reveals that GST is a front-end tax collected by the dealers among themselves which will be collected from the consumers only at the last point of sale in the distribution channel, ie around 80% of tax will be collected and paid to the Exchequer by the dealers before reaching the goods to the final consumer. Therefore, GST is a dealer paid tax rather than consumer paid tax (Table -4).

The table 5 shows the flow of goods and taxes through the traditional distribution channel, from the factory to the end consumer in an under- Invoicing situation. At each stage (except the last one), the goods are sold to a dealer who then resells them to the next stage in the chain. The final sale is made to the end consumer, who pays the tax. The total tax remitted to the government by dealers is 6, which is the tax collected at the final point of sale. The above table also reveals that GST is a front-end tax collected by the dealers among themselves which will be collected from the consumers only at the last point of sale in the distribution channel, ie around 80% of tax will be collected and paid to the Exchequer by the dealers before reaching the goods to the final consumer. Therefore, GST is a dealer paid tax rather than consumer paid tax.

The main limitation in the present GST System is that there is no system that verifies the actual market price with billing price since MRP of a particular commodity

Table -3. Distribution Channel (Traditional Model without under billing -Situation -1)

Factory	Distribution Channel	Sales outlet/ Shops	Point of sale	Billing price	Tax collection @ 10%	Tax payment to Exchequer (after IPT)	Customer status	Tax paid by consumer
	Factory to Distributor	Yes	1st point	50	5	5	Dealer	NA
	Distributor to Wholesaler	Yes	2nd point	60	6	1	Dealer	NA
	Wholesaler to Retailer	Yes	3rd point	70	7	1	Dealer	NA
	Retailer to Consumer	Yes	4th point	90	9	2	End Consumer	Yes
Tax remitted to Govt. by dealers at multi points						9	MRP Rs.100	

Table -4. Distribution Channel (Traditional Model under billing Pattern -Situation -2)

Factory	Distribution Channel	Sales outlet/ Shops	Point of sale	Billing price	Tax collection @ 10%	Tax payment to Exchequer (after IPT)	Customer status	Tax paid by consumer
	Factory to Distributor	Yes	1st point	30	3	3	Dealer	NA
	Distributor to Wholesaler	Yes	2nd point	40	4	1	Dealer	NA
	Wholesaler to Retailer	Yes	3rd point	50	5	1	Dealer	NA
	Retailer to Consumer	Yes	4th point	60	6	1	End Consumer	Yes
Tax remitted to Govt. by dealers at multi points						6	MRP Rs.100	

is nowhere reflected in the GSTIN system. ie MRP is not reflected in Invoice or GSTR -1 or GSTR -2 or GSTR -3B or any of the supporting statements uploaded along with these returns. What is reflected in the system is the billing price declared by the dealer at each stages of billing even for the purpose of Input Tax credit. Since MRP or market price is not captured in the system, this type of under invoicing is possible at all levels of billing which will lead to major factor of tax evasion / erosion which is very difficult to detect in normal tax governance system (Table -5).

The first model, Own Retail/Factory Outlet, the sales channel is the physical store owned by the factory and the factory collects and pays 10% tax (Rs. 6) on the final selling price (Rs. 60) to the consumer. The advantage of this model is it has full control over brand image and customer experience but the disadvantage is the higher costs associated with operating physical stores. However, the Model 2, the Direct Selling (Single/Multi Level), the sales channel is the independent representatives who promote and sell directly to consumers, potentially building their own sales teams. The tax collection method is the companies directly collect and pay tax based on individual sales to representatives. The advantage of this model is that it has a wider reach and lower infrastructure costs compared to physical stores but it holds potential challenges in maintaining brand consistency and quality control.

Table- 5 Distribution channel (direct selling model)

Factory	Distribution Channel	Sales outlet/ Shops	Go downs/ Stock-Points	Point of sale	Billing price	Customer status	Tax collection & Tax payment
	Own Retail/ Factory outlet	Yes	Yes	1st point	60	End consumer	10% of 1st and last billing point i.e. Rs. 60x10% =Rs.6
	Direct selling (Single/Multi level)	NA	Yes	1st point	60	End consumer	
	E-Commerce (Market place/ Inventory model)	NA	Yes	1st point	60	End consumer	
	Social Media Market place	NA	Yes	1st point	60	End consumer	
	Contribution of other Sectors (16.50%)						

In Model 3, E-Commerce (Market place/ Inventory model), the sales channel is online platforms like marketplaces or the factory's own website and the tax collection depends on the platform's structure. If it works in Marketplace, that platform might collect and remit tax on behalf of the factory and in inventory model; factory might be responsible for tax collection and remittance. In this model convenient access for customers and potentially lower operational costs is its advantage and the increased competition and reliance on platform policies and visibility are the disadvantages. Finally, in Model 4, Social Media Market place, the sales channel is utilising social media platforms like Facebook or Instagram for promotion and sales and the tax collection is similar to E-Commerce, depending on the platform and sales structure. The advantage is the highly targeted marketing and potential for viral reach and uncertainties in platform regulations and limited control over customer experience are the disadvantages. The ideal model depends on various factors like product type, target audience, budget, and desired level of control.

This Table 5 above compares three direct selling models where the goods moving from factory to the end consumer, eliminating all intermediaries. Therefore, under direct selling mode, dealer to dealer sales is totally absent in the supply chain and therefore value addition between first selling point and MRP will be escaped from the levy of taxation. Here the goods purchased from first point are all end consumers who can re-sell these products even at MRP without collecting tax as they are not registered dealers to collect and remit tax. Since volume of turnover under this sector is very huge, the tax due on escaped turnover on account of the billing to the end consumer at the first point of sale itself, this segment warrants immediate attention under tax governance.

Measures to ensure GST reaches the exchequer

One key measure implemented to enhance GST revenue flow involves strengthening compliance and enforcement mechanisms. Stricter penalties for non-compliance and the utilization of advanced technologies, such as the Goods and Services Tax Network (GSTN), contribute to real-time monitoring of transactions, minimizing the risk of leakage.[14] However, the effectiveness of enforcement measures depends on their implementation and the ability to adapt to evolving business practices. The government's efforts to integrate technology into the GST framework, including e-invoicing, data analytics, and artificial intelligence, aim to enhance transparency and accountability. These technological advancements assist tax authorities in identifying irregularities and potential instances of tax evasion. However, on-going developments in technology and the need for continuous updates may impact the sustained effectiveness of these measures.

Simplifying the GST structure has been pursued as a strategy to reduce complexities and loopholes that could lead to revenue leakage. Rationalizing tax slabs and streamlining the input tax credit

mechanism contribute to a more straightforward system. While simplification is a positive step, the challenge lies in balancing the need for simplicity with the intricacies of diverse business operations. Government initiatives aimed at enhancing consumer awareness and education play a crucial role in ensuring that consumers understand their role in the tax-paying process.[15] Informed consumers are more likely to demand proper invoices, reducing the likelihood of businesses engaging in tax evasion practices. However, the long-term impact of awareness campaigns may require sustained efforts and periodic reinforcement.

Collaborative efforts involving the government and businesses have been initiated to foster a sense of responsibility among businesses to comply with GST regulations. Engaging in a dialogue with businesses helps identify challenges and concerns, contributing to a more cooperative tax compliance environment. The success of this approach depends on effective communication and mutual understanding. Regular audits and enforcement actions are integral components of the strategy to combat GST evasion practices. These measures contribute to identifying and rectifying instances of tax evasion, reinforcing the government's commitment to maintaining the integrity of the GST system. However, the resource-intensive nature of audits necessitates a balance between thorough examination and efficiency.

Challenges in ensuring GST reaches the exchequer

GST collection involves a complex interplay between businesses and consumers. Businesses act as intermediaries, collecting GST from consumers during transactions and subsequently remitting it to the government. The input tax credit system and multiple tax slabs add intricacies to this process, influencing the seamless flow of GST revenue to the exchequer. Several challenges impede the seamless transfer of GST revenue to the government. Lack of awareness among consumers, complexities in the GST structure, compliance issues among businesses, and the potential for tax evasion and fraud are critical challenges that contribute to uncertainties about the effective reach of GST revenue to the exchequer.[16]

To address these challenges, the government has implemented a series of measures. Strengthening compliance and enforcement mechanisms, leveraging technology for real-time monitoring, simplifying the GST structure, and conducting awareness campaigns for consumers are among the initiatives undertaken to enhance the transparency and efficiency of GST collection. Collaborative efforts with businesses and enforcement actions, such as regular audits, aim to curb tax evasion practices.[17]

Conclusion

The mechanisms for GST collection involve a dynamic interplay between

businesses and consumers, navigating through the complexities of the GST structure. Challenges such as lack of awareness, compliance issues, and the potential for tax evasion necessitate targeted measures to ensure the effective transfer of GST revenue to the government. Government initiatives encompass technological integration, compliance strengthening, and simplification of the tax structure to address these challenges and enhance the reliability of GST collection[18].

In conclusion, the effective functioning of the GST system is crucial for fair and reliable revenue collection. While strides have been made to address challenges, a call for continued efforts is imperative. Ongoing investments in technology, consumer education, and collaborative approaches with businesses are essential to fortify the GST system. Sustained vigilance against emerging challenges discussed above especially the billing pattern in traditional and direct selling models and the possibility of under-billing at each stages of billing before it reaches to the end consumer, tax escapism in direct selling mode etc. The periodic reviews, and adaptive policy measures will contribute to the resilience and fairness of the GST framework, ensuring that revenue collection aligns with the intended objectives.

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End Notes

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Exploring own sources of revenue for KIIFB

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Abstract

This study explores own source revenue generation by the Kerala Infrastructure Investment Fund Board (KIIFB), a statutory institution created solely for the purpose of infrastructural development in the state through deficit financing. The issue of sustainability of KIIFB's current revenue sources coupled with the absence of innovative revenue generating methods has led to KIIFB's deficit financing model critical. Together with the absence of adequate revenue sources, this off-budget deficit financing technique has been now included the debt of the state by the CAG and deemed unsustainable. Also, the significance of infrastructure financing in tune with sustainable development goals needs to be taken care of in the contemporary scenario. The paper proposes to incorporate sustainable development goals into KIIFB's functioning by utilizing the space generated by the KIIFB projects to generate innovative own source revenue streams through the solar power generation. The paper discusses the potential of a carbon trading/offset or power monetization strategy by KIIFB and augment revenue from it as the importance of carbon emission-reducing techniques as an innovative revenue source is increasing these days.

Introduction

Infrastructure demand in developing economies has been rising in the last few decades. However, rising demand for infrastructure coupled with insufficient finances is among the key policy issues for sub-national governments in developing countries (Bahl et al 2013; Farvacque-Vitkovic and Kopanyi 2014). Sub-national governments in developing countries such as India are characterized by the twin problems of huge infrastructure demand coupled with revenue adequacy for financing this huge infrastructural requirement and the lack of power over revenue tools required to finance it because of the skewed centralized nature of finances. (Satterthwaite, 2007). This is compounded by the increasing nature of urbanization which entails further infrastructure demand. Even though infrastructure provisioning is local in nature and sub-national governments, especially local governments are supposed

to undertake local infrastructure requirements, they are still at the mercy of central governments while implementing major infrastructure projects or intergovernmental financial transfers required for it due to the lack of adequate resources (Gandhi & Pathak, 2016). As the local government is still a state subject in India, infrastructure in cities for example requires the state's permission and sometimes the central government's permission for financing local infrastructural requirements (Ministry of Housing & Urban Affairs 2018). These challenges force sub-national governments to pursue new innovative methods for infrastructural development.

Kerala Infrastructure Investment Fund Board (KIIFB) is one such statutory development financing institution that provides funds for major social and physical infrastructure covering critical sectors such as transportation, education, healthcare, IT and telecommunications, energy, and water in Kerala. Until now it is said to have financed projects to the tune of about seventy thousand crores (KIIFB 2023). However, there has been criticism regarding the modus operandi of KIIFB. Importantly, this came from India's Comptroller and Auditor General (CAG) which questioned the constitutionality of the 'off-budget' nature of transactions as well as the revenue model proposed by the KIIFB. CAG argued that the revenue model of KIIFB is unsustainable since no concrete revenue-generating mechanisms are in place apart from the cess income. Moreover, since the debt of the KIIFB needs to be repaid, and that too from the 'ring-fenced' cess, this can indirectly be a liability to the state government.

The criticism regarding the KIIFB model highlights certain issues. The important one is the near absence of income-generating financing sources. The second is the sustainability of the current revenue sources. The final one is concerning the significance of infrastructure and its financing in tune with sustainable development goals such as resilient infrastructure, sustainable cities and climate change. The onus is to develop infrastructure that is resilient, sustainable and climate friendly. In this view, this paper explores an innovative way of generating own source of revenue for KIIFB utilising the space created by KIIFB projects. Nowadays carbon offsets/trading is emerging as a mitigation method for climate change and an alternate method for revenue generation because Carbon pricing is increasingly recognized as an alternative source of government revenue globally. So this can be used as a method for revenue generation as well as reaching the goal of 'net zero' emission. The paper tries to explain the solar power generation and the resultant carbon offset/ trading as a method for climate change mitigation and also how KIIFB can augment revenue from this.

Broad review

The plethora of studies on the impact of infrastructure development and economic growth has been documented in detail Calderón & Servén, 2004). Röller and Waverman (2001), Agénor and Moreno-Dodson (2006) and Canning and Pedroni (2008). Though the benefits are well

studied, there has been a stark deficit in infrastructure spending across the globe (Asian Development Bank, 2009; OECD, 2007). Many of the emerging markets, especially the low-income countries however, need increased infrastructure development to accommodate rising urbanization and promote inclusive growth (Bhattacharya, Romani, and Nicholas (2012). At this juncture, it has to be noted that much of the literature on infrastructure financing dwells on municipal financing of infrastructure.

It has been noted that the urbanization pattern is skewed toward the global south as India, China, and Africa constitute more than half of the world's urban population and will also be the world's major urban growth centers in the future (UN-Habitat 2018). It is also accentuated by the fact that cities in the global south were mostly unplanned and lacked significant global economic and political power and therefore urban governance is considered more complex and weaker than the north. According to the World Economic Forum (2018), India ranks 63rd out of 140 countries on infrastructure and therefore is reflected as one with the largest infrastructure deficits in the world.

India's rising number of megapolis, over-crowded roads, inadequate metro trains, airports and seaports, energy, health, and educational facilities can all be attributed to this low level of infrastructure spending. CRISIL (2017) notes that India could only spend about $1.2 trillion on infrastructure in the past decade (2007-17). Interestingly, even two-thirds of this infrastructure investment is from the public sector. Much of the literature mainly from the multilateral development agencies and consultancy groups discusses the reasons for the absence of private participation in financing infrastructure and ways of tapping the private investments and PPP mode for increasing infrastructure spending (ICRA, 2015).

From a regulatory perspective, ICRA (2015) notes the need for liberalizing domestic institutions as well as opening up external debt markets in solving the infrastructure financing conundrum. This study and Agarwal (2020) list many of the instruments used to raise infrastructure spending and financing. In this regard, Khan (2015) has also listed some of the initiatives taken by RBI to bring funding into infrastructure. Agarwal (2020) mentions the need for leveraging diaspora finance for infrastructure development. However, Harris and Pratap (2009) reveal the problems while depending on foreign financing of infrastructure as foreign capital servicing can be expensive with the depreciation of the domestic currency, and with populist governments unable to raise user charges to match the depreciation it can result in a problem.

However, the innovativeness of many of the alternate sources of income needs to be verified in the context of local specificities and how it can be instituted to raise revenue streams from the perspective of sustainability. There are very few studies that have analyzed the functioning of statutory development finance institutions like KIIFB in the national scenario. In the Indian context, the

disappearance of many local taxes and how it impacts the financing of infrastructure has been studied in the context of municipalities. The recent introduction of centralized Goods and Services Tax (GST) which has subsumed many of the sub-national taxes and thereby reduced the local government's income is a fine example of subjection of local urban municipal body financial autonomy (Mankikar, 2018). The abysmal state of finances of Indian municipalities can be understood from indicators such as municipal revenue to GDP ratio of 0.45 %, own revenue to GDP ratio of 0.23 %, and municipal expenditure to GDP ratio of 0.37 % (Roy and Mangala 2019). Also, while the 'own revenue' of municipal bodies constitutes only about 51.6 percent of municipal revenue, the tax revenue constituted 32 % and nontax revenue constituted 19.7 % during 2012-13 (Mohanty 2016). Moreover, even with stagnating municipal finances, the bulk of the expenditure is considered utilized towards the revenue side and not much on capital expenditure thereby leaving critically low municipal expenditure on infrastructure. This low municipal revenue and low infrastructure spending are constrained by the mandate to maintain balanced budgets whilst municipal revenue powers are subjected to state legislative approval (Ahluwalia et al 2019; McKinsey 2010; HEPC 2011; NUPF 2018).

Numerous studies have been conducted in various disciplines related to carbon offsets, renewable energy, and economic development. There are also studies related to how public and private enterprises can produce electricity with carbon neutrality. For instance, Zhang et.al (2011) studied the trend in electricity generation and suggested the electricity-hydrogen synergy path and the electricity-hydrogen-carbon synergy path. Similarly, (Li et al., 2012) also suggested the composition of biomass energy with electricity and investigated the importance of electric power in promoting the carbon neutralization process.

Economic growth and promoting sustainability through the production of carbon-neutral energy production is very important in the current scenario. Many scholars have studied the role of carbon offsetting in achieving economic growth. Rivera and Sebring (2022), and Black et.al (2022), argue that renewable energy-producing firms are giving more interest in carbon offsetting as a source of extra revenue for their projects. And they argue that carbon taxes provide economic, environmental, and practical advantages due to ease of administration, investment opportunities, the potential to increase revenue, etc. Alex Y. Lo (2016), Dong et al. (2016), Philibert (1999) studying how carbon trading generates more investment opportunities and economic development. The authors argue that the impact of sustainability investment has a significant impact on the optimal order quantity and investment in sustainability. And it also states that the involvement of developing countries in emission trading through the negotiation of emission budgets provides them with capital inflows through emission trading and helps them to stimulate economic growth. Greenhouse

gas emissions from coal-fired power generation are starting to fall, as governments and organizations pledge to curtail emissions, more capital is mobilized for energy transition, and renewable energy technologies become commercially competitive. Ertugrul et.al (2016) studied the effect of carbon trading and trade openness on the financial performance of developing countries, such as China, India, South Korea, Brazil, Mexico, Indonesia, South Africa, Turkey, Thailand, and Malaysia, from 1971 to 2011. The paper found that real income, energy consumption, and trade openness are the major determinants of carbon emission in the long run. But at the same time, Liu et.al arguing that that the implementation of carbon emission trading could not promote the selected firms to improve their R&D investment, but it helps to improve the level of non-business income of enterprises incorporated into the trading system.

The relationship between carbon emissions and climate change is a widely accepted phenomenon. There is various scholarly article related to the effect of carbon emission and how it can be controlled for a sustainable future. Most of the studies arguing that to mitigate climate change policymakers should concentrate on the production of renewable energy. Morgan Stanley's (2023) research, Climate Action Tracker (2020) (climateactiontracker.org), Gorain et.al (2021), found that the target of voluntary carbon offsets of countries helps them to achieve the target of climate change and estimates that by the year 2030, the world must reduce its carbon emission by at least 1 gigaton. And the targets of "net zero" emission set by national governments cover 90 percent of total greenhouse gas emissions, these targets will promote more renewable energy in total production. Studies argue that to reduce the level of carbon emission in the atmosphere, it is necessary to concentrate on renewable energy techniques of energy production, forest conservation, and emission reduction strategies and generate market pull from them. Carbon Capture, Utilization, and Storage (CCUS) policy framework and its development mechanism in India by Mukhergee and et.al (2022) states that the sectoral break-up of CO2 emissions reveals that, renewable energy make the greatest impact in India, and it can theoretically contribute to at most 30 percent of the de-carbonization by replacing conventional power generation methods. There is a study by Bai and Ru (2022) analyzes the impact of emissions trading systems (ETS) on emission reduction and renewable energy development, the paper also found that ETS implementation helps countries reduce greenhouse gas emissions by more than 12 percent

There are various empirical studies on solar installation on the rooftop of the buildings of both governmental and residents as a method for attaining sustainability goals and revenue generation. The literature argues that there is a need for strong investment in solar installation and a strong policy framework and argue that now Solar

photovoltaic rooftop has emerged as a green technology for achieving sustainability goals. A study by Middelhauve et.al (2021) combined the modelling of the Photovoltaic panel's potential on the buildings envelope while retaining the energy system approach, and it was applied to a residential district in Switzerland. The proposed method of the study shows that the district can achieve carbon neutrality by using PV energy alone, but it requires the coverage of all the suitable rooftops and also part of the facades. Goel (2016) states that Solar photovoltaic rooftop has emerged as a green technology to solve climate change issues by reducing the dependence on conventional sources the solar based energy. The paper analysed the major issues and challenges for achieving the rooftop policy instruments and targets while recommending that there is a need for linking the target of solar energy with current policies like, 'Make in India', 'Smart City mission', and 'Digital India' as a way for developing the power system of the country.

Another study by Nayak (2018), says that the installation of solar rooftops in the residential sector in India has not been fully used even though the major share of the consumers of electricity is from the residential sector, and similarly there is a high possibility of roof space to install rooftop systems. Carl et.al (2016) in their study about the current use of public revenue generated through carbon taxes and cap-and-trade systems. The paper examines that more than $28.3 billion in government "carbon revenues" are currently collected each year in the world. Sreenath (2022) et.al states that South East Asian countries are blessed with a huge amount of solar potential, while the solar photovoltaic potential remains underutilized. The paper examines the solar PV policies in the ASEAN region over the past decade. It found that Vietnam has the highest installed capacity followed by Thailand and Malaysia. The study argues that solar PV growth is dependent on the regulatory policy and support mechanisms in the country.

Research gap and objectives

Even though KIIFB represents a watershed moment in the sub-national financing of infrastructure, it still has some lacunas. Instituted as a body corporate, KIIFB raises its funds from financial instruments permitted by the RBI and SEBI such as term loans from public sector banks, NRK chitti, and Masala bonds. The government has to guarantee any shortfalls to meet the debt servicing requirements of KIIFB and appropriate ring-fencing is provided through earmarking the dedicated Fuel Cess Motor Vehicle Tax (MVT) and petroleum cess. In essence, the model works using debt-based critical infrastructure development against future receivables of the state and importantly outside the budgetary purview. Therefore, it has the possibility of revenue shortages in exemplary conditions that were seen during the Covid times. Similarly, considering the global emphasis on sustainability, it is high time to incorporate

these ideals into infrastructure development. This necessitates the need for identifying innovative sources of financing and implementing and the research gap lies here.

The experiences of the Covid pandemic period have shown that the revenue earmarked from the dedicated Fuel Cess and Motor Vehicle Tax (MVT) and petroleum cess can decline, thereby impacting the debt payments. To avoid a similar decline in revenue sources which is based on government contribution, it is highly imperative to raise a dedicated innovative and alternate revenue stream for financing infrastructure through KIIFB. How KIIFB can use the installation of rooftop solar on public buildings and generate revenue from carbon offset/trade. The study aims to answer this question.

The study will answer the research question raised above through the objectives of assessing the viability and exploring the potential of utilizing carbon offset/ infrastructure financing as a means for revenue generation by KIIFB and the paper indents to conduct an analysis of the revenue generation potential from the implementation of rooftop solar installations in KIIFB's projects.

Scope of the research

From an academic point of view, few studies have studied the revenue potential of KIIFB. For further understanding about the revenue generating potential of KIIFB a detailed study is essential. As mentioned earlier, KIIFB marks a watershed moment in the sub-national financing of infrastructure, and highlighting its pros will be useful for other sub-national governments to develop similar institutions. Understanding the cons is also essential, as it brings out possible innovative and alternate mechanisms for ensuring a sustained revenue streams. From the viewpoint of Sustainable Development Goals, few works have linked infrastructure financing with the SDGs.

Proposed methodology for the research work

The data for the study is collected from various secondary sources such as the official website of KIIFBI, calculations of the National Renewable Energy Lab's PV Watts and System Advisory Model (SAM) about the efficiency and expected lifetime of solar panels, The Energy Report Kerala, WWF India & WISE, and the data set of Surface Meteorology and Solar Energy.

For analysing the viability and potential of KIIFB for utilizing its roof top space for generating solar power for carbon offset/trading for revenue generation, a 72 cell solar can be used[1]. For analysing the carbon credit potential of KIIFB-funded projects, a module of solar having 72 cells (size 156 *156 mm, thickness 200mm) having an efficiency (WS) of 14.5% and a life span of 25 years with the average performance of 85% can be calculated.[2] The efficiency of the solar cell may vary according to geographical conditions and climatic conditions. For calculation, the average efficiency of 13 percent is taken in to account. An area having a module of 72 cells solar panel is 2m2 and considering the efficiency of the cell is 13%.

Revenue generation potential of KIIFB

is analysed by taking the average value of 0.932 tonnes of CO2 emission reduction per megawatt per hour of electricity (Sze SM. Physics of Semiconductor Devices) and calculating the amount of CO2 reduction per year. The amount of revenue generation is calculated by considering the value of carbon credit in the market and the yearly emission reduction of the proposed project (Table-1).

The average solar radiation in Kerala is 5.49 KWhm2/day[3]. The Global Horizontal Irradiation (GHI) daily average of Kerala is 5.49 kWh/day. As per the general principle, any site with GHI is more than 1500 kWh/year is more suitable for solar PV technology. In Kerala the annual value of 2003kWh/m2/year is based on the Meteonom Data (Ajithgopi, Sudhakar, K., & Keng, N. W. 2021). From this evidence, Kerala is the most suitable place for solar PV installation.

So the power of output is calculated as 1.4274 Kwh/day. If we consider 300 clear days in a year the total power production would be 428.2Kwh/year. A 72-cell solar panel has an expected rate of 25 years of life span, so during 25 years the power output becomes 10.7055Mw.

Carbon credit calculation

Revenue generation potential of KIIFB can be analysed by taking an average value of 0.932 tonnes of CO2 emission reduction per megawatt per hour of electricity (S.M. Sze, Kwok K. Ng, 2006). Globally carbon trading

Table -1 Solar insolation capacity in Kerala

SI. No	District	DNI (kWh/m2/day)	GHI(kWh/m2/Day)
1	Alappuzha	4.29	5.52
2	Kannur	4.47	5.43
3	Ernakulam	4.36	5.44
4	Idukki	4.52	5.44
5	Kasargod	4.77	5.54
6	Kollam	4.27	5.50
7	Kottayam	4.22	5.45
8	Kozhikode	4.50	5.47
9	Malappuram	4.70	5.49
10	Palakkad	4.55	5.51
11	Pathanamthitta	4.52	5.62
12	Thrissur	4.60	5.52
13	Wayanad	4.68	5.33
14	Thiruvananthapuram	4.34	5.52
	Average	**4.49**	**5.49**

Source: The Energy Report Kerala, WWF India & WISE 2013

is done by reducing the overall emission overtime through the generation of more power from renewable sources and offsetting its CO2 emission .CO2 emission reduction Mwh/year as per the calculation is 0.3988 tonnes per unit of 72 cell solar.

As mentioned earlier, the total power production will be 428.2 kw/h, which will be equivalent to 0.428 mw/h. In this module, CO2 emission reduction Mwh / year as per the calculation will be,

= 0.428×0.932

= 0.3988 tonnes

If we take $60 per tonne of CO2 emission (average rate that is followed globally in carbon trading), we can earn approximately ?1984.42(1 USD= Rs 82.69) from one module of 72 cell solar per year.

=0.3988 × $60

= 23.928

= $24 = Rs 1984.42 (when 1$= Rs 82.69)

KIIFB has a projection of 5, 93,820 sq.m construction of buildings as per the project details provided by KIIFB's green building proposal (2021). One module of 72 cell solar requires 2 sq m for installation. Therefore from 593820 Sqm, we can install 296910 (593820/2) solar cells.

From 296910 solar cells, 589194142.2 per year (Rs 58.9 crore) can be earned as given below.

= 296910×Rs 1984.42 = Rs 589194142.2

Carbon offsetting versus monetizing of power

Considering the fact that carbon trading/ offsetting is in a nascent stage in India, KIIFB can possibly think of monetising the solar power generated using its space. Let us analyse how much is this worth if given to GRID? This can be calculated as follows.

By using the rooftop of KIIFB's project of 593820 sq.m construction, we can generate 428.2 Kwh/year from 1 PV solar.

So by using 296910 solar cells, we can generate,

=296910 x 428.2kwh

=127136.862 MW/year

In the Indian scenario power is priced in the Kilowatt unit and 1 Kw of electricity is priced at 6.49. 1KW of electricity generated from solar when sold at a rate of 6.49 (KSEB, 2023) can generate Rs 825118234.38 (Rs 82.5 crore) revenue from the sale of electricity to Indian Grid or to KSEB as shown below.

= 127136.862×Rs 6.49 = Rs 825118234.38

This indicates the green power generated by KIIFB fetches more value if sold to the grid or KSEB than used for carbon offsetting. Whatever the case be, the revenue generated from the KIIFB's green buildings can also be considered in tandem with the SDG goals. While these are the direct revenue benefits of this model, there are also indirect benefits such as less dependence of the state on the national grid for additional energy, especially during the summer season.

Conclusion

Now based on the above findings, we have some suggestions on mobilising own sources of revenue for the government, especially KIIFB in our case. Here we find that KIIFB

can generate a certain amount of funds from the installation of rooftop solar PV on its buildings. KIIFB can generate electricity by using renewable sources and zero carbon emission. This electricity can be sold to the Indian grid or to KSEB and it may be used for carbon trading or offsetting. In this study, we concentrated only on infrastructure projects of KIIFB and rooftop solar installation but this also can be extended to other projects of KIIFB.

It is also essential to mention the costs of installing rooftops in KIIFB's space. Considering the fact that KIIFB was solely designed to provide crucial infrastructural finance, it shouldn't be a problem for KIIFB to add a small percentage to the existing project cost for converting it into a green project. Apart from this, KIIFB has a history of finishing projects ahead of its completion time and thereby saving project cost. This savings can be efficiently used into installing rooftop solar and generating power from its vacant spaces. The falling costs of solar panels and Central government's push towards installing rooftop solar will also add advantage to this model. Therefore, we feel that the cost of installing rooftop solar in KIIFB's building spaces won't be much of an issue.

In the context of green financing, it necessitates the need for incorporating sustainability with infrastructure financing in tandem with the best practices followed globally. The study highlights the viability and potential of carbon trading/offset or solar power generation strategies by KIIFB and ways to augment revenue from it. The paper found that, by reducing carbon emissions, the KIIFB can earn more carbon credit or generate more revenue from selling it, and it is also possible to attract potential green financing by highlighting this sustainable energy source and its sustainable revenue stream. This provides scope for innovative non-tax revenue methods in the current scenario of enhancing revenue in the form of renewable power generation.

To conclude, in this paper an attempt has been made to highlight the revenue generating potential of KIIFB, the deficit financing infrastructure financing agency of the Government of Kerala. Since the data regarding the total rooftop space created so far by KIIFB was not available, a proxy, that is KIIFB's green building proposal (2021); was used to highlight the potential rooftop space and the resultant solar power generation. Even with this, it was estimated that KIIFB's building has a potential to raise about 82.5 crores annually. If solar power generation is enabled in all the rooftop spaces of KIIFB, these figures are sure to go up. It has been mentioned that, when state owned enterprises having revenue potential incurs debt for the state, it is not included in the overall debt of the state. Therefore KIIFB should seriously think of generating revenue sources so as to move out of the ambit of a mere debt generating state owned enterprise. Once KIIFB generates financing from its resources and showcases its revenue potential, then only KIIFB can garner more borrowing to suit its mandate.

■

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End Notes

1 While there are mainly 3 types of solar size, 60-cell, 72-cell, and 96-cell; for commercial purposes 72 cell solar is commonly used.

2 According to information available at http://www.webelsolar.com

3 According to Surface Meteorology and Solar Energy Data Set http://esoweb.1arc.nasa.gov/sse/RETScreen)

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Do electoral and partisan considerations affect central transfers? An analysis of Kerala

Shamna Thachaparamban

Abstract

Though states have no discretionary power on central transfers, the transfers from the centre have an effect on the budget resources available to state governments. In financial relations, the centre holds greater authority than the states. In this context, this study examines the trend of central transfers to Kerala for the time period from 1980 to 2020 and analyses whether central transfers to states are tampered with by electoral or partisan considerations. The result indicates a slight effect, and the central transfers are trending downward, demanding the need for additional revenue streams.

Introduction

Recently, there has been a surge in empirical evidence revealing that national politicians prioritise their electoral motives over normative concerns about efficiency and equality in allocating funds to regional governments. (Grossman, 1994; Worthington and Dollery, 1998, 2001; Johansson, 2003; Khemani, 2003, 2007; Rao and Sing, 2000; Rodden and Wikinson, 2004; Datta et al., 2007). Researchers agree that the Indian Federation provides a valuable laboratory for this purpose due to the existence of two agencies that decide general-purpose federal transfers to state governments. One is a quasi-judicial body endowed with constitutionally mandated legal authority and expected to be free from political influence, and the other is a political body composed of the executive heads of the central and state governments. If non-affiliated states are politically disadvantaged and likely to have fewer national resources directed towards them, whether through intergovernmental fiscal transfers or direct spending by the central government, then the independent agency would direct more significant transfers to them not because of any political motives of their own but because they happen to be the resource-poor states. (Khemani, 2007).

The state government is impacted by the centre's transfers in two ways. On one side, it increases the budget resources

available to state governments to allocate at their discretion. Another argument is that the intergovernmental transfers may create perverse incentives in collecting states own revenues. There are two systematic channels of general-purpose transfers from the centre to the states in India. Transfers determined by the Finance Commission, a constitutional body appointed every five years, are also called statutory transfers. Besides tax devolution and grants to states based on the recommendations of the Financial Commissions, the Central Government provides specific grants for various purposes through its respective ministries, which are discretionary. The purpose of specific transfers is to ensure the minimum standard of services which are considered meritorious or with significant interstate spillovers. The states' development objectives are entirely dependent on the central government's policies. Without the central government's active financial support, no state could afford to function. In the context of declining central assistance, this study analyses whether the central transfers to states are tampered by electoral or partisan considerations.

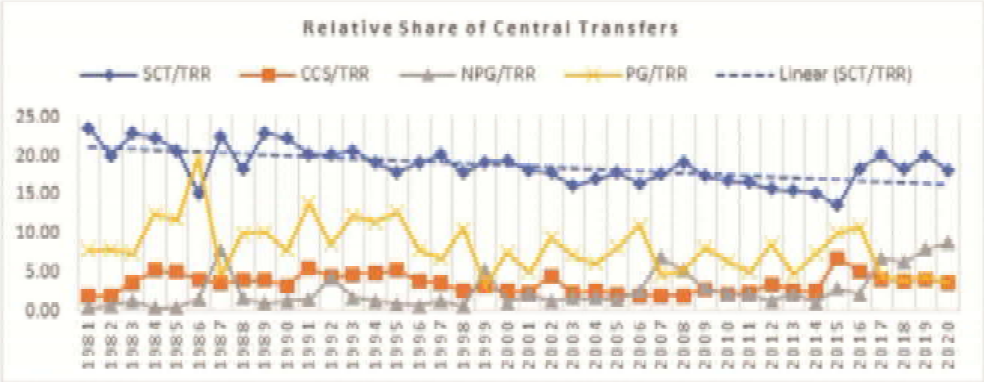
Trends in central transfers

The share of central transfers in total revenue receipts shows a declining trend in the initial stage, then a fluctuating trend (Figure.1), which was 40.28 percent in 1984-85, came down to the level of 30.92 percent in 1995-96 and further to 24.90 percent in 2016-17. Out of the total receipts, in the years 1991-92, the share of central taxes and central grants was 20.24 percent and 15.29 percent, respectively, which decreased to 13.58 percent and 12.96 percent in 2015-16. As a percent of total revenue receipts, the share of central tax and grant deteriorated sharply from 23.64 and 8.11 (1980-81) to 15.18 and 8.4 (2013-14). Besides, it reveals the fact that the total transfer from the centre as a percentage of total revenue receipt was 35.64 percent in 1980-81, which decreased to 32.37 percent in 2017-18. Moreover, the figure shows a declining trend in central transfers, including tax shares. The trend depicts that the share of central tax has remained relatively constant throughout the years, except a jerking trend after 2017, combining with GST compensation, and then a drastic decline in the last year (2020-21), i.e., 11.84 percent of total revenue receipts. It shows that the decrease in central transfers is due to the decline of central transfers in other forms, but a change occurred after 2016 with the initial effect of the fourteenth finance commission and an increase in grants (Figure-1 & 2).

Partisan and electoral incentives on central transfers

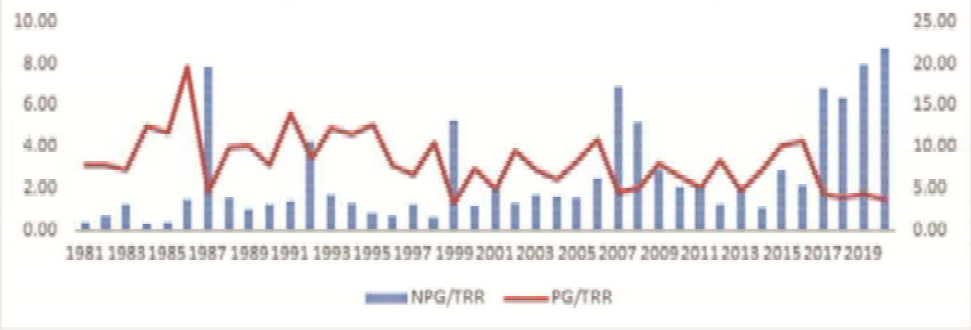
Empirical evidence has been documented that, in addition to normative considerations of equity and efficiency in federal setup, the central government's decisions on regional resource allocation are also affected by partisan and electoral objectives (Khemani, 2003, 2007; Rao and Sing, 2000; Rodden and Wikinson, 2004; Datta et al., 2007). It argues that the variations in intergovernmental transfers (central transfers) to sub-national

Figure: 1 Trends in central transfers, 1980-2020



Source; RBI, A study on State Finances, various issues; GOK, budget in brief, various issues; plotted by researcher.

Figure: 2 Share of plan grants and non-plan grants- year-wise comparison



Source; RBI, A study on State Finances, various issues; GOK, budget in brief, various issues; plotted by researcher.

jurisdictions in a federal setup are also affected by political variables representing the electoral incentives of public agents. That is, states governed by the same political party governing at the centre are likely to receive substantially greater fiscal transfers from the political agency determining transfers. In this regard, this analysis tests whether there is any such variation in inter-governmental transfers due to electoral or political considerations. This part analyses central transfers to Kerala for 36 years, from 1980-81 onwards, using precise econometric models.

Generally, the specified model is:

$$Y_t = \alpha + \gamma P_t + \beta Z_t + \varepsilon_t$$

Here, vector 'Y' is the dependent variable, which corresponds to each dependent item in its different forms taken for the purpose of the analysis. Subscript't' indexes the years. Zt stands for a set of control variables, Pt for political variables, and ? and ? are estimated regression coefficients.

The testing models are [1];

$$G_t = \alpha_1 + \gamma_1 affli + \gamma_2 bece + \phi_3 y_t + \phi_4 tr_t + u_t \quad \ldots(1)$$

$$G_t tr_t = \alpha_1 + \gamma_1 affli + \gamma_2 bece + \phi_3 y_t + \phi_4 pop + u_t \quad \ldots(2)$$

Findings and conclusion

The findings from this model show a slight influence of the political affiliation dummy. That is, an increase in grants during years when the incumbent state is affiliated with the center's ruling party. But the coefficient on political affiliation (affli) is found to be significant only at 10 percent. As per trend, a dummy (bece) introduced for the time before the central election is affected by the timing of the Lok Sabha election (table 1). Also introduced another electoral variable to capture whether there is an increase in transfers related to legislative assembly elections (bele), when the incumbent of the state is affiliated with the ruling party of the centre, and the other (atce), for the time when the Lok Sabha election is held at that time when the incumbent of the state is affiliated. Both variables are found to be significant at the 10 percent level. Also, the result elucidates a positive relationship between population and grant and a negative relationship between income and grant from the centre (Table 1).

From the analysis, a strong partisan effect on central transfers cannot be identified. Perhaps it may be because the same government in the state and the centre did not crop up with much at the same time. Besides, the study was analysed in proportion to total revenue receipts and total central transfers to Kerala. Further scope of research is envisaged to compare with other states and total central transfers to analyse the magnitude and real effect. The result indicates that central transfers are in decline and demand alternative sources of revenue by utilising fiscal space for productive channels. The rationale of intergovernmental transfers is, of course, to balance the fiscal disabilities of subnational jurisdiction. Therefore, specific purpose grants should be given to supplement services with a high degree of inter-state externalities or those that are considered highly meritorious.

Table 1: Electoral and partisan effects on inter-governmental transfers

dependent/ independent	TG/ RR	SPG/RR	CSS/ RR	NPG/RR	TTC/TR
affi	3.31	1.35	1.01	15.36	3.64
	(1.96)*	(1.97)*	(2.01)*	(1.93)*	(1.99) *
ble	8.78				2.61
	(1.77) *				(1.79)*
atce			-0.135		
			(0.15)		
bece		-1.67	-1.12		-4.30
		(-2.03)*	(-1.4)		(-2.03)*
atcs	-9.08				
	(0.079)*				
pop	0.001	(0.003)	0.0001	0.0006	0.004
	(1.97)*	(2.26) **	(0.72)	(2.72) **	(4.87) ***
Yt	-6.181	-1.20	-4.601	-0.008	-0.0041-
	(-1.35)	(-.59)	(-2.68)**	(-4.31)***	(3.63)**
Constant	8.99	3.01	2.93	16.21	28.27
	(4.70)***	(5.01) ***	(0.004)	(0.4)	(15.00)***
R2	0.69	0.41	0.53	0.78	0.65
DW	1.86	1.83	1.5	1.52	1.48
F-P value	2.75	2.91	3.94		7.79
	(0.05) ***	(0.02) ***	(0.005) ***		(0.000)***

*Note: The numbers in parenthesis are the t-statistics. *, **, and * ** denotes significant at 10%, 5% and 1% level respectively.*

Appendix

Table -1 Relative share of central transfers

Year	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
SCT	23.64	20.08	22.95	22.42	20.74	15.21	22.58	18.24	23.03	22.26
CCS	1.86	1.95	3.66	5.18	4.98	4.04	3.54	3.96	3.97	3.19
NPG	0.38	0.72	1.28	0.34	0.44	1.51	7.81	1.59	1.04	1.27
PG	7.80	7.88	7.29	12.47	11.71	19.67	4.54	9.95	10.21	7.75
TG	8.18	8.60	8.58	12.82	12.15	21.18	12.35	11.54	11.25	9.03
Year	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
SCT	20.24	20.21	20.70	19.15	17.97	19.12	20.22	17.87	19.20	19.33
CCS	5.50	4.37	4.66	4.88	5.22	3.84	3.59	2.61	3.10	2.51
NPG	1.39	4.31	1.71	1.34	0.89	0.74	1.28	0.60	5.25	1.14
PG	13.90	8.56	12.32	11.48	12.67	7.89	6.69	10.55	3.21	7.45
TG	15.29	12.87	14.02	12.82	13.56	8.64	7.98	11.14	8.45	8.59
Year	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
SCT	18.16	17.82	16.13	17.03	17.81	16.46	17.66	19.20	17.44	16.85
CCS	2.40	4.52	2.29	2.62	2.12	1.94	1.94	1.96	2.75	2.16
NPG	2.08	1.30	1.68	1.65	1.56	2.48	6.93	5.18	2.91	2.12
PG	4.98	9.46	7.14	6.03	8.16	10.99	4.59	5.14	8.06	6.43
TG	7.05	10.77	8.82	7.68	9.72	13.47	11.52	10.31	10.96	8.55
Year	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
SCT	16.59	15.76	15.50	15.19	13.68	18.38	20.14	18.23	20.10	18.18
CCS	2.35	3.41	2.58	2.48	6.76	5.15	4.04	3.87	4.06	3.62
NPG	2.08	1.29	2.17	1.12	2.90	2.16	6.85	6.32	8.01	8.78
PG	5.01	8.47	4.68	7.29	10.06	10.77	4.41	3.95	4.26	3.68
TG	7.09	9.76	6.85	8.41	12.96	12.92	11.26	10.27	12.27	12.45

SCT=Share of central tax, CCS=Centrally sponsored scheme, NPG=Non plan grants= plan grants. All the data given here is computed by the author as a share of total revenue receipt. Source; RBI, A study on State Finances, various issues; GOK, budget in brief, various issues.

■

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End Notes

1 Appropriate variables are introduced according to model fitness.

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Kerala's Development Paradigm: Are there any blind spots?

Aswathy Rachel Varughese, Kiran Kumar Kakarlapudi and Sumalatha B S

Abstract

The Kerala Model of Development is renowned for its focus on social development and welfare policies, showcasing significant progress in human development despite modest per capita income. However, Kerala's development strategy faces significant challenges. It raises concerns about its sustainability due to demographic shifts, climate change, environmental concerns, and fiscal challenges, necessitating a revisit of its development approach. The present study examines the state's achievement in public service delivery and social and physical infrastructure. It also compares its achievements in human development and social indicators with the nation's position. Although there are strides on the development front for Kerala, there are challenges that cannot be undermined.

1. Introduction

The Kerala Model of Development is widely acclaimed as an epitome of social development and welfare-oriented policies. Kerala's remarkable progress has been evident from the strides in human development and welfare for its people despite a meagre per capita income by international standards (UN, 1975). This, popularly referred to as the *Kerala Model of Development,* got much wider attention internationally through several writings of Amartya Sen and Jean Dreze (Dreze& Sen, 1991; Sen, 1999;Dreze 2017). Kerala's development strategy aligned with Amartya Sen's human capacity approach, which gave rise to UNDP's Human Development Index. The success of the Kerala Model challenges the 'trickledown theory' advocated by market economists, relying instead on the principle that enhancing human capabilities and entitlements ensures sustained economic growth.While most Indian states struggle with social indicators, Kerala has notably elevated living standards for its people through investments in social infrastructure, especially education, health, and social protection.

Notwithstanding the achievements, the sustainability of Kerala's development strategy has been subjected to intense

scrutiny on various frontslike demographic transition, climate change, environmental concerns, out and in migration, etc.Concerns have been raised regarding the sustainability of Kerala's development model, which was led by state intervention due to the potential fiscal crisis (George, 1999). The financing of social sector expenditure was mainly met through borrowings, and this fiscal implication limited the Kerala development model (George, 1999). High human development coupled with increasing unemployment and the state's failure to manage public finance poses a serious challenge towards the sustainability of the development already achieved (Kannan, 2022). The recent publication of RBI (2022) on risk analysis of state finances showed that Kerala is one of the five fiscally stressed states in the country, which gained significant attention. Therefore, the current model is at a crossroads, necessitating a reassessment to steer development in the right direction. The present study examines the development trajectory of the state of Kerala, analysing its achievements and future challenges in the light of evolving macro-fiscal dynamics.

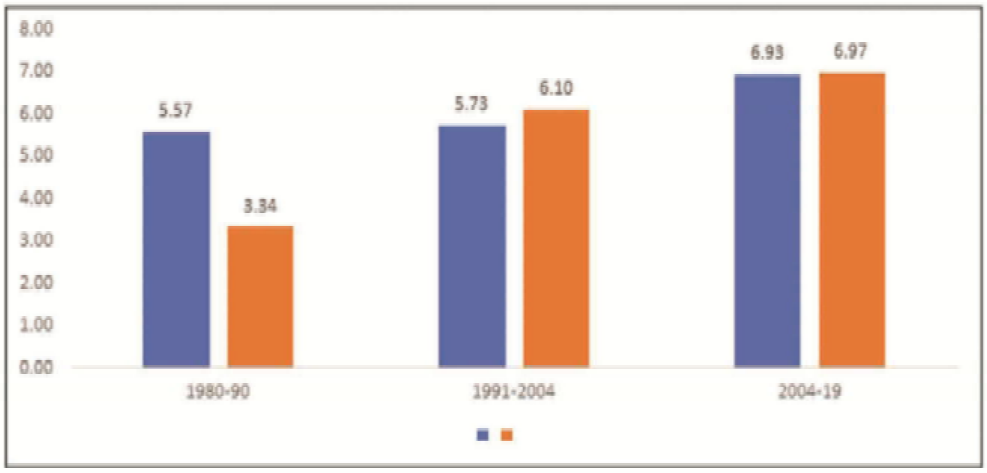
The remainder of the article is as follows. Section 2 presents an overview of Kerala's growth dynamics over the last four decades, compared to the national performance of other states. Section 3 discusses Kerala's achievements in creating public infrastructure, followed by its achievements in development outcomes in Section 4. Section 5 presents the second-generation challenges of Kerala's development and the final section offers concluding remarks.

2. Kerala's Growth Performance

The narrative suggests that Kerala had been living with a course of 'lopsided development' for a rather long time - its human development achievements were not matched by its economic growth (Chakraborty, 2005). This narrative, however, is now giving way to a newly emerging one based on the recent observation that growth has not eluded Kerala after all. The evidence suggests that the state of Kerala is one of those states that is a front-runner in many economic development indicators, ensuring growth with equality. Kerala's per capita GSDP surpasses the national average, highlighting the state's income level. It is important to note that from 2003 to 19, Kerala's GSDP growth was 6.9 per cent, marginally higher than all of India's (6.4 per cent) (Figure 1, 2 & 3).

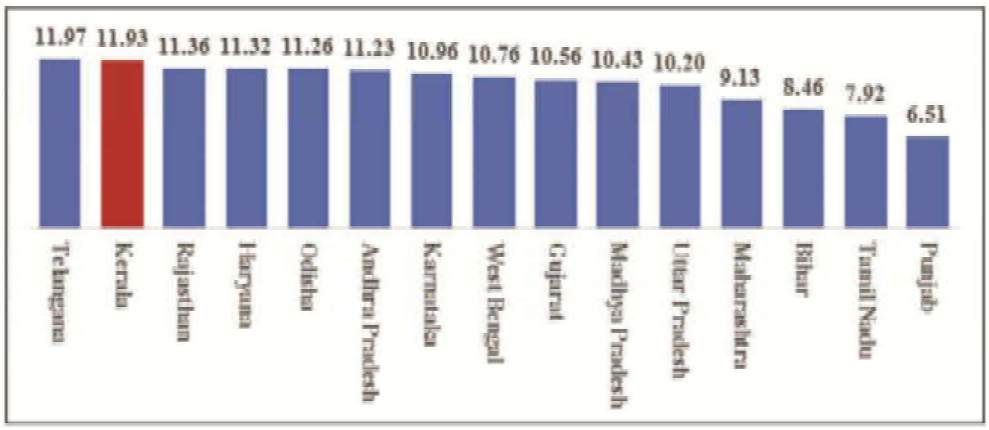
The efforts of the state to build social structure have indeed paid rich dividends. In the 1980's Kerala's per-capita GSDP was only 0.6 times the national average, whereas in 2019-20, Kerala's per-capita GSDP was 1.6 times the national average (Figure 3). The process of human development did contribute to the growth process through a demographic transition that helped to reap a premium in per capita growth in income to the extent of one percent per annum compared to the national performance in per capita growth. In what follows, we show how Kerala's state-led development process resulted in achieving higher economic growth and better provisioning of public services through the creation of social, physical and digital

Figure 1: Growth Performance of Kerala and India (1980-2019) in %



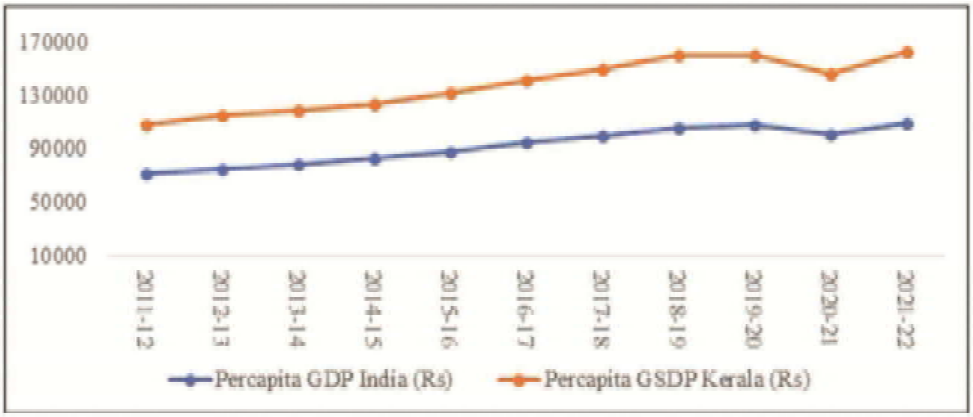
Source: Authors' calculation based on MOSPI

Figure 2: Real SDP growth of Indian states (In Percentage), FY2021-22



Source: Authors' calculation based on MOSPI

Figure 3: Per capita Gross Domestic Product Kerala vis-à-vis India (In Rupees)



Source: Authors' calculation based on MOSPI
Notes: GDP and GSDP are at constant prices of 2011-12

infrastructure, notwithstanding the development outcomes that are compared with developed countries.

3. Creation of public infrastructure and public service delivery

The significance of the state, physical infrastructure, and human capital cannot be overstated on the path to economic growth, social progress, and sustainable development. The East Asian Miracle is a compelling illustration of swift economic advancement and a rise in per capita income achieved through sustained investments in human capital (Drèze & Sen, 2013; Stiglitz, 1996). Apart from social infrastructure, physical and digital infrastructure is vital in fostering economic growth and development. The turnaround can be attributed significantly to the capacity of the state and its institutions. Kerala has made remarkable progress in achieving social well-being, as evidenced by its performance on indicators like the Human Development Index (HDI), Multi-Dimensional Poverty Index (MPI), and Global Hunger Index (GHI). All these are outcome of effective and calibrated social investments. This progress not only exceeds national averages in India but also compares favourably with middle-level developed countries, highlighting Kerala's significant advancements in social welfare (Chathukulam & Tharamangalam, 2021). This section shows Kerala's efforts in creating a better public services delivery system, which is an outcome of the state's active spending over the decades.

Social infrastructure

Health Infrastructure

Infrastructure development plays a pivotal role in driving overall economic progress. For instance, (i) direct investments in infrastructure

establish production facilities, thereby spurring economic activities; (ii) it diminishes transaction and trade costs, thereby enhancing competitiveness; and (iii) it generates job prospects and fosters the creation of physical and social infrastructure, particularly benefiting disadvantaged communities.(Estache, 2004). The linkage between economic development and social and economic infrastructure is well-established in the empirical literature. For instance, developing South Asian infrastructure plays a crucial role in fostering economic growth. Similarly, investments in social infrastructure like healthcare and education also contribute significantly to the economic progress of South Asia(Easterly & Rebelo, 1993); (Sahoo & Dash, 2012). Human capital requires significant investment, and the benefits are not realized immediately. The public provision of essential services such as education and healthcare and their related infrastructure is justified based on the concept of externalities and the distinction between private and social returns (Musgrave, 1996). Indian States typically allocate considerably fewer financial resources to healthcare expenditure compared to education. Health spending ranges from 0.5 percent to 4.0 percent of Gross State Domestic Product (GSDP), whereas education spending ranges from 1.6 percent to 8.4 percent of GSDP.

With respect to health infrastructure, Kerala distinguishes itself as one of the states with a surplus of doctors and specialists at primary health centres, surpassing the mandated number. According to the 2022 data from Health and Family Welfare Statistics by the Government of India and Niti Aayog, Kerala accounts for 1503 doctors and specialists, exceeding the required 780. The state also maintains one of the lowest numbers of vacant positions for doctors and specialists at primary health centres, with only 66 such positions remaining unfilled (Figure 4).

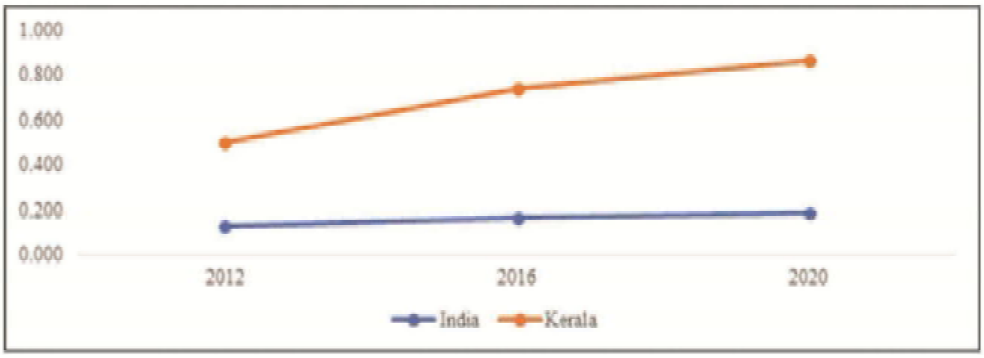
The number of government hospitals and available beds serves as a crucial measure of health infrastructure. Kerala stands at the fourth position, possessing one of the highest numbers of hospital beds among Indian states, with a total of 38,097 beds distributed across 1,284 government hospitals (Figure 5). This achievement is noteworthy, especially when compared to other states such as Maharashtra, Andhra Pradesh, Gujarat, and Rajasthan, where the number of government hospitals is substantial, but the bed capacity is deemed unsatisfactory. Notably, in Kerala number of hospital beds available per thousand population is higher than the national availability. It reflects that Kerala outperforms in terms of health infrastructure which is the consequent result of sustained public intervention on this front (Figure 5).

The significant progress in health comes in terms of child health and various other indicators, comparable to those of developed nations, is a result of a vibrant public health infrastructure built over the years. The state's commitment to public health is evident in its primary healthcare infrastructure, which has played a crucial role in preventing and managing various health crises including the COVID-19 pandemic.

Education attainment

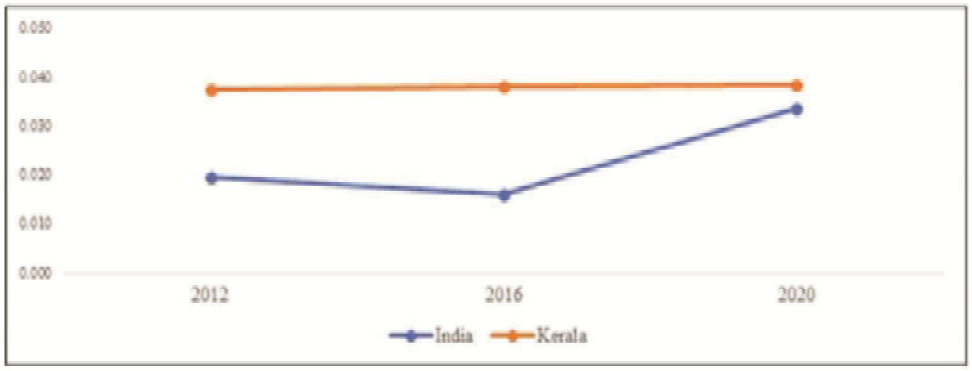
To attain sustainable development, access to education and the quality of education

Figure 4: Kerala outperforms in health manpower: Registered number of nurses and midwives per thousand population



Source: National Health Profile, Ministry of Health and Family Welfare, Various Issues
Notes: normalised figures per thousand population

Figure 5 Number of hospital beds available for Kerala vis-à-vis India per 1000 population



Source: RBI, Handbook on Statistics of Indian states,
Notes: The score is normalised per thousand population

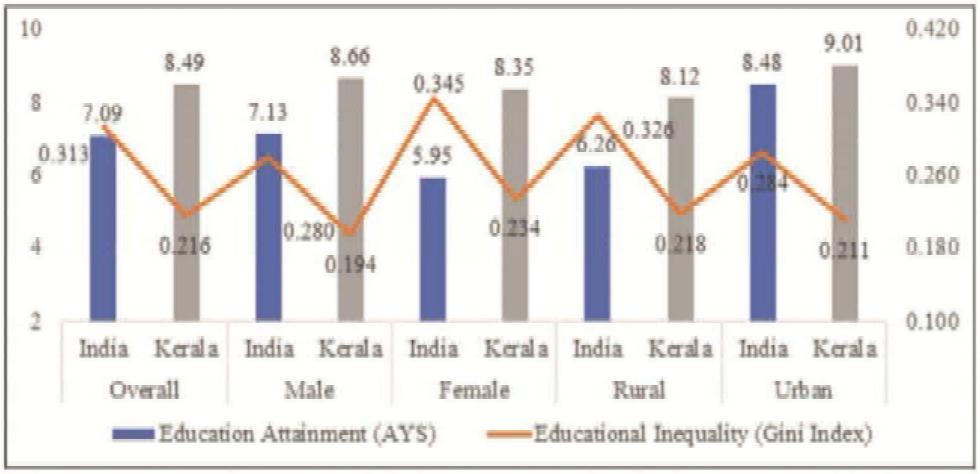
are essential components. A proactive fiscal policy is necessary to support the provision of such merit goods. India allocates approximately 8 per cent of its GDP to the social sector, of which education gets around 2.5 to 3 per cent. Compared with educationally well-performing nations in terms of their score in HDI, for India, there is room for enhancement ininvestments in education and healthcare (Varughese & Bairagya, 2020). Although social sector spending in India at the state level has shown no specific pattern in relation to economic cycles, it is noteworthy that spending on education tends to be pro-cyclical. This trend becomes more pronounced during periods of negative output gaps, particularly in larger states (Kaur et al., 2013). Kerala's percapita public spending and household education expenditure on education is higher compared to other Indian states. It is reflected in the educational outcome as well.

Educational attainment is more favorable in the southern states, characterized by a more equitable distribution compared to other regions. Among all Indian states, Kerala stands out with the highest mean (Average Years of Schooling - AYS) and lowest educational inequality measured by the Gini index. In terms of overall educational attainment, Kerala exhibits 8.49 Average Years of Schooling (AYS), surpassing India's average of 7.09. Additionally, Kerala experiences lower educational inequality compared to the national level (Figure 6). Nevertheless, there is less room for complacency while its educational outcome is compared with globally well performing countries (Figure 6).

Physical infrastructure

The significance of infrastructure in economic growth and development has long been recognised (Rosentein-Rodan, 1943; Hirschman, 1958;Rostow, 1960).The

Figure 6: Educational attainment of Kerala vis-à-vis India



Source: Computed from PLFS (2019)

argument is grounded in the basic principle that one must have access to markets and ideas before reaping their benefits. This notion is reinforced by the fact that the development of infrastructure like railroads historically aligned with periods of significant economic expansion in Western Europe, Japan, and the United States. Presently, it's evident that wealthier nations possess vastly superior transportation infrastructure compared to less affluent ones (Banerjee et al, 2020). Numerous empirical studies have shown the positive impact of physical infrastructure like roads, rail network ports, electricity on economic growth, inflow of foreign investments, poverty reduction, reduction in unemployment productivity gains, reduction in crime rate, women's labour force participation.

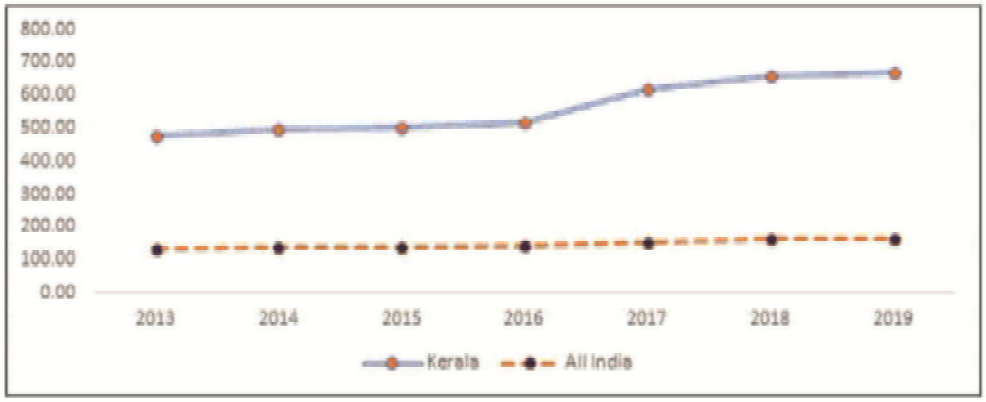
The developing countries are mainly characterised by poor infrastructural facilities to due resource constraints.Road network in rural areas in many states often need to be better connected and maintained. To address this challenge, the Union government has introduced Pradhan Mantri Gram Sadak Yojana (PMGSY) to provide connectivity to unconnected Habitations as part of a poverty reduction strategy. Road transportation is a vital infrastructure contributing to a country's economic advancement. This network encompasses various types of roads, including national highways, expressways, state highways, major district roads, other district roads, and village roads. Widely regarded as a cost-efficient and preferred means of transportation for both goods and passengers, road transport holds significance due to its extensive reach into densely populated areas, playing a crucial role in a nation's economic progress and societal cohesion. Easy accessibility, customization to individual requirements, and cost-effectiveness favor road transport. Additionally, it serves as a feeder system to other modes of transportation like railways, shipping, and air travel.Given the imperative link between the capacity of national highways and the burgeoning traffic demandsfor passengers and goods, it becomes essential to align this capacity with economic expansion. India boasts the world's second-largest road network, spanning 63.72 lakh kilometres, trailing only the United States.

Kerala stands at the forefront among all Indian states with the highest road density among other Indian states. The road connectivity, operating in the public and private sectors, extended to almost every village in the state, enabling a seamless movement of people and goods across the state. The state has 8 major National Highways, spanning a length of 1523.954 Km. The road density in Kerala to 668 Km per 100 square KM in 2019 increased from 476 Km per 100 square in 2013. Road density in the State is four times higher than the national average. As evident from the Figure, the gap in road density between Kerala and All India has beenwidening,especially since 2016. The success of Kerala's road infrastructure lies in its concrete road network's depth across village panchayats, municipalities, and corporations (Figure 7).

Bank Branch density

Banks are the dominant financial intermediaries in developing countries and

Figure 7: Road density in KM per 100 Square KM



Source: Authors' calculation based on RBI data

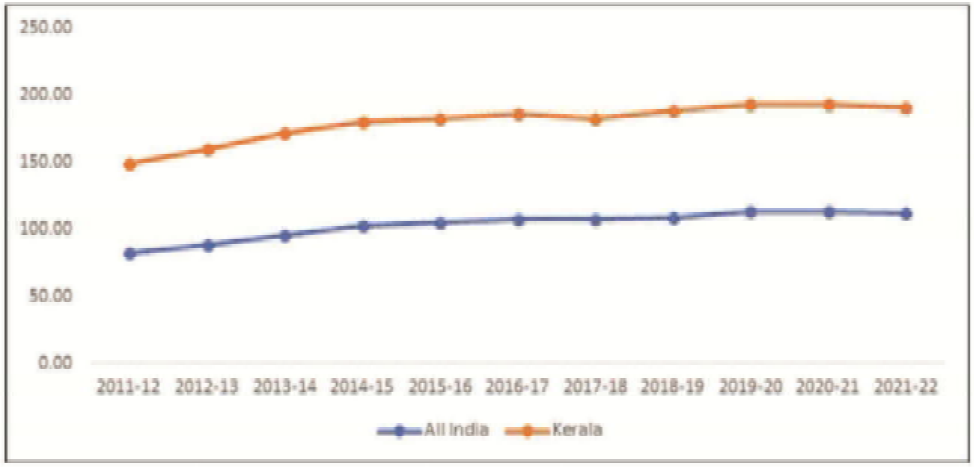
are crucial for growth and development. Kerala boasts a rich history of indigenous banking, dating back to private moneylenders, hundi merchants, and chit funds, evolving into organised banking by the late 19th century with the establishment of the Travancore Bank in 1893. Subsequently, numerous banks, essentially joint stock companies, commenced operations between 1900 and 1947, primarily in the southern and central regions, significantly expanding the banking culture.Post-independence, Kerala's banking sector witnessed substantial growth, with branch numbers escalating from around 600 in 1969 to over 6817 by 2022. Remittances from overseas Keralites, crucial for the state's economic growth since the 1980s, have significantly impacted its banking system. Kerala receives approximately 40% of India's total remittances, constituting over a third of the net state domestic product, directly affecting a fifth of households (Nair, 2017).With a robust banking culture, high literacy rates, substantial remittance inflows, and extensive welfare programs, Kerala has emerged as a leader in fostering financial inclusion since the mid-2000s. The state achieved early success in meeting targets set by schemes like Swabhiman in 2011. It was among the first states and Goa to achieve complete saturation in bank account coverage under the Jan Dhan Yojana by November 2014. The bank branch density in Kerala is almost double that of all of India. The salient feature of Kerala's bank network is that the state has the highest bank density in rural areas, indicating inclusive development of the sector (Nair, 2017) (Figure 8).

Digital Infrastructure

Phone and Internet Connectivity

Telecommunications and associated information infrastructure plays a critical role in building a modern industry and service sector which are responsive to global

Figure 8: Bank branch density per 1000 people



Source: Author's calculation based on RBI database

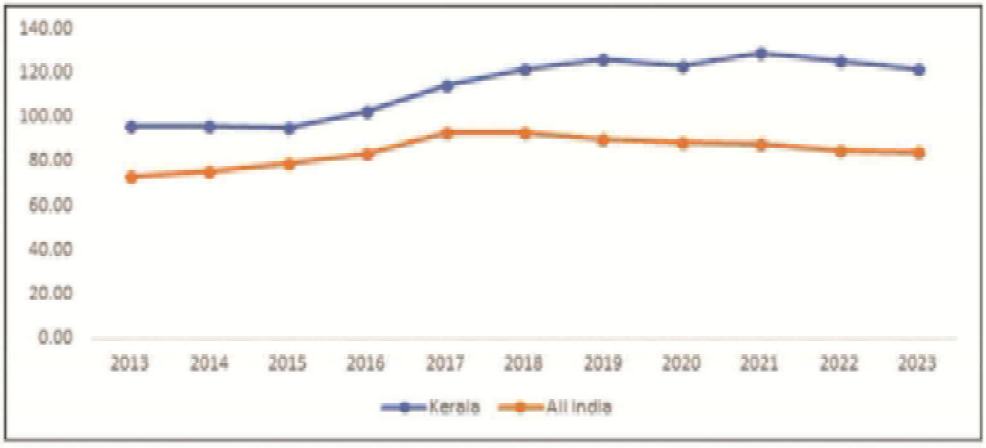
demands. The telecom industry in India is the second largest in the World with a subscriber. Kerala surpasses the national average in tele density, boasting a teledensity of 128.93%. (Figure 9). This figure translates to 45.72 million telephone subscribers, including 4,42,86,150 wireless subscribers. Moreover, Kerala's internet infrastructure remains robust, with 27.44 million internet subscribers. The Kerala Fiber Optic Network (K-FON) initiative aims to provide affordable, high-speed internet access to government offices, educational institutions, and BPL (Below Poverty Line) families, making Kerala a pioneering state in this regard (Figure 9).

The total number of internet subscribers in India stood at 824.89 million at the end of March 2022. The number of subscribers accessing wireless internet connection constitutes the major chunk of over 797.61 million subscribers, contributing 96.69 per cent to the total number of internet subscribers, while the wireline subscriber base is at 27.27 million, which forms 3.31 per cent of the total number of internet subscribers. (Figure 11) The analysis thus far shows Kerala's achievements in the provisioning of public infrastructure which is made possible through a state-led development policy. The state government has spent considerable resources, which came at the cost of a stressed fiscal position. The achievements at the national level compare poorly in many of the indicators (Figure 10).

4. Kerala's exemplary performance development achievements

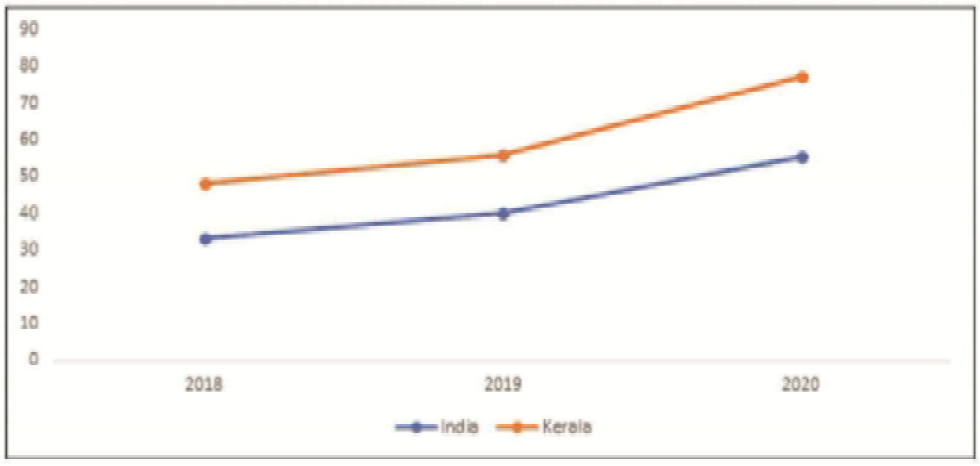
Kerala's unique model of development is a testament to the effectiveness of prioritizing human development, social justice, and participatory governance. The key feature of early Kerala model was the achievement

Figure 9: Telephone density in %



Source: Author's calculation based on RBI database

Figure 10: Internet subscriptions per 1000 people in %



Source: NITI Ayog, SDG dashboard

of high social sector development with low per capita income. Decentralisation has played a vital in the development process of the state (Pillai, 2003). Though the state's achievements in human development, social sectors such as education and health and the social welfare were celebrated widely, the sustainability of the model was criticised mainly from the fiscal point of view (Kannan, 2022). The state's achievements in education, healthcare, social welfare, women's empowerment, and environmental sustainability provide valuable lessons for other regions seeking a more balanced and inclusive approach to development. While challenges remain, Kerala's model serves as an example of how a focus on human well-being can lead to sustainable and equitable development.

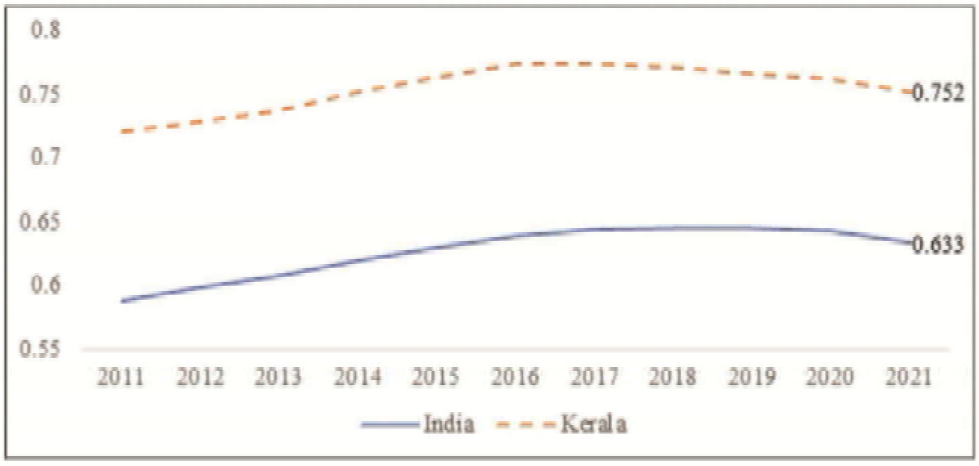
Human Development

Globally, India often ranks low in composite indices related to health, education, and nutrition among countries outside Africa. However, Kerala's development model stands out, emphasizing the widespread sharing of economic gains. Kerala's HDI is almost comparable to developed countries. Kerala achieved a high HDI almost four decades ago. Since then, it has continued to improve human development through active state intervention. The analysis on spatial pattern of the human development of Kerala revealed that 28.75 % of the villages of the state need further attention to human development (Das et,al, 2022). But concerns were raised on sustainability of human development indicators, financing on human development expenditure and fiscal constraints faced by the state to meet these expenditures (Chakraborty et, al, 2010) (Figure 11).

State with lowest poverty

Poverty has declined steadily in all states

Figure 11: Kerala outshines India in HDI ranking



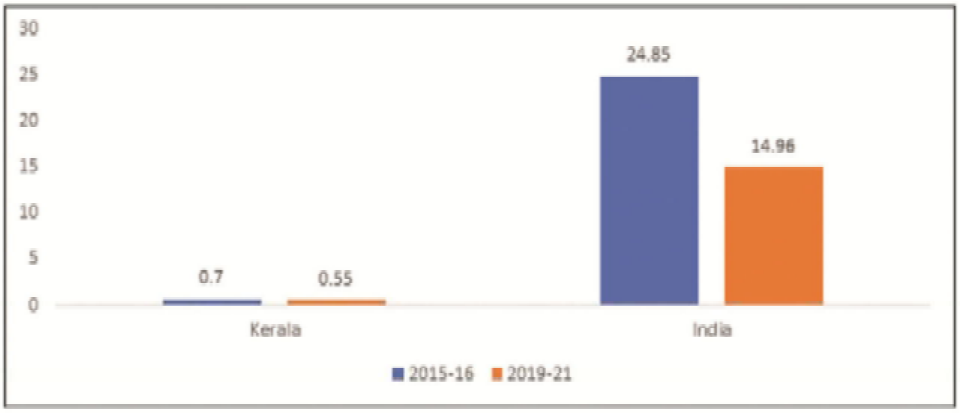
Source: Global Data Lab; https://globaldatalab.org

and social groups in India (Panagaria and Mukim, 2014). Using different rounds of National Family Health Survey (NFHS), The NITI Aayogs report on Multi-Dimensional Poverty report shows that Indexthe percentage of poor in Kerala decreased from 0.70 per cent of the total population in 2015-16 to 0.55 per cent in 2019-21 (Figure 12). During this period, 53,239 people were lifted out of multidimensional poverty. According to this report, Kerala has registered lowest poverty in the country followed by Goa with 3.76 per cent, Sikkim with 3.82 per cent, Tamil Nadu with 4.89 per cent and Punjab with 5.59 per cent. The study used the United Nations Multidimensional Poverty Index (MPI), based on 12 indicators such as malnutrition, education, and sanitation. If people are deprived in three or more areas, they are identified as "MPI poor." Kerala's improved ranking can be attributed to its better performance across various parameters used to calculate the MPI score. For instance, the percentage contribution of nutrition increased from 34.12 per cent in 2015-16 to 36.61 per cent in 2019-21. This is a reflection of the government's unwavering commitment towards social welfare and improving the lives of people in the state (Figure 12).

Kerala, a top performer in Sustainable Development Goals

As per the United Nations Sustainable Development Goals (SDGs) Index and Dashboards Report 2023, India holds the 112th position out of 166 countries, attaining an overall index score of 63.5% in its progress toward achieving the 17 listed sustainable development goals (UN, 2023). In the SDG India Index for the year 2020-21 by NITI Aayog, Kerala emerges as the top-ranking state in India, securing the first position. Kerala boasts a composite score of 75, surpassing Himachal Pradesh (74)

Figure 12: Kerala outperforms in health manpower: Registered number of nurses and midwives per thousand population



Source: NITI Aayog

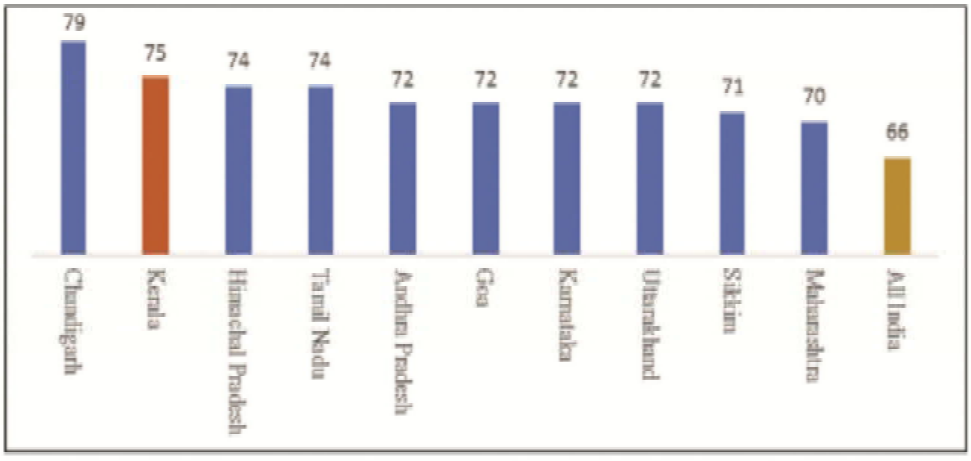
and Tamil Nadu (74). On the lower end, Bihar (52), Jharkhand (56), and Assam (57) find themselves at the bottom.

Kerala leads in 9 goals with scores ranging from 65 to 99, including no poverty (83), zero hunger (80), global health and well-being (72), quality education (80), clean water and sanitation (89), reduced inequality (69), sustainable cities and communities (75), sustainable consumption and production (65), climate action (69), life on land (77), and peace, justice, and strong institutions (80). The state performs well in four goals with scores between 50 and 64, covering gender equality (63), decent work and economic growth (62), industry, innovation, and infrastructure (60), and life below water (53). Kerala has already achieved the goal of affordable and clean energy in 2020 (NITI Aayog, 2020). Though the state has achieved social resilience through the investments in human capital which ultimately resulted in the high performance in sustainable development indicators, several challenges are there in front of the state to focus upon. The key challenges include environmental issues such as global warming and flood, fiscal constraints and unemployment issues (Chattopadhyay). As the main focus of old Kerala model was on distributive policies, the new Kerala model tries to integrate the social, productive and environment aspects of development by developing synergies between civil societies, local governments and state governments (Veron, 2001) (Figure 13).

Kerala leads in social protection

Social security and welfare measures are necessary to ensure that the most vulnerable are protected and provided support to mainstream into society. It talks of Social

Figure 13: Top 10 performers in terms of Sustainable Development Goals

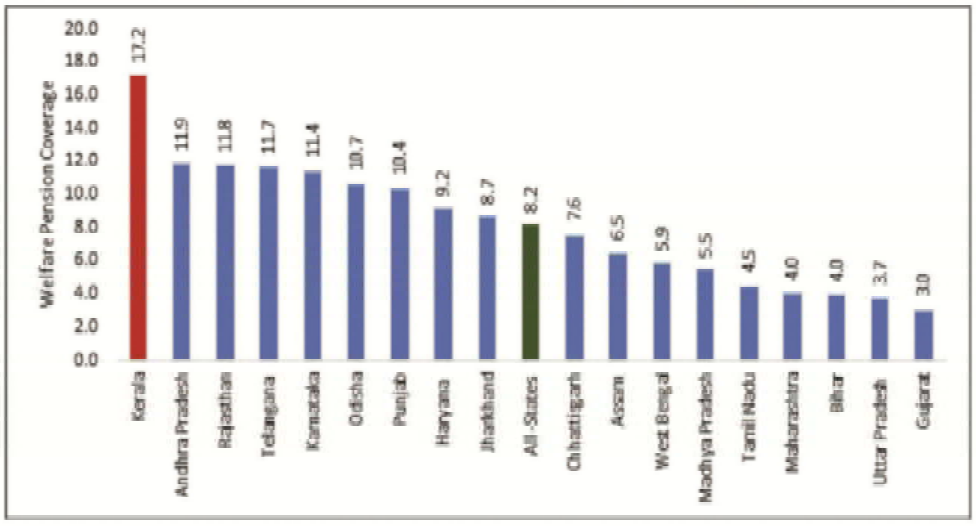


Source: NITI Ayog, SDG Dashboard

Security for All, which envisages that "in a crisis-shaken world marked by a perhaps unprecedented quagmire of political, environmental, economic and fiscal uncertainties… social security is a human right and all people regardless of where they live, should be guaranteed at least a floor of basic social protection" (ILO, Social Security for All, 2012). Social security benefits are powerful tools to combat poverty and achieve the Sustainable Development Goals. While earlier development theories considered social policy as a residual, it is now being increasingly realised that it is essential to integrate economic and social policies; the build-up of national social security systems early in the economic development process is a key investment in overall development. Kerala has several achievements in introducing social security measures to the vulnerable groups like persons with disabilities, aged people, women and children in difficult circumstances. Kerala has been known for creating

Comparing the number of social security pension schemes among the major 18 states (including 100% state funded welfare boards), Kerala stands at the forefront with 17 schemes. The state holds the top spot in total welfare pension coverage, reaching 17.15% (61,09 lakh beneficiaries out of 3.56 crore population). However, Kerala secures the 4th position in per capita amount, amounting to Rs.1600, trailing Telangana (Rs.3016), Andhra Pradesh (Rs.3000), and Haryana (Rs.2750). In terms of total social security pension expenditure by a state, Kerala holds the 4th position with Rs.8745 crores, following Andhra Pradesh (Rs.19074 crore), Telangana (Rs.11728 crore), and Karnataka (Rs.9484 crore) (Figure14).

Figure 14: State wise Welfare Pension Coverage (In percentage)



Source: Authors's based on RBI data

Considering the old age population in India, Kerala has the highest percentage at 16.5% of the total population, followed by Tamil Nadu (13.6%) and Punjab (12.6%). In terms of old age welfare pension coverage, Kerala, with 76.59%, holds the 2nd position after Rajasthan (80.38%). In the allocation of state budget for old age pension, Kerala ranks 3rd with Rs.4929.8 crore, following Andhra Pradesh (Rs.7490 crore), Telangana (Rs.6167 crore), Haryana (Rs.5160 crore), and Tamil Nadu (Rs.4915) (Figure15).

Disaster Preparedness Index

Kerala significantly outpaces India in terms of the Disaster Preparedness Index, underscoring its proactive approach amid the evolving challenges of climate change (Figure16:).

Strong institutional back up ensuring the rule of law

Kerala has distinguished itself in maintaining a robust and peaceful law and order situation within the state. The region has a strong institutional setup that has played a pivotal role in ensuring the safety and security of its residents. The concerted effort has contributed to the state's reputation for having a secure environment, making it an exemplar in the nation for effective law enforcement and institutional stability. It is evident from the exemplary score in terms of peace, justice and strong institutions (Figure 17).

Kerala among the front runners in peace, justice and strong institutions

Infrastructure plays a key role in economic growth and development. Kerala has a highstatus in infrastructure development in India, and her experiences in social infrastructure development rank her one among many developed countries.

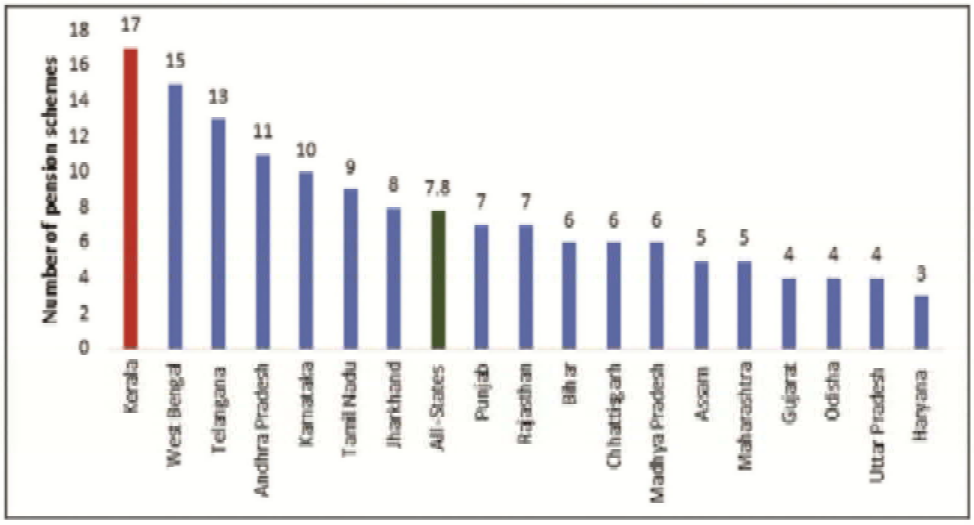
5. Adapting to changing challenges becomes crucial

Demographic transition

Kerala completed its demographic transition by the 1990s, resulting in a higher proportion of aging population, which is now around 16%, similar to many developed economies. In 1961, Kerala had a population aged 60 and above at 5.10%, slightly below the national average of 5.60%. However, starting from the 1980s, Kerala began to surpass the rest of India in this demographic. By 2001, the proportion of the elderly in Kerala had risen to 10.50%, compared to the national average of 7.50%. According to the 2011 census, 12.60% of Kerala's population was above 60 years, exceeding the national average of 8.60%. A study by Rajan & Mishra (2014) revealed a continuous growth rate of 2.30% among the elderly in the state, particularly among those aged 70 or 80 years and above.

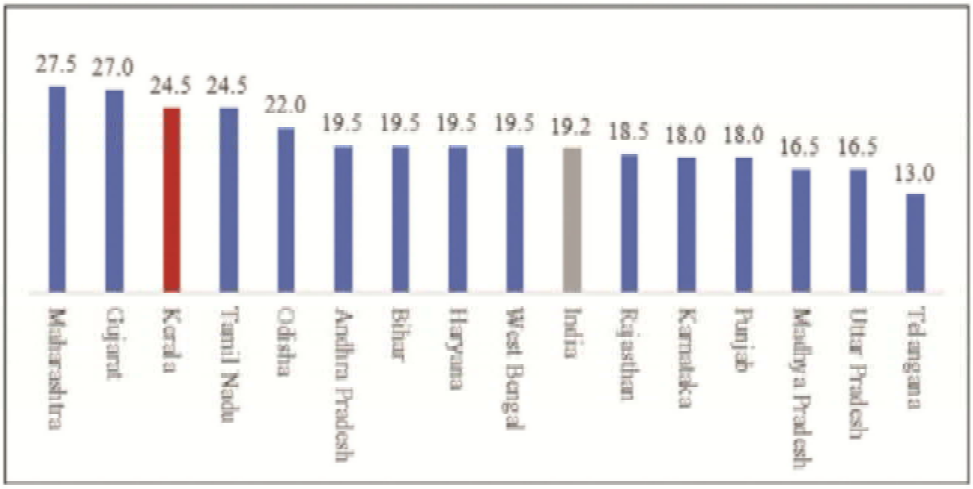
By 2015, Kerala's elderly population had increased to 13.10%, while the all-India average stood at 8.30% (Sample Registration System Statistical Report, 2015). Subsequent reports, such as the SRS Report 2018, indicated a further increase to 13.30% in Kerala's 60 plus population. The Economic Review 2019 highlighted Kerala's accelerated aging trend compared to India, noting that 48 lakh people in Kerala were aged 60 years and above. Rajan and Mishra (2020) projected the elderly population aged 60 years and above in Indian states and union territories. Kerala had nearly

Figure 15: State Wise Number of Pension Schemes



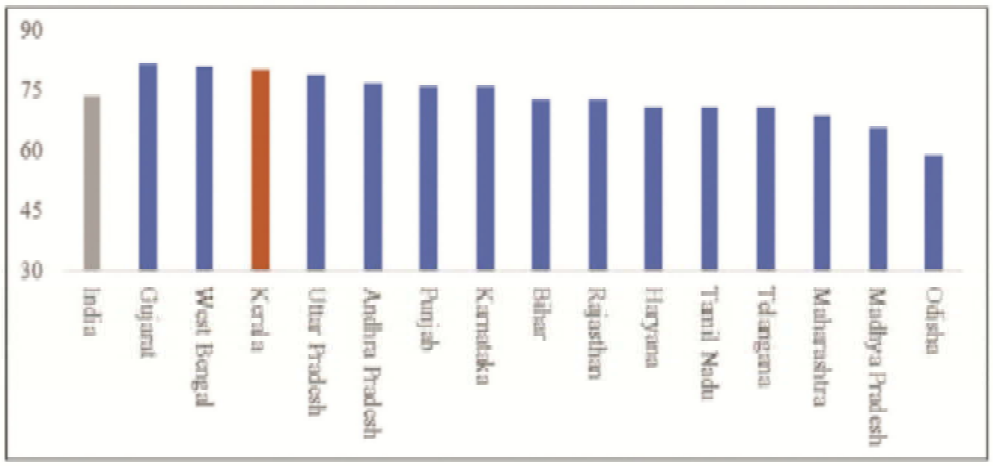
Source: Authors's based on RBI data

Figure 16: Scores in disaster preparedness



Source: SDG dashboard

Figure 17: Institutional strength



Source: SDG dashboard

16% of its population aged 60 years and above. The aging population poses the most significant challenge for the state of Kerala. It is imperative for the state to develop improved care economy models to address this issue. Simultaneously, Kerala bears a greater responsibility to harness the potential of its young population to enhance its productive capacity and sustain its growth and development levels.

The historical factors such as matrilineal system, formal education system and health care system set the stage for demographic transition in the state (Goswami, 2021). Ageing population is both the challenges and opportunities for the state. The state has high responsibity to provide health care facilities and social security for the growing elderly population (Singh, 2013). Growing ageing population will also pose a challenge for the ongoing fiscal crisis in the state (Nair and Sensarma, 2017).

Labour force participation

The absence of job opportunities, inadequate upskilling of the potential workforce, and a lack of initiative in harnessing tourism potential could potentially hinder the benefits that the state has gained so far. Kerala has a contradicting case of high female literacy rate and low female labour force participation rate in the country. Societal norms and kinship play key role in women's decision to work in Kerala (Renuka and Abraham, 2023). The female labour force participation rate of Kerala started declining from 2004 to 2017 and shown an increase thereafter. The disaggregate level data shows that there is an increase in the labour force participation in the higher and middle quintiles in the rural and urban areas respectively in Kerala. Also, the labour force participation rate in the lower education groups was seen at a faster rate (Hajong and Kakarlapudi, 2023).

According to the Annual report of Periodic Labour Force Survey (PLFS), 2022-23, Kerala's female labour force participation rate in usual status of employment for the age group 15 years and above is 40.8 % and 33.6 % for the rural and urban areas respectively. While, the rural female labour force participation of Kerala is below the all state average of 41.5 %, urban female labour participation rate is above the all state average of 25.4 %. Educated unemployment among the female is highest in the state which needs policy attention.

6. Conclusion

This study shows the dividends toconcerted efforts of the state throughbuilding social, social and digital infrastructure. In terms of provision of public infrastructure Kerala ranked among the top performing states. Kerala's development trajectory showcases both remarkable achievements in terms of socio-economic indicators. Further, the economic growth of Kerala in the last two decades surpassed the national average. This is an indication of returns to human capital led social development strategy. However, the state-led people centric development strategy came with a fiscal cost. The state is now termed as a fiscally stressed state. At the same time, the state is currently reeling with second generation development problems such as high unemployment among youth, especially females, aging population leading to decline in productive worforce, and protecting environment. The significant challenge lies in limited fiscal autonomy, primarily due to the structure of fiscal relations between the federal and central governments. With the central government primarily responsible for collecting the majority of tax revenue, the state's own tax revenue constituted only 6.9% of its gross state domestic product in 2021-22. To foster future growth, Kerala must establish institutions capable of channeling its substantial savings into necessary investments.The state stands at a crossroads, requiring a caliberated approach to address sustainability concerns while maintaining its focus on human development. Understanding the evolving macro-fiscal dynamics and timely adapatation to overcome challenges may ensure a balance between progress and long term resilience.

■

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Monetary policy: Upholding growth confidence amidst inflation woes and climate risks

Aswathy Rachel Varughese

Abstract

The RBI's decision to maintain the status quo for the seventh consecutive time indicates a cautious approach amidst efforts to align inflation at 4% for FY2025. Climate change concerns add complexity to the economic landscape. The geopolitical tensions in the Middle East impacted the market sentiments. The cascading effects of these factors are weighing on Mint Street's decision-making, although the growth impulses are strong.

Introduction

In its initial fiscal year 2024-25 meeting, the Reserve Bank of India's (RBI) Monetary Policy Committee (MPC) chose to keep the policy repo rate steady at 6.5%, supported by a 5:1 majority. Simultaneously, the MPC reaffirmed its position on 'withdrawal of accommodation,' again with a 5:1 majority. RBI committed to persistently aligning headline inflation with the 4% target, amid a robust growth outlook. The volatile food prices pose a challenge to disinflation efforts and create uncertainty in the inflation outlook. Key risks to the outlook include geopolitical tensions, fluctuations in global financial markets, and climate-related shocks. Monetary policy remains concentrated on aligning inflation with the target, aiming to facilitate sustained growth in the medium term.

Global macroeconomic scenario

The global economy has shown remarkable resilience despite repeated shocks and significant monetary tightening measures. Economic growth in the United States and several major Emerging Market Economies (EMEs) has outperformed expectations. While manufacturing activity has been subdued, the services sector has demonstrated strength. Although headline inflation has decreased globally, core and services inflation have seen a slower decline due to ongoing tightness in labor markets. Central banks in Advanced Economies (AEs) have maintained policy rates to support the alignment of inflation with their targets.

The economic outlook and shifting expectations regarding monetary policy in AEs have caused significant volatility in

global financial markets. The rapid decline in inflation, leading to anticipation of an earlier change in the US monetary policy direction, triggered a sharp drop in sovereign bond yields in November and December 2023. However, yields have since risen as central banks pushed back against overly optimistic market sentiments regarding the scale and pace of monetary policy adjustments. After a correction in Q3:2023, global equity markets rebounded strongly in November and December, particularly in AEs. The US dollar initially depreciated to a six-month low by the end of December but recovered afterward due to stronger-than-expected economic data from the United States.

From October to December 2023, crude oil prices fell due to a slowdown in global demand and increased supply from non-OPEC countries. However, prices rebounded afterward due to disruptions in major shipping routes and OPEC Plus extending production cuts until June 2024. Food prices decreased as well, driven by lower prices for cereals, meat, and vegetable oils, although sugar prices showed resilience by firming up.

Resilience in the domestic economy

The RBI's confidence in domestic growth is supported by positive trends in high-frequency data, including robust economic growth, improved labor market conditions, increasing private consumption demand, and strong public capital expenditure. PMIs for manufacturing and services indicate continued expansion in the organized sector. Industrial production grew by 5.9% from April to January FY24, compared to 5.6% in the same period last year, with infrastructure and construction goods contributing significantly to the overall Index of Industrial Production (IIP) growth of 10% during April to January FY24, up from 8.5% last year.

E-way bill collections saw a significant increase of 18.9% YoY in February, up from 13.2% YoY in December. February 2024 witnessed a remarkable 24.3% YoY surge in automobile sales, notably driven by increased demand for two-wheelers and passenger cars. According to CMIE's data, the all-India unemployment rate averaged 7.4% in Jan-Feb 2024, showing an improvement from 9% in Q3 FY24. This improvement was evident in both urban and rural areas, with rates averaging 8.7% and 6.8%, respectively, lower than the Q3 FY2024 averages of 9.3% and 8.8%. The rural labor market's positive trend was highlighted by four consecutive months of decline in MNREGA job demand (persons).

Other high-frequency economic growth indicators, such as retail credit growth and GST collections, continue to show robust performance. The RBI has maintained its growth projection of 7% for FY25.

Globally, the economy has displayed resilience, with major economies maintaining better-than-expected growth. This positive global economic outlook will bolster India's export prospects. Over the initial three quarters of FY24, India saw a significant reduction in its current account deficit (CAD), mainly due to a decline in merchandise trade deficit, coupled with strong growth in services exports and substantial remittances. With robust trade figures, we anticipate the CAD to be at 0.7% of GDP for FY24. Foreign investment inflows

remain robust, particularly driven by strong Foreign Portfolio Investment (FPI) inflows and India's inclusion in major global bond indices. The strong performance of the domestic economy is expected to sustain FPI flows in the future.

India's external sector outlook remains optimistic, supported by robust macro fundamentals. However, the RBI stressed the need to closely monitor external developments, especially given increasing geopolitical tensions and rising global public debt, which could impact emerging economies like India. RBI reaffirmed that India's forex reserves, amounting USD 645 billion, are sufficient to manage any external challenges (Table-1).

Inflation woes from the upside risk

The RBI found reassurance in the mild core inflation but expressed caution regarding the overall inflationary picture. Headline inflation decreased notably from 5.7% in December to 5.1% in both January and February. This decline in inflationary pressures has been widespread, with core inflation consistently decreasing and staying below the 4% mark for three consecutive months.

While food price volatility remains a significant concern for the RBI's efforts to align headline inflation with the 4% target, there are positive developments in the outlook for food inflation. This is attributed to increased acreage of rabi sowing and expectations of a normal monsoon. However, the Central Bank remains cautious about the impact of high food inflation on household inflation expectations.

The government's supply-side measures to control food inflation and recent cuts in LPG and fuel prices are favorable for the inflation outlook. Nonetheless, ongoing geopolitical tensions and associated supply-side risks in commodity prices need careful monitoring. Climate-related risks, both domestically and globally, have also emerged as significant factors affecting food inflation in recent years. The RBI has maintained its inflation projections for FY25 at 4.5%, acknowledging the complexities and risks in the inflationary environment (Figure -1).

Food inflation increased to 8.7% in February 2024, up from 8.3% in March 2024. Within the food category, there was notable pressure on meat and fish inflation, rising from 1.2% in January 2024 to 5.2% in February 2024, along with egg inflation increasing to 10.7% from 5.6%. This upward trend is mainly due to an unfavorable base effect. However, there is some sequential momentum observed in meat and fish inflation.

Besides, vegetable inflation also saw an uptick, rising to 30.2% in February 2024 from 27.1% in January 2024. So far, 6 out of 12 broad

RBI's Growth Outlook (%)					
	FY25	Q1 FY25	Q2 FY25	Q3 FY25	Q4 FY25
Apr-24	7.0	7.1	6.9	7.0	7.0
Earlier (Feb- 24)	7.0	7.2	6.8	7.0	6.9

Source: RBI, MPC document

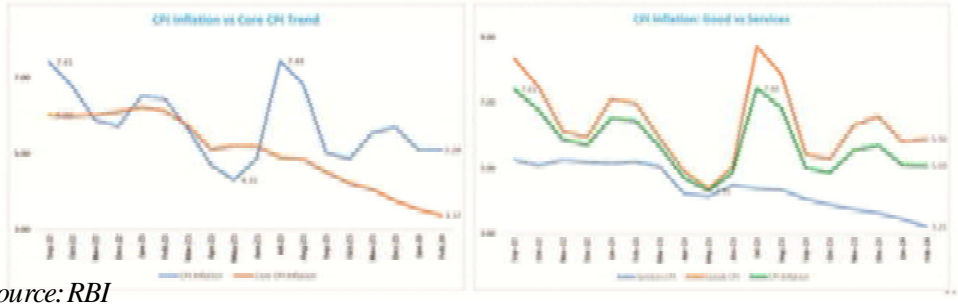
categories of food inflation have remained above 6%. Among major items, only cereals and spices are experiencing a moderation in inflation, both sequentially and year-on-year. Interestingly, international prices for cereals also decreased in February 2024, according to World Bank data (Figure-2).

On a sequential basis, food inflation increased by 0.1% in February 2024, rebounding from a decline of -0.7% seen in January 2024. Notably, vegetable prices have risen considerably, with the pace of deflation slowing down to -0.1% in February 2024 from -4.2% in January 2024. Deflation in fruit categories has also moderated to 0.3% from -2.1% in January 2024. Furthermore, meat and fish, oils and fats, and pulses have also shown a sequential increase.

Looking ahead, the trajectory of food inflation remains uncertain, with weather variability posing a key risk. The reversal of seasonality in vegetable prices is expected to begin from the first half of the year onwards. Consequently, food inflation may impede the Consumer Price Index (CPI) from declining towards the targeted 4%.

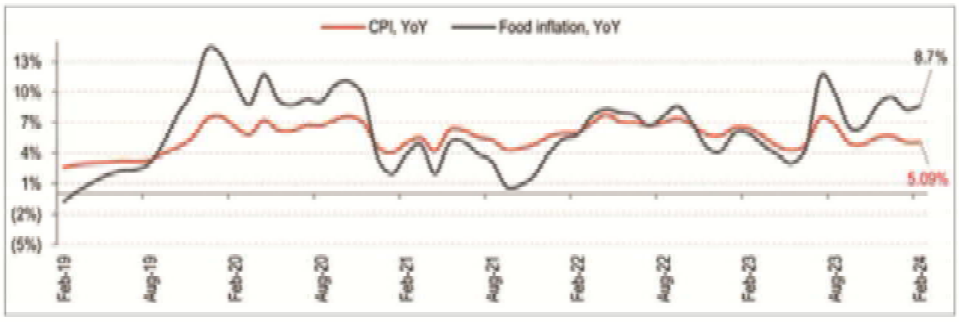
Core inflation softened further to 3.3% in Feb'24 from 3.6% in Jan'24, on YoY basis. All components of core inflation showed moderation. Amongst them, health (4.5% in Feb'24 from 4.9% in Jan'24), household

Figure -1 Inflation Trends



Source: RBI

Figure -2 Food inflation trends



Source: MOSPI

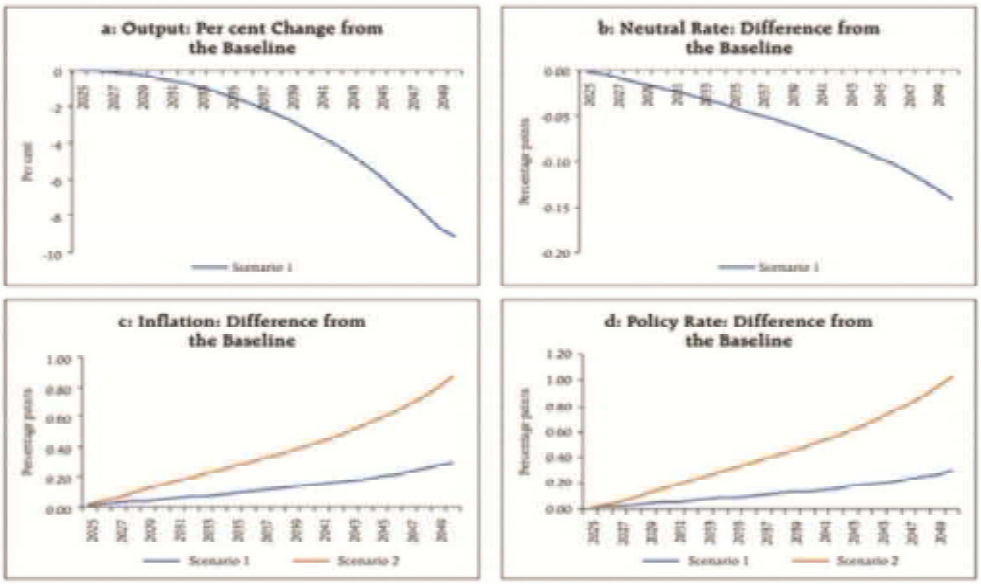
goods and services (2.8% from 3.1%, due to favourable base) and clothing and footwear witnessed considerable moderation. The sequential momentum of core inflation has also lost steam, softening to 0.2% in Feb'24 from 0.3% in Jan'24, on MoM basis. Amongst major items, inflation has softened considerably for health, personal care and effects (due to moderation in gold prices), education and recreation and amusement. However, the trajectory of housing needs some monitoring.

The high-frequency price data for March 2024 indicates some upward movement. Specifically, 8 out of 20 essential commodities are showing a sequential increase in prices. Notably, there is a correction in the trajectory of onion and potato prices already underway. Looking ahead, it is likely that inflation will likely remain above 5% until June 2024. FMCG companies have announced price increases, which could impact inflation in the short term. However, a favorable base effect will kick in from the second quarter onwards, potentially pushing inflation back towards the targeted 4% level. While remaining comfortable with core inflation, the trajectory of housing prices is crucial, especially with the anticipated increase in House Rent Allowance (HRA).

Accounting for cimate risk

Global average temperatures are indeed rising, leading to more frequent extreme weather events (EWE), which are showcasing the economic and social consequences of global warming. Climate change can impact monetary policy through various channels. Firstly, it directly affects inflation by disrupting agricultural

Figure-3 - Impact of physical risks of climate change



Source: RBI Monetary Policy Report (2024)

production and global supply chains during adverse weather events. Secondly, climate change may alter the natural rate of interest as rising temperatures and EWE can lower productivity and potential output. Lastly, the aftermath of climate change might hinder the transmission of monetary policy measures to financing conditions for households and businesses. Due to these factors, central banks are increasingly integrating climate risks into their modeling frameworks (Figure-3).

Way forward

MPC observed that domestic economic activity remains robust, supported by strong investment demand and positive business and consumer sentiments. Although headline inflation has decreased from its peak in December, persistent food price pressures have hindered the ongoing disinflation process, creating challenges for achieving the inflation target. Unpredictable supply-side shocks from adverse climate events, as well as geopolitical tensions impacting trade and commodity markets, have added uncertainties to the economic outlook.

Given the need for sustained disinflation until inflation reaches the 4% target consistently, the MPC opted to maintain the policy repo rate at 6.50% during this meeting. Monetary policy will continue to prioritize disinflation to anchor inflation expectations and ensure effective transmission. The MPC is committed to aligning inflation with the target to achieve durable price stability, which will lay the groundwork for a period of strong economic growth. Besides, the MPC reiterated on gradually withdrawing accommodation to facilitate inflation alignment while supporting growth.

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Post budget summary

The interim budget for 2024-25: State of Finance

Anjalikrishna Sudhakaran, Jobin George and Rhwithwik M S

The Interim Budget for 2024-25 was presented by Finance Minister Nirmala Seetharaman on February 5, 2024. As we know, it's an election year, so this budget serves as an interim measure rather than a comprehensive account for the next financial year. An Interim Budget is typically presented by a government undergoing a transition period or in its last year in office ahead of general elections. Its purpose is to ensure the continuity of government expenditure and essential services until the new government can present a full-fledged budget after taking office.

The total expenditure in the Budget Estimate (BE) 2024-25 is estimated at 47,65,768 crores, with total capital expenditure amounting to 11,11,111 crores. The government claims a strong commitment to boosting economic growth by investing in infrastructure development, leading to a 16.9 percent increase in capital expenditure over the previous fiscal year. The government expects 3080275 crores of non-debt receipts and anticipates a fiscal deficit of 1685494 crore, which is 5.1 percent of GDP.

The government's major revenue source is tax revenue, with direct taxes such as income tax and corporate tax comprising 36 percent of total receipts, and indirect taxes such as goods and services tax and excise duty holding a 27 percent share. Borrowing maintains a firm position at 28 percent of expected total receipts, with market borrowing playing a significant role, comprising around 70 percent of net debt receipts. The next major component is securities against small savings, comprising 28 percent, or around 466201 crores. Small savings instruments are a major source of household savings in India.

The government's inability to take fiscal prudent measures recommended by both the FRBM Act and the Finance Commission is a major concern. While the borrowing limit of the state and centre is restricted to 3 percent of GDP, the central government's fiscal deficit stands at 5.1 percent in the budget estimates of 2024-25, while states are compelled to stay within their limit. This raises questions about fiscal federalism.

One of the main points of discussion is disinvestment, which involves the government selling its stakes in Public Sector Undertakings (PSUs). In 2023-24,

the government met 49 percent of its disinvestment target, which was lower than the budget target of 2023-24 (Rs 61,000 crore). Even though disinvestments have been decreasing for the fourth consecutive time, the government's revenue reliance on this disinvestment is not sustainable.

When considering the trend in fiscal deficit, it peaked during the COVID-19 pandemic and is now gradually decreasing. The fiscal deficit in 2020-21 was 9.2 percent of GDP. Other deficit indicators such as Revenue deficit, effective revenue deficit, and primary deficit estimations for the year 2024-25 stand at 2.0, 0.8, and 1.5 respectively. The high primary deficit, which is higher than pre-COVID times, is a major concern regarding interest payments.

Increasing government revenue is crucial for fiscal consolidation measures, as expenditure cuts may not be advisable for India's development. However, there has been minimal growth in tax revenue over the years, with the government expecting tax revenue to be 11.7 percent of GDP in the financial year 2024-25, fluctuating around 10-12 percent over the last decade.

When analysing the government's expenditure expectations, revenue expenditure is 3654657 crores, with a 2 percent revenue deficit to GDP. Effective capital expenditure, including grants given for lower tiers of government for creating capital accounts and the capital expenditure of the union government, is 1496693 crores, which is 31 percent of total expenditure. However, disinvestment still plays a role, which some experts consider as negative capital expenditure.

The central government will transfer Rs 22,74,541 crore to states and union territories in 2024-25. This transfer includes devolution of Rs 12,19,783 crore out of the divisible pool of central taxes, grants worth Rs 8,90,858 crore, and special loans worth Rs 1,30,000 crore for capital expenditure. However, there has been a drastic decrease of 52 percent in outlays for Centrally Sponsored Schemes and other conditional grants, as well as unconditional grants such as post-devolution grants. Additionally, there is a 7 percent decrease in subsidies given by the government, such as those for food, fertilizer, and LPG.

When analysing expenditure on major schemes, MGNREGS has the highest allocation in 2024-25 at Rs 86,000 crore, which is the same as the revised estimate for 2023-24. Allocation for the Pradhan Mantri Awas Yojana in 2024-25 is Rs 80,671 crore, an increase of 49.1 percent over the revised estimate of 2023-24. However, there is a significant disparity between actuals in 2022-23 and the revised estimate of 2022-24. In 2023-24, expenditure for the scheme is expected to be lower by 32 percent compared to the budget estimates, mainly due to the rural component falling short of original plans. The allocation for 2024-25 is similar to the budget estimate for 2023-24.

As mentioned earlier, this is an interim budget. The general election in 2024 will

determine further economic policies. Nonetheless, the financial position regarding debt and deficit must be re-evaluated. The outstanding liability has increased, now standing at 57 percent of GDP for the Union government. Achieving fiscal consolidation through expenditure cuts may not be advisable. Additionally, there is a need for more unconditional transfers to states due to their heterogeneous needs. This is the time when the 16th Finance Commission has already been announced by the Union government. We have to wait for the comprehensive budget document after the election.

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(Miss. Anjalikrishna Sudhakaran, Shri. Jobin George and Shri.Rhwithwik M S are PhD Scholars, GIFT)

Major announcements of the union budget 2024-25

Gopika G and Anuraj P K

Smt. Nirmala Sitharaman, the Finance Minister, unveiled the Interim Union Budget 2024-25 on February 1, 2024. She introduced several new government initiatives within this budget and suggested alterations to existing schemes. Below is a summary of the proposed government programs and the adjustments planned for existing schemes.

India sees the next five years as crucial for achieving its development goals and becoming a developed nation by 2047. The vision for this year is "Prosperous Bharat in harmony with nature, modern infrastructure, and opportunities for all."

'Garib' (Poor), 'Mahilayen' (Women), 'Yuva' (Youth) and 'Annadata' (Farmers) are the four pillars of the Viksit Bharat Budget 2024. In light of the people-centric inclusive development plan, the Finance Minister announced-

- There will be substantive development of all forms of infrastructure - physical, digital, and social.
- Digital Public Infrastructure (DPI) will promote formalization and financial inclusion.
- The government plans to deepen and widen the tax base via GST.
- A strengthened financial sector brought savings, credit, and investment back on track.
- A robust gateway called GIFT IFSC and IFSCA will be set up for global capital and financial services for the economy.
- There will be proactive inflation management.

Strategy for Amrit Kaal proposed by FM in the budget are -

I. Sustainable development

The Finance Minister emphasized the urgent need for sustainable development, outlining a commitment to achieve 'Net Zero' emissions by 2070 through the Amrit Kaal initiative. Key proposals include the introduction of viability gap funding to harness offshore wind energy, aiming for an initial capacity of one gigawatt. Additionally, plans are in place to establish coal gasification and liquefaction capacity of 100 million tonnes by 2030, alongside phased mandatory blending of CNG, PNG, and compressed biogas for domestic purposes. Financial assistance will be provided to procure biomass aggregation machinery and support biomass utilization for energy generation. The rollout of a rooftop solarisation scheme aims to empower one

crore households with up to 300 units of free electricity per month. The government also plans to adopt e-buses for public transport and bolster the e-vehicle ecosystem while introducing a new scheme for biomanufacturing and bio-foundry practices. Furthermore, 1.3 crore LED street lights will be installed under the SNLP scheme to enhance energy efficiency, and the Blue Economy 2.0 scheme will be launched to promote sustainable coastal aquaculture and mariculture practices. These initiatives collectively reflect a comprehensive strategy to promote sustainability, reduce carbon emissions, and foster environmentally friendly alternatives across various sectors.

II. Infrastructure and investment

The government's infrastructure agenda includes implementing three significant railway corridor programs under the PM Gati Shakti initiative: energy, minerals, and cement corridor; port connectivity corridor; and high traffic density corridor. These initiatives aim to enhance logistics efficiency and lower costs. Foreign investment promotion will be a key focus through bilateral investment treaties, fostering economic growth and collaboration. The plan also includes expanding existing airports and developing new ones under the UDAN scheme, facilitating better connectivity and economic development. Urban transformation initiatives are also prioritized to enhance transportation infrastructure and urban development nationwide, notably through the Metro Rail and NaMo Bharat projects.

III. Inclusive development

The FM highlighted the need for inclusive development under Amrit Kaal, with an aspirational District Programme to assist states in faster development, including employment generation.

Health: The government actively promotes cervical cancer vaccination for girls aged 9-14, emphasizing preventive healthcare. To enhance nutrition delivery and early childhood care, the Saksham Anganwadi and Poshan 2.0 scheme will upgrade Anganwadi centers. The government will promote vaccination for girls aged 9 to 14 to prevent cervical cancer. Multiple schemes related to maternal and child care will be consolidated into a comprehensive program for streamlined implementation. A U-WIN platform will streamline immunization efforts under Mission Indradhanush, ensuring efficient vaccine distribution. Health coverage under the Ayushman Bharat scheme will now include ASHA, Anganwadi workers, and helpers, expanding access to healthcare. Additionally, a committee will be established to address the challenges of establishing more medical colleges in India, aiming to strengthen the healthcare infrastructure further.

Housing: The Pradhan Mantri Awas Yojana (Grameen) is on the verge of providing 3 crore houses, with plans to deliver an additional 2 crore units in the next five years. A new initiative, the Housing for the Middle-Class scheme, will be introduced to incentivize middle-class individuals to purchase or construct their own homes. There will be an

increased allocation for housing programs, with the budget rising from Rs. 79,590 crores in 2023-24 to Rs. 80,671 crores in 2024-25.

Tourism: States will be incentivized to develop iconic tourist destinations to stimulate economic activity and foster local entrepreneurship. Long-term interest-free loans will be extended to states to facilitate this development, encouraging sustained growth and infrastructure improvements. Special focus will be given to projects to enhance port connectivity, tourism infrastructure, and amenities in islands such as Lakshadweep, further boosting tourism potential and economic opportunities in these regions.

IV. Agriculture and food processing

The government is set to promote private and public investment in post-harvest activities. The application of Nano-DAP is to be expanded in all agro-climatic zones. An Atmanirbhar Oilseeds Abhiyan strategy will be formulated to achieve self-reliance in oilseeds. A comprehensive program for dairy development is also in the works. The implementation of Pradhan Mantri Matsya Sampada Yojana will be stepped up to enhance aquaculture productivity, double exports to Rs. 1 lakh crore and generate 55 lakh employment opportunities. Additionally, five integrated aquaparks will be set up. There has been an increase in allocation for the Blue Revolution from Rs. 2025 crores to Rs. 2352 crores, and Rs. 241 crores have raised the allocation for the PM Formalisation of Micro Food Processing Enterprises scheme in 2024-25.

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Kerala budget-2024-25

Surya K and Greeshma K S

The Kerala Budget Report for the fiscal year 2024-25, presented by the Honourable Finance Minister Shri. K N Balagopal on February 5th, 2024, underscores the state's unwavering commitment to prioritizing social welfare, education, healthcare, infrastructure, and sustainable development. Kerala's fiscal position reflects its commitment to social development and inclusive growth, addressing challenges such as high debt levels and revenue volatility remains crucial for the state's long-term fiscal sustainability. The government needs to strike a balance between meeting social needs and ensuring fiscal prudence to promote economic stability and prosperity. This commitment is reflected in the budget allocations aimed at enhancing the overall quality of life for the populace.

- An analysis of revenue and expenditure trends elucidates Kerala's fiscal trajectory. Despite a notable decline in total tax receipts by 2.74% in 2022-23, the subsequent fiscal year witnessed a remarkable growth rate of 10.92%. Own tax revenue experienced a substantial surge from INR 58,340 crore in 2021-22 to INR 77,038 crore in the revised estimates of 2023-24, with GST, sales tax and VAT, tax on vehicles, stamp duty, and registration contributing significantly to the revenue stream.
- Conversely, central transfers have been on a declining trajectory, with grants-in-aid experiencing a sharp decline of 61.15%, indicative of Kerala's prevailing fiscal challenges. Notably, non-plan grants plummeted from approximately INR 26,000 crore in 2021-22 to INR 6,773 crore in the revised estimates of 2023-24, with rural local bodies witnessing a 47% decline in grants. However, Kerala's borrowing in 2023-24 remained lower than that of 2021-22, although public debt registered a substantial increase.
- In terms of expenditure, non-plan expenditure saw a notable increase in loan disbursement from INR 35.20 crore in 2021-22 to INR 662 crore in 2023-24, while plan expenditure witnessed a decline in loan disbursement. In development expenditure education, arts, and culture contribute a major share but the individual share declined over the last 3 years from 24 cr in 2021-22 to 21 cr in 2023-24 RE.
- The fiscal deficit of Kerala has consistently exceeded the 3% boundary line set by the Fiscal Responsibility and

Budget Management (FRBM) Act, 2003, except for the year 2022-23. Nonetheless, there has been a marginal decline in revenue deficit and primary deficit in 2023-24 compared to 2021-22.

The modern state is rapidly evolving. In this setting, the current budget includes various programs to speed up this transition. It aims to strengthen current structures while adopting new, efficient, and innovative project models. The goal is to create short-term initiatives for job creation and income growth, along with medium- and long-term projects. The following discussion outlines policy recommendations in key sectors.

Health:

The health sector in Kerala is one of the most advanced and comprehensive in India. Kerala has achieved remarkable progress in healthcare indicators, including high life expectancy, low infant mortality rates, and high literacy rates contributing to better health awareness among its citizens.

- Endeavors shall be initiated to metamorphose Kerala into a medical hub, offering specialized healthcare facilities, including provisions within Government Medical Colleges catering to both domestic and international patients.
- An allocation of Rs. 80 crore is dedicated to sustaining 315 advanced life support ambulances under the 'Kaniv' Scheme.
- A sum of Rs. 24.88 crore is earmarked for various initiatives under the 'Ardram Mission'.
- The introduction of the 'School Health and Wellness Programme' under the 'Ayushman Bharat' scheme is announced and A remittance account will be opened to accept voluntary contributions by those availing treatment facilities in government hospitals.

Industries:

Kerala's industrial sector may not be as prominent as in some other states, it encompasses diverse industries ranging from traditional to modern sectors. The state government's efforts to promote industrial growth, attract investment, and support entrepreneurship are crucial for the sector's development and its contribution to Kerala's overall economic prosperity.

- Apart from public sector investments, exploration of subsidy schemes and innovative investment models such as public-private partnerships, joint ventures, and infrastructure investment vehicles like Infrastructure Investment Trust (InvIT) and Real Estate Investment Trusts (REITs) is proposed.
- Noteworthy establishments like the Indian Innovation Centre for Graphene and Centers of Excellence in Microbiomes and Nutraceuticals, among others, are either operational or in progress.
- An allocation of Rs. 1729.13 crore is designated for the Industry and Minerals Sector, with Rs. 773.09 crore earmarked for Medium/Large industries, and a special allocation of Rs. 30 crore is dedicated to the 'Cashew Rejuvenation Project' aimed at bolstering the cashew industry and supporting its workforce.

Infrastructure:

The infrastructure sector plays a crucial role in facilitating economic development, enhancing connectivity, and improving the overall quality of life for its residents. Continued investment and innovation in infrastructure development are crucial for Kerala to address its infrastructure needs and unlock its full potential for growth and prosperity. Initiatives are envisaged to harness the opportunities presented by the international port, with emphasis on effective utilization.

- Special Development Zones (SDZ) are proposed to leverage the developmental potential of Vizhinjam and Progression on the Thiruvananthapuram and Kozhikode metro projects is affirmed.
- An amount of Rs. 100 crore is set apart for the NABARD-RIDF project to carry out the infrastructure development in the Kuttanadu region.
- An allocation of Rs. 30.60 crore is designated for infrastructure upgrades in 11 industrial parks.
- Old cars and furniture will have a scrapping policy implemented in government
- Offices.

Education:

The education sector in Kerala is widely regarded as one of the most advanced and progressive in India. Kerala boasts high literacy rates, a strong emphasis on quality education, and a robust educational infrastructure and is characterized by its commitment to excellence, inclusivity, and holistic development.

- Developmental activities amounting to ? 250 crore will be implemented in the Digital University, which has forged academic cooperation with the University of Oxford and three regional centres will be launched for Digital University Kerala.
- The establishment of 'Shika', a prestigious museum at Calicut University, is announced to celebrate Kerala's biodiversity, history, folklore, and heritage.
- An allocation of Rs.3.40 crore has been earmarked for the implementation of Kerala Enterprises Resource Planning Solutions (K-REAP) and the establishment of centers of excellence within the higher education sector and interdisciplinary research centers will be established in government engineering colleges.
- Law reforms in the offing to attract students from outside the State to pursue professional courses in Kerala.

Tourism:

Kerala's tourism sector offers a diverse range of experiences for visitors, from leisurely backwater cruises to adventurous treks in the Western Ghats. The state's natural beauty, cultural richness, and commitment to sustainable tourism make it a popular destination for travelers seeking authentic and memorable experiences.

- Kerala's selection by Time magazine as one of the 50 must-see beautiful places in the world is highlighted and endeavors to develop local tourism centers with private participation are emphasized.

- A Tourism Project featuring a laser light and sound show utilizing the outer surface of the Idukki dam as a screen is proposed, with Rs. 5 crore earmarked for project preparation.
- A tourism initiative is underway to feature a spectacular laser light and sound show projected onto the outer surface of the Idukki dam. This innovative project, aimed at enhancing tourist experiences, has received financial support with an allocation of Rs.5 crore dedicated to the development of a comprehensive project plan.
- 20 touriat destinations will be developed for to attract investments of Rs.5000 croretowards the tourism industry.In the first phase, Varkala, Kollam, Munroe Thuruth, Alappuzha, Munnar, Fort Kochi,Ponnani, Beypore, Kozhikode and Bekal have been identified for this purpose.

Agriculture:

Agriculture sector plays a vital role in the state's economy, providing livelihoods to a significant portion of the population and contributing to food security and rural development. A total number of 2,36,344 employment opportunities have been created in the Agriculture sector, and the state's emphasis on crop diversity, sustainable practices, and value addition has the potential to further enhance the resilience and productivity of its agriculture sector.

- A total outlay of Rs. 1698.30 crore is allocated for the agriculture sector in 2024-25 and Substantial allocations are earmarked for various agricultural sub-sectors, including Crop Husbandry, Rice Cultivation, Coconut Development, Crop Health Management, Farm Mechanization, and Infrastructure Development.
- A budget allocation of Rs.30 crore has been designated for the implementation of the Cooperative's Initiative in Technology-driven Agriculture (CITA) scheme.
- An allocation of Rs.7.25 crore has been earmarked to assist cooperatives involved in various agricultural activities, including production, procurement, processing, grading, and marketing of agricultural products.

Rural development:

- An allocation of Rs. 1768.32 crore is set aside for the rural development sector and Funding provisions for schemes such as the Pradhan Mantri Gram Sadak Yojana (PM-GSY) and Kudumbashree are underscored.
- It is aimed to provide Rs. 3496.50 crores as wages through the creation of 10.50 crore man-days. Although the scheme envisages one-third of its beneficiaries to be women, in Kerala, it is above 90% under Mahatma Gandhi National Rural Employment Guarantee Scheme.

Housing:

- An allocation of Rs. 57.62 crore is designated for the Housing Sector and the introduction of the 'Vardhakya Sauhridha Bhavanam' scheme for senior citizens is announced, with Rs. 2 crore from the Kerala State Housing Board allocated for this purpose.

- An additional ? 10 crore is allocated for the activities of the Kerala State Nirmithi Kendra.

This articulation encapsulates the key policy directives and financial allocations outlined in the budget speech, aimed at steering the State towards multifaceted growth and development. Even though there is tremendous growth in own tax revenue, the decline in central share, borrowing limit set by the center, and deficit indicators are the striking arena of the current fiscal pattern of Kerala. In conclusion, the Kerala Budget for the fiscal year 2024-25 reflects a steadfast commitment to social welfare, education, healthcare, infrastructure, and sustainable development. Despite fiscal challenges, the budget outlines strategic allocations to address key sectors and propel the state towards comprehensive growth. Through innovative projects, investment in critical areas, and emphasis on inclusive development, Kerala aims to enhance the quality of life for its citizens while laying a foundation for long-term prosperity.

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Economic review 2023-24 (White paper)

Amalu Seby and Anand Babu A

The Union government on 8th February 2024 tabled the 'White paper' on the Indian economy to compare how the economy performed during the 10 years of the Congress-led UPA government versus the 10 years of the BJP-led NDA government. The 59-page document, titled "White Paper on the Indian Economy" emphasizes the fragilities faced by the economy before the NDA government assumed power in 2014 and the policies the NDA government took to stabilize the economy after its formation. The year 2024 is going to be an election year, hence there is no complete economic survey; instead, the government published the white paper for 2023-24.

The document is divided into three parts. Part 1 examines the UPA regime's policy responses to sustain high-growth and investment prospects during 2004-08 resulting from the global economic boom in 2002-07 and other economic reforms implemented before 2004. The growth experience of India till 2014 can be traced along with its transition from a closed economy to an open economy with significant trade and industrial policy reforms. The market economy grew with prominence to the co-existence of both public and private investment. By the late 1990s and early 2000s, the private sector and technology emerged as the primary drivers of growth and employment.

However, there existed many structural constraints such as a low manufacturing base, a large informal sector and low-productive agriculture before 2014 which essentially slowed down the growth momentum post the boom in 2002-07. Significant funds spent on unproductive investments were found to be a major concern during the period. The white paper considers the then government's responses insufficient to consolidate growth and highlights the following issues as major ailments which categorized the country into the 'fragile five':

- Double-digit inflation rates,
- Heaping Gross NPAs in public sector banks,
- Over-dependence on external borrowings,
- Depletion of forex reserves,
- Poor management of public finances

Part 2 of the white paper gives the current status of the various corruption scams of the UPA government. A few high-profile

cases are discussed in brief and these include the 2G Telecom, Commonwealth Games, Coal Block Allocation etc.

Part 3 explains the structural reforms the NDA government has undertaken in 2014-24. The decade has been referred to as the 'decade of transformative growth'. The trajectory of the GDP ranking can be viewed as an indicator of this transformation. From being the 10th largest in 2014, India has surpassed many giants to emerge as the fifth largest economy in 2023 and is expected to rise to the third position by 2027 as per IMF projections.

GDP grew by 7.3% in 2023-24, followed by high growth rates of 9.1% and 7.2% in the preceding years. The economy's rebound from a 5.8% contraction due to the pandemic was supported by comprehensive fiscal and monetary measures. The government's efforts to rejuvenate growth began with the financial sector reforms leading to better manufacturing competitiveness. Reforms like bank recapitalization, PSB mergers and the introduction of the Insolvency and Bankruptcy Code (IBC) were positive moves to reduce corporate debt distress.

The government rolled out the Goods and Services Tax (GST) in 2017, the biggest tax reform in the country. The regime is said to have played a key role in defining India's economic structure by subsuming multiple taxes and unifying Indian states into a single market. The impact is evident from surging GST collections, with the monthly average nearly doubling from Rs. 90,000 crore in FY18 to 1.7 lakh crore in FY24. The tax has brought about a paradigm shift in the use of technology to ensure tax compliance; however, the structure faced many challenges right from the transition and there is room for improvement to unlock its full potential.

India's post-COVID rebound has been fueled by resilient consumption spending acting as a buffer against external challenges like geopolitical tensions and a global slowdown. The surge in private consumption (PFCE) has strengthened domestic demand, propelling India to become the fastest-growing major economy in recent times. This resilience is even more impressive considering the past decade's trend of declining annual inflation averaging around 5% compared to 8.2% in the period 2004-2014. FY22 was a year of ignited inflationary pressures due to geopolitical conflicts and rising global commodity prices including crude oil. RBI's timely interventions helped to control price levels which continued to maintain a stable interest rate environment for long-term investments.

The past decade has witnessed a remarkable boost in domestic manufacturing, spurred by the Government's flagship initiatives like 'Make in India', Production Linked Initiative (PLI) and 'Startup India' in the period 2014-24, despite the downfalls in the pandemic years. In particular, measures aimed at supporting MSMEs played a pivotal role in fostering entrepreneurship and innovation. Tax deductions for payments made to MSMEs and the introduction of schemes like PM Viswakarma Yojana have attracted 48.8 lakh enrolments.

Furthermore, the banking sector underwent significant reforms, resulting in improved asset quality. The introduction of mechanisms like the Insolvency and

Bankruptcy Code (IBC) and recapitalization efforts facilitated credit flow to vital sectors such as agriculture and industry. The white paper also highlights the investment-led growth enhanced by credit disbursement, thanks to improved crowding-in of private corporate funds combined with suitable government policies.

India is building a strong foundation for economic growth by prioritizing infrastructure development and a robust logistics network. This strategy, evident in projects like Bharatmala and Sagarmala aims to attract investments and integrate India more deeply into global trade. Additionally, schemes like Ayushman Bharat and Jan Dhan Yojana foster social welfare and inclusive growth. The government's focus on digitization and significant technological advances such as the widespread use of Aadhar for direct benefit transfers signifies a commitment to technological inclusion and efficiency. This, coupled with macroeconomic stability and sector-specific reforms visualizes a promising picture for India's economic outlook in FY24. However, India faces challenges in capitalizing on its growth potential. Dynamic trade patterns, changing climate conditions, challenges from AI technology and its large population all present hurdles that need to be addressed immediately.

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(Miss. Amalu Seby and Shri.Anand Babu A are PhD Scholars, GIFT)

GST updates

Vidya V Devan

The last quarter of 2023-24 witnesses more stabilised GST collection

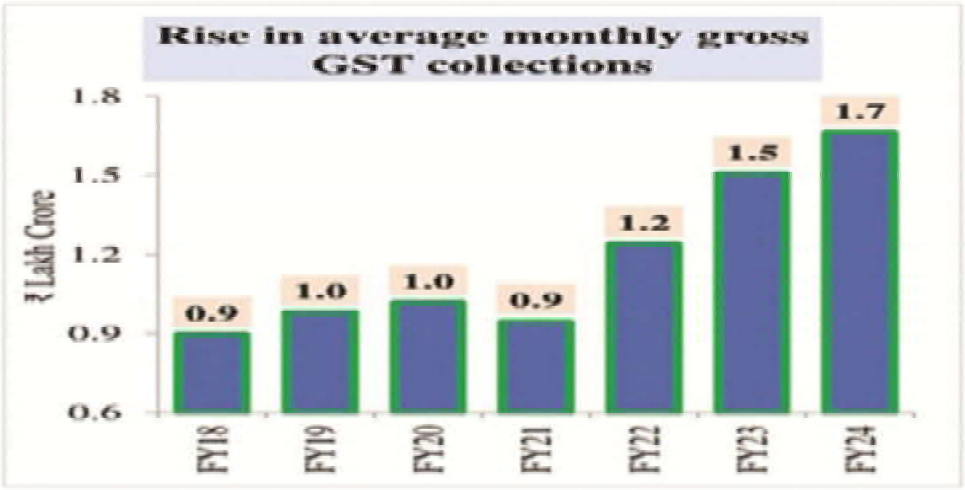
During the last quarter of the financial year 2023-24, GST collection performance showed stabilised progress, in which collections of January and March crossed Rs. 1.70 lakh crores. The Average monthly Gross GST collections doubled to 1.66 lakh crores in FY 23-24. States SGST Revenue, including compensation, has soared to a buoyancy of 1.22 post-GST period (2017-23) compared to 0.72 previously (2012-16). Consumers are also enjoying the benefits of reduction in logistics costs and price of most goods and services (Figure 1).

I. GST collections during January, February and March

Rs.1,72,129 crore was the gross GST income collected in January 2024, representing a 10.4% Year-over-Year (Y-oY) increase over the revenue of Rs.155,922 crore collected in January 2024. With this GST Collections crosses Rs.1.70 lakh crore for the third time in FY 2023-24.

Gross Goods and Services Tax (GST) revenue collection of February 2024 is Rs.1,68,337 crore, representing a significant

Figure 1:



Source: *https://gstcouncil.gov.in/sites/default/files/Newsletter-dynemic/newsletter%20january%202024.pdf*

increase of 12.5% when compared to the same month in 2023. This growth was driven by a 13.9% rise in GST from domestic transactions and 8.5% increase in GST from import of goods. GST revenue net of refunds for February 2024 is Rs.1.51 lakh crore which is a growth of 13.6% over that for the same period last year.

With an 11.5% annual rise, the Gross Good and Services Tax (GST) income for March 2024 reached Rs.1.78 lakh crore, the second-highest collection ever. This surge was caused by a notable increase in GST revenue from domestic transactions, which increased to 17.6%. In comparison to the same period last year, GST revenue net of refunds for March 2024 is Rs.1.65 lakh crore, an increase of 18.4% (Table -1), and (Figure -2).

Table :1

MONTHS	CGST	SGST	IGST	CESS
JANUARY	32685	40895	48956	11173
FEBRUARY	31785	39615	45505	11854
MARCH	34532	43746	47625	11259

Note: *Rs in lakh crore*
Source: *Compiled from various PIB press releases and Goods and Services Tax Network*

Figure -2

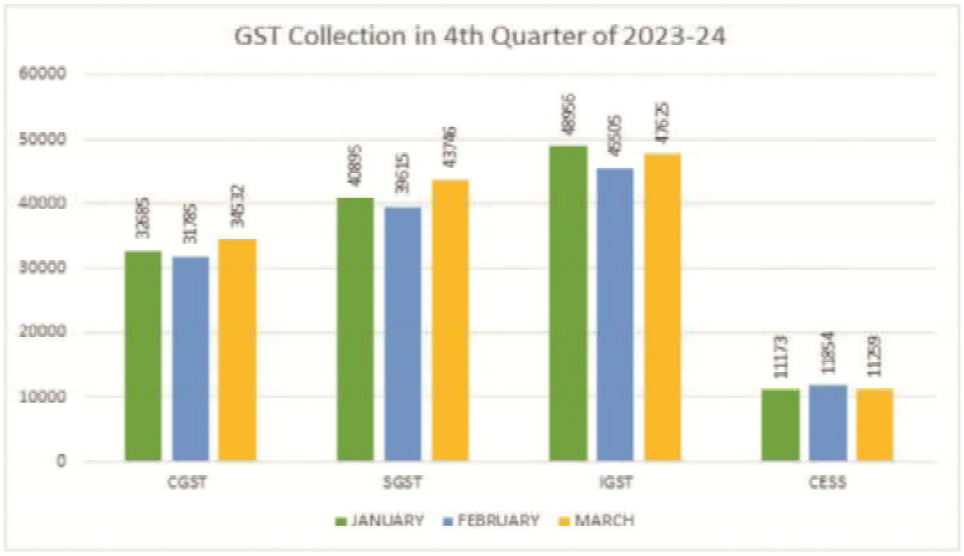
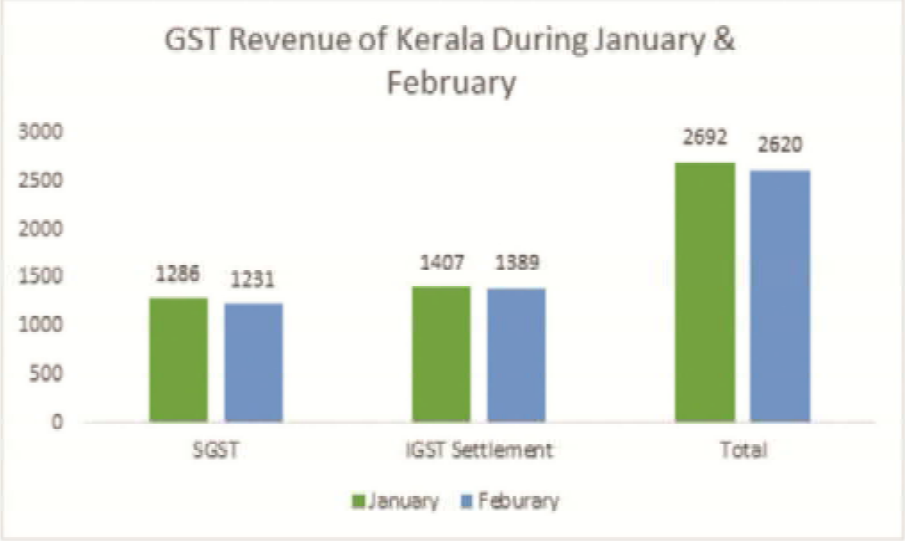


Table - 2 GST collection and IGST Settement of Kerala during January and February.

Months	SGST	IGST Settlement	Total
January	1285	1407	2692
February	1231	1389	2620

Source: Compiled from GSTN Portal

Figure -3



II. Amendments made in Central Goods and Services Tax Act, 2017 by Chapter IV of the Finance Bill, 2024, introduced in Lok Sabha on 1st February, 2024

11. Amendment of section 2.

In the Central Goods and Services Tax Act, 2017 (hereinafter referred to as the Central Goods and Services Tax Act), in section 2, for clause (61), the following clause shall be substituted, namely:- '(61) "Input Service Distributor" means an office of the supplier of goods or services or both which receives tax invoices towards the receipt of input services, including invoices in respect of services liable to tax under sub-section (3) or sub-section (4) of section 9, for or on behalf of distinct persons referred to in section 25, and liable to distribute the input tax credit in respect of such invoices in the manner provided in section 20;'.

12. Substitution of section 20.

For section 20 of the Central Goods and Services Tax Act, the following section shall

be substituted, namely: - "20. (1) Any office of the supplier of goods or services or both which receives tax invoices towards the receipt of input services, including invoices in respect of services liable to tax under sub-section (3) or sub-section (4) of section 9, for or on behalf of distinct persons referred to in section 25, shall be required to be registered as Input Service Distributor under clause (viii) of section 24 and shall distribute the input tax credit in respect of such invoices. (2) The Input Service Distributor shall distribute the credit of central tax or integrated tax charged on invoices received by him, including the credit of central or integrated tax in respect of services subject to levy of tax under sub-section (3) or sub-section (4) of section 9 paid by a distinct person registered in the same State as the said Input Service Distributor, in such manner, within such time and subject to such restrictions and conditions as may be prescribed. (3) The credit of central tax shall be distributed as central tax or integrated tax and integrated tax as integrated tax or central tax, by way of issue of a document containing the amount of input tax credit, in such manner as may be prescribed.".

13. Insertion of new section 122A.

After section 122 of the Central Goods and Services Tax Act, the following section shall be inserted, namely: - Penalty for failure to register certain machines used in manufacture of goods as per special procedure.

Section 122A - (1) Notwithstanding anything contained in this Act, where any person, who is engaged in the manufacture of goods in respect of which any special procedure relating to registration of machines has been notified under section 148, acts in contravention of the said special procedure, he shall, in addition to any penalty that is paid or is payable by him under Chapter XV or any other provisions of this Chapter, be liable to pay a penalty equal to an amount of one lakh rupees for every machine not so registered.

(2) In addition to the penalty under sub-section (1), every machine not so registered shall be liable for seizure and confiscation: Provided that such machine shall not be confiscated where- (a) the penalty so imposed is paid, and

(b) the registration of such machine is made in accordance with the special procedure within three days of the receipt of communication of the order of penalty.

According to the newly inserted section, an additional penalty of Rs. 1 lakh per unregistered machine shall be imposed. The other penalties specified under Chapter XV under the CGST Act would continue to apply. Also, there would be a provision for confiscation of unregistered machines.

III. Other important updates

- Union Finance Minister Smt. Nirmala Sitharaman inaugurated the first-ever National Conference of Enforcement Chiefs of the State and the Central GST Formations in New Delhi on 5th March 2024. In the context of enforcement activities carried out by various indirect tax agencies, the conference offered an additional step toward easing

understanding and streamlining the operations of the tax authorities. To plug the loopholes and improve taxpayer services, the union minister urges all GST organizations to use technology. The union minister also emphasized the importance of routinely hosting meetings of this kind between the central and state enforcement chiefs, using this forum to talk about challenges, share best practices, and move forward as a group toward a more resilient and cohesive tax system.

- GSTN successfully integrated of E-Waybill services with four new IRP portals via NIC, enabling taxpayers to generate E-Waybills alongside E-Invoicing on these four IRPs. This new facility complements the existing services available on the NIC-IRP portal, making E-Waybill services, along with E-Invoicing, available across all six IRPs. six IRP portals are

  https://einvoice1.gst.gov.in
  https://einvoice4.gst.gov.in
  https://einvoice2.gst.gov.in
  https://einvoice5.gst.gov.in
  https://einvoice3.gst.gov.in
  https://einvoice6.gst.gov.in

- The GST department commences a new facility in 10 states/UTs to make a GST payment via UPI. It was implemented on 18th January 2024 in Assam, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra and Odisha.

- From 1st March 2024 onwards, companies with annual revenue more than Rs 5 crore must provide e-invoice information for every B2B transaction. E-way bills are necessary for the interstate transportation of products valued more than ` 50,000 under the GST regime.

Notifications & Circulars issued during January, February and March 2024

Central Tax

Extension of the due date for filing of return in FORM GSTR-3B for the month of November 2023 for the persons registered in certain districts of Tamil Nadu.

In exercise of the powers conferred by sub-section (6) of section 39 of the Central Goods and Services Tax Act, 2017 (12 of 2017), the Commissioner, on the recommendations of the Council, hereby extends the due date for furnishing the return in FORM GSTR-3B for the month of November, 2023 till the tenth day of January, 2024, for the registered persons whose principal place of business is in the districts of Tirunelveli, Tenkasi, Kanyakumari, Thoothukudi and Virudhunagar in the state of Tamil Nadu and are required to furnish return under sub- section (1) of section 39 read with clause (i) of sub-rule (1) of rule 61 of the Central Goods and Services Tax Rules, 2017.

Source: Notification No. 01/2024-Central Tax dated 5.01.204

Extension of the due date for filing FORM GSTR-9 and FORM GSTR-9C for the Financial Year 2022-23 for the persons registered in certain districts of Tamil Nadu.

The Central Goods and Services Tax Rules, 2017, was amended and (1B) was inserted in rule 80, after sub-rule (1A) and (3B) was inserted after sub rule (3A). By this the date of filing

annual return and self-certified reconciliation statement shall be furnished on or before the tenth day of January, 2024 for the registered persons whose principal place of business is in the districts of Chennai, Tiruvallur, Chengalpattu, Kancheepuram, Tirunelveli, Tenkasi, Kanyakumari, Thoothukudi and Virudhunagar in the state of Tamil Nadu."

Source: Notification No. 02/2024-Central Tax dated 5.01.204

Rescission of Notification No. 30/2023-CT dated 31st July 2023

In exercise of the powers conferred by section 148 of the Central Goods and Services Tax Act, 2017 (12 of 2017) the Central Government, on the recommendations of the Council,

hereby rescinds the notification of the Government of India in the Ministry of Finance, Department of Revenue, number 30/2023-CT, dated the 31st July, 2023 published vide number S.O. 3424(E), dated the 31st July, 2023, except as respects things done or omitted to be done before such rescission.

Source: Notification No. 03/2024-Central Tax dated 5.01.204

Special procedures are notified which are to be followed by a registered person engaged in the manufacturing of certain goods.

Source: Notification No. 04/2024-Central Tax dated 5.01.204

Amendments were made in notification No. 02/2017-CT dated 19th June 2017.

In the said notification, in Table II, in serial number 83, in column (3), in clause (ii), after the figure and letter "411060,", the figure and letter "411069," shall be inserted, which is related to the jurisdiction of the GST officials.

Source : Notification No. 05/2024-Central Tax dated 30.1.2024

GSTN is entitled to share the data to the 'Public Tech Platform for Frictionless Credit" system.

The Central Government, on the recommendations of the Council, notifies "Public Tech Platform for Frictionless Credit" as the system with which information may be shared by the common portal based on consent under sub- section (2) of Section 158A of the Central Goods and Services Tax Act, 2017 (12 of 2017).

Source: Notification No. 06/2024-Central Tax dated 22.2.2024

Central Tax (Rate)

An amendment was made to Notification No 01/2017- Central Tax (Rate) dated 28.06.2017 by Notification No. 01/2024-Central Tax (Rate) dated 3.01.2024.

Integrated Tax (Rate)

Notification No. 01/2024-Integrated Tax (Rate) dated 03.01.2024 was issued to amend Notification No 01/2017-Integrated Tax (Rate) dated 28.06.2017.

Corrigendum dated 05.01.2024, issued to notification no 01/2024-Integrated Tax (Rate) dated 03.1.2024

Union Territory Tax (Rate)

Notification No. 01/2024-Union Territory Tax (Rate) dated 03.01.2024 was issued to amend Notification No 01/2017- Union Territory Tax (Rate) dated 28.06.2017.

Corrigendum dated 05.01.2024 issued to rectify the notification no 01/2024-Integrated Tax (Rate) dated 03.1.2024

Instructions/ Guidelines

Instruction No. 01/2023-24-[GST-INV] dated 30.3.2024 - Detailed Guidelines were issued for CGST field formations in maintaining ease of doing business while engaging in investigation with regular taxpayers.

Sources:

https://www.cbic.gov.in/entities/gst

https://www.taxmanagementindia.com/

https://www.gst.gov.in/

https://pib.gov.in/indexd.aspx

https://blog.saginfotech.com/gst-latest-updates

https://gstcouncil.gov.in/sites/default/files/Newsletter-dynemic/newsletter%20january%202024.pdf

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(Dr. Vidya V Devan is Assistant Professor, GIFT)

RBI's study of state finances 2023-24: Key takeaways

Executive Summary

- Fiscal discipline at the sub-national level: States contained Gross Fiscal Deficit (GFC) at 2.8% of Gross Domestic Product (GDP) in FY22 due to improved revenue deficit.
- Expenditure dynamics: Revenue expenditure growth of the states slowed to 8.9%, leading to higher capital outlay at 52.6%. States' committed expenditure accounts for 4.5% of GDP. Expenditure quality of the states improved with REVCO at 5% (ratio of revenue to capital outlay).
- Vertical Fiscal Imbalance: GST has increased tax buoyancy for the states and not increased vertical imbalance
- The current VFI stands at 0.48, similar to the pre-pandemic level
- The average budgeted buoyancy for all states is 0.74, while the realised buoyancy is lower at 0.55. This shortfall in revenue would necessitate unexpected deficit financing
- Fall in outstanding liabilities: States' outstanding liabilities have fallen from 31% in FY21 to 27.6% of GDP for FY24. States' reliance on market borrowings reduced to 76% in the budgeted GFD for FY24.
- Expenditure quality: The projected ratio of revenue expenditure to capital outlay (RECO) for the States is expected to decrease to 5.0 in FY24 from 6.0 in FY23
- The realised tax revenue is less than the maximum (tax capacity). The tax effort of States ranges between 0.71 to 0.99 during the estimation period, with an average tax effort of 0.81

On Key fiscal indicators

GFD: The ratio of States' consolidated GFD to GDP decreased from 4.1 percent in 2020-21 to *2.8 percent in 2021-22.* This decline was primarily due to reduced spending on revenue expenditure and an uptick in revenue collection. This has led to an improvement in revenue deficit. 19 States and Union Territories have projected a GFD-GSDP ratio that surpasses the FRL limit of 3 percent.

Revenue Receipts: The revenue receipts of the States experienced a notable rise of Rs. 36.04 lakh crore (13.2% of GDP) in

FY23 Provisional Accounts (PA). This increase in revenue collections was propelled by a surge in tax revenue, encompassing both own taxes and tax devolution, alongside an elevation in non-tax revenue. As per the RE states' own revenue constitutes Rs. 20.86 lakh crore of which Rs. 18.02 lakh crore comes from own tax revenue and Rs. 2.84 lakh crore from own non-tax revenue. This surge compensated for the decline in grants received from the Centre. As per the PA the grants - in aid slowed down to Rs. 6.57 lakh crore, which is 2.4 percent of GDP.

Own Tax Revenue: Among the own tax revenues, contributions to the revenue increase were observed from *stamp duty and registration fees, sales tax, and State Goods and Services Tax (SGST). However, there was a decrease in revenue derived from excise duties, as well as taxes and duties associated with electricity. SGST, sales tax, and States' excise duties constitute around 79 percent* of the States' own tax revenue collection (Table - 1).

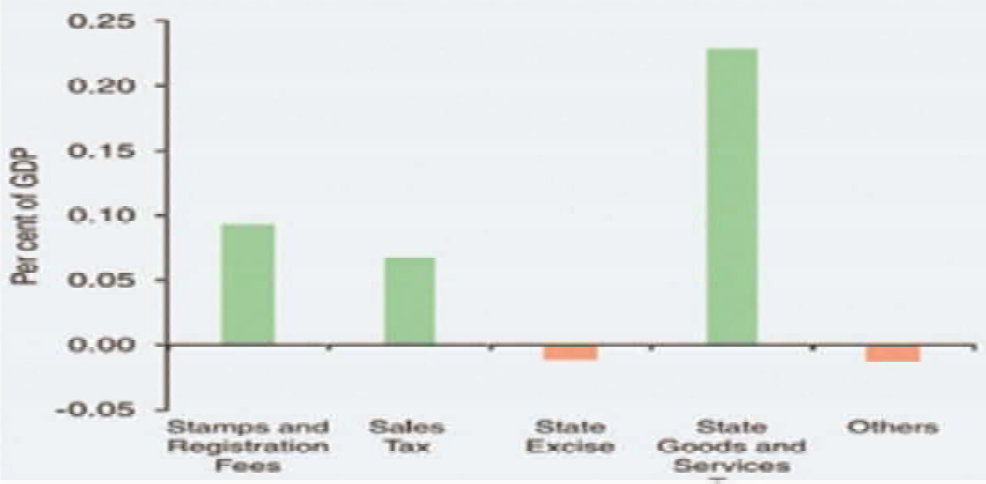
Vertical Fiscal Imbalance: the fiscal gap arising from the disparity between the revenue generation capacities and expenditure responsibilities. Following are the major observations on VFI:

- There was no major increase in VFI after the implementation of GST in 2017-18
- The VFI moved in a narrow range of 0.48-0.51 during 2017-18 to 2019-20
- The current VFI stands at 0.48, similar to the pre-pandemic level
- *Kerala's VFI is 0.40, better than many north and north eastern states*

State-specific measures to augment revenue:

- Kerala and Karnataka are aiming to reduce disparities between *property guidance values and market values*

Table - 1 Change in own tax revenue in FY22



to increase tax collection from registration and stamp duties

- Himachal Pradesh's Sadbhavna Yojana addresses *pending cases under different tax Acts*
- Maharashtra and Rajasthan are contemplating continuation of amnesty programs to resolve pending cases, which in turn is expected to *unlock tax arrears receivables*
- Kerala's Social Security cess on Indian Made Foreign Liquor (IMFL) and fuel sales
- Goa's Green cess on non-Goan vehicles, and Himachal Pradesh's water and milk cess.
- Kerala is revising mineral royalties

States' Own tax revenue buoyancy

- The actual buoyancy observed was lower, indicating that the revenue collected was less than what was initially estimated.
- The average budgeted buoyancy for all states is 0.74, while the realised buoyancy is lower at 0.55. This shortfall in revenue would necessitate unexpected deficit financing.

Expenditure scenario

- **Revenue expenditure:** States' revenue expenditure (as a percent of GDP) declined in 2021-22 at 14.2 percent from the pandemic peak of 2020-21 at 14.9 percent, reflecting fiscal consolidation efforts. As per the PA it stands at 13.5 percent in FY23.
- Allocations for various sectors under development expenditure, including education, sports, art and culture, relief for natural calamities, urban development, agriculture and related activities, and rural development, were decreased.
- Conversely, there was an increase in expenditure on the power sector and medical and public health. The latter increase signifies the States' response to the second wave of COVID-19. The reduction in non-developmental expenditure was mainly widespread across various areas.
- In FY24, the revenue expenditure of the States is budgeted at 14.4 percent of GDP with social sector expenditure6 at 8.0 percent of GDP. Committed expenditure, which includes interest payments, administrative services and pensions, declined marginally to 4.5 per cent of GDP in FY23 and is expected to remain at the same level.
- **Capital Expenditure:** In the fiscal year FY22, the capital outlay of States experienced a robust growth of 28.7 percent. This increase in capital outlay was notably more pronounced in the agricultural sector, particularly in areas like food storage and warehousing. However, based on the provisional accounts, the capital outlay of the States saw an increase of 14.3 percent in FY23.

- When excluding central transfers amounting to Rs. 0.81 lakh crore under the Scheme for Special Assistance to States for Capital Investment, the capital outlay of the States in FY23 (as per provisional accounts) stood at 1.9 percent of the Gross Domestic Product (GDP). This percentage would have been notably lower than the 2.3 percent recorded in FY22.
- **R&D**: Expenditure breakdown in Research and Development (R&D) shows the highest allocations in sectors such as medical services, health, family welfare, sanitation, and agricultural research.

Quality of Expenditure: *The projected ratio of revenue expenditure to capital outlay (RECO) for the States is expected to decrease to 5.0 in FY24 from 6.0 in FY23 (provisional accounts)*

Debt: The debt-GDP ratio of States declined to 27.5 per cent as at end-March 2023 from the peak of 31 per cent at end-March 2021

Revenue dynamics and fiscal capacity of Indian states

- **Own Tax Revenue:** The proportion of States' own tax revenue (SOTR) has risen from 5.7 percent of GDP in FY04 to 6.9 percent of GDP in FY23.
- SGST has emerged as the primary source, succeeded by sales tax/VAT, excise duty, stamp duty and registration fees, and taxes on vehicles.
- There exists considerable regional disparity in SOTR, ranging from over 70 percent of total tax revenue in states like Haryana, Maharashtra, Telangana, Tamil Nadu, Gujarat, Karnataka, Kerala, and Punjab to less than 50 percent in Bihar and Jharkhand.
- Tax capacity: It is distinct from the actual tax collection, which depends on the ability of the government to exploit its tax capacity
- The realised tax revenue is less than the maximum (tax capacity)
- The tax effort of individual States is computed as the ratio between actual tax revenue and the corresponding tax capacity
- The tax effort of States ranges between 0.71 to 0.99 during the estimation period, with an average tax effort of 0.81
- Capital outlay and development expenditure are found to be positively associated with the tax effort, suggesting that an optimum use of the tax base can create the fiscal space to enhance productive expenditures

Tax Administration, Tax Compliance, Coverage and Rate Structure of States: Some Issues

- In India, the collection of various State taxes, such as stamp duty and registration fees, sales tax/VAT, excise duty on alcoholic beverages, and

motor vehicles tax, faces significant technical inefficiencies.

- These inefficiencies are largely linked to the rate structure. For instance, stamp duty rates vary between 5-8 percent across States, compared to the international average of less than 5 percent. Higher tax rates result in increased transaction costs, encourage tax evasion, and disrupt urban land markets.
- The current structure of the Goods and Services Tax (GST), which consists of four tax slabs - 5 percent, 12 percent, 18 percent, and 28 percent - also contributes to complexity.
- Moreover, the *motor vehicle tax system in India lacks uniformity due to differing bases for computation and varying rates across States,* resulting in different tax burdens per vehicle in different regions.
- *Inter-state differences arise from the application of different tax rates based on vehicle categories, utilizing specific and ad valorem rates, and having multiple tax rates.*
- A significant portion of revenue arrears remains unsettled in courts and other appellate authorities, depriving States of potential revenues.

States' own non-tax revenue (SONTR)

- The contribution of SONTR to total revenue has consistently decreased over the past decade, remaining below 10 percent since 2010-11 (reaching 1.3 percent of GDP in 2022-23). Economic services serve as the primary source of non-tax revenue for States, constituting around 60 percent in 2021-22 and 2022-23.
- There is substantial disparity in own non-tax revenue collection among States. Mineral-rich states like Odisha, Chhattisgarh, and Jharkhand derive a significantly higher share of non-tax revenue from mining royalties and mine premiums, exceeding 60 percent.
- In Goa, government non-tax revenue includes electricity charges collected from consumers due to electricity distribution being a government activity. Conversely, in most other states, power distribution is managed by power distribution companies (DISCOMs).

Non-tax revenue measures of states and suggested reforms

- Reform measures undertaken by State governments include inter alia, e-auction of mining leases, royalty revision across different segments of mining minerals, revision of the penal rates to curb secret mining and related activities, land monetisation, revision of water rates for industrial use, and improved financial management of the State public sector enterprises.
- With the upward revision of electricity tariffs by various States, the under-recovery has come down from Rs. 0.69/kWh in 2020-21 to Rs.0.22/kWh in 2021-22

- Smart and pre-paid metering in power distribution may help in further improving billing and collection efficiency, with a commensurate impact on lowering Aggregate Technical and Commercial (AT&C) losses
- For Social services user charges should at least recover the operation and maintenance (O&M) costs of infrastructure assets deployed for social services
- Proper pricing of water has also assumed importance in view of the fast depletion of groundwater levels and excessive usage/ wastage of water in many States An appropriate pricing of water - for example, volumetric water charges instead of charging a flat rate - would help in economising the use of water and promote environmental sustainability

Inter-governmental transfer

- Vertical fiscal imbalance in India is higher than in countries like Brazil and Canada with Indian States collecting 37 per cent of general government taxes while spending 64 per cent of total expenditure
- The composition of fiscal transfers to states is shifting: there's a reduction in the central share of taxes, an increase in grants, and a decline in loans from the central government.
- States' dependence on fiscal transfers, reflected in the share of transfers in total expenditure, increased sharply during the pandemic-period of FY21 and FY22 but it has moderated to 40 per cent in FY23
- The actual tax devolution to States has trailed the recommended share due to cesses and surcharges that are excluded from the divisible pool of Union taxes
- There has been an increase in the share of need-based parameters while both equity- and efficiency-based parameters have seen a decline in their weights
- The revenue collected by the Union government from cesses increased from 6.4 per cent of its gross tax revenue in FY12 to 17.7 per cent in FY22
- Due to increase in cesses and surcharges, the divisible pool has shrunk from 88.6 per cent of gross tax revenue in FY12 to 78.9 per cent in FY22 despite the 10 percentage point increase in tax devolution recommended by FCXIV
- The actual tax devolution to States hovered in the range of 3-4 per cent of GDP during the award period of FC-XIV and FCXV as compared with around 2.7 per cent during the previous three finance commissions
- Since the actual tax devolution hinges critically on the cesses and surcharges levied by the Centre, the States need to augment their own fiscal capacity and reduce dependence on transfers.
- Divisible pool of taxes as a percentage of gross tax revenue at 78.9% much lower compared to 90% in 2012
- The CSSs, which have received a major push from the Centre in the post

COVID period, now account for around two-thirds of the total grants

- On the other hand, the Finance Commission grants constitute only around a quarter of the total grants from the Centre.
- Total grants as a percentage of GDP increased - 3.2% of GDP
- Composition as a percentage of GDP - 1.8 - CSS, 0.6 FC grants , 0.3 - other grants
- The FC-XV recommended grants-in aid amounting to Rs.10.3 lakh crore for the five year period 2021-26. Of this, 42.3 per cent were earmarked for local governments, while 29 per cent were revenue deficit grants. The actual transfers during the first two years of FC-XV are marginally lower than the recommended amount

Way forward

- OPS: If all the State governments revert to OPS from the National Pension System (NPS), the cumulative fiscal burden could be as high as 4.5 times that of NPS, with the additional burden reaching 0.9 per cent of GDP annually by 2060.
- Fiscal deficits exceeding 4 per cent of GSDP in FY24 as against the all-India average of 3.1 per cent. They also have debt levels exceeding 35 per cent of GSDP as against the all-India average of 27.6 per cent. Any further provision of non-merit goods and services, subsidies, transfers and guarantees will render their fiscal situation precarious and disrupt the overall fiscal consolidation achieved in the last two years
- Improvement in tax administration
- Asset monetisation: scale up their initiatives for asset monetisation in order to increase nontax revenue. Monetisation of assets unlocks their value, eliminates their holding cost and enables scarce public funds to be deployed into new projects, thus fast-tracking new infrastructure creation. State governments need to tap into their sizeable infrastructure asset base, with significant potential in roads, transport and power sectors. A comprehensive review of unutilised land assets and their conversion into revenue generating industrial estates or monetising them by outright sale would also help to mobilise revenues. Similarly, in the case of non-operational public sector undertakings (PSUs), States may expedite their liquidation to curb losses
- The use of modern technologies such as, Geographic Information Systems (GIS) and Drone Surveys may be utilised by the States for identifying and curbing illegal mining activities
- Revenue deficit grants: Currently, revenue deficit grants are disbursed to those States that are assessed to have high revenue deficits post tax-devolution. Such protected revenues could disincentivise the States from carrying out fiscal reforms. Going forward, the Finance Commissions

could consider recommending an increased share of conditional transfers based on reforms, quality of expenditure and fiscal sustainability to harness healthy competition across States towards improving their economic performance

- Climate change mitigation: The Centre can introduce performance-based incentives for States that progress significantly towards climate goals. For instance, additional grants could be given to States that do well in reducing emissions or increasing renewable energy generation. Also, within the Scheme for Special Assistance to States for Capital Investment, a separate head for climate related investment projects can be considered.

New studies on Kerala

Young Scholars' Forum, GIFT
Led by Gopika G

Economics

Scopus Indexed

1. Sunena Abdul Huq, Bimal Puthuvayi (2024), Stakeholders' satisfaction assessment in heritage conservation: Case study of a project performance model for Thiruvananthapuram Fort Area, Kerala, India

Stakeholder satisfaction is an important factor in determining the success of urban heritage conservation projects. This research attempts to propose a model for assessing stakeholder satisfaction and project significant factors that need to be considered when determining the performance of a conservation project, taking the Thiruvananthapuram Fort Area, India as a case example. The study employed a mixed-method approach of using expert consultations, physical surveys, and statistical analysis in the development of the model. Factors influencing the outcome of an urban heritage conservation project were listed from the literature and further refined through expert discussions to be utilized for the stakeholder survey. A questionnaire survey is administered within a heritage-sensitive urban area to identify the present state of heritage buildings and the living conditions of the stakeholders pertaining to the six aspects that determine the outcome of an urban heritage conservation project. The overall satisfaction of the stakeholder group was modeled using ordinal logistic regression against the various factors to arrive at factors that positively and negatively influenced them. The model assessed that the satisfaction of the stakeholders who were a part of the historic site was highly influenced by their economic needs and the project's economic sustainability over other factors in the model. Urban economy consolidation, a known mechanism of improving an area's economic sustainability negatively affected the stakeholders' satisfaction. The results indicate that the factors under the social aspect were not significant determinants for the stakeholders of this urban heritage conservation project.

2. Nidhin K P(2024), Why social entrepreneurs start social enterprises: capturing contextualised life stories of social entrepreneurs in Kerala, India

While research on social entrepreneurship and related concepts is steadily increasing,

the existing research has over-emphasized the fact that prosocial motive is the primary reason for social entrepreneurs to start social enterprises. Though few studies challenge the pre-existing notion and argue that personal interest can also end up in the creation of social enterprises, the present study tries to understand how these motives evolve and shape over time to convert into social enterprises. By doing so, the study addresses a research gap regarding understanding diverse pathways taken by social entrepreneurs to launch social enterprises. To answer the research question, the study adopts a qualitative research design with a narrative approach. The study employs the concept of contextualized life stories to further design the study. Data was collected from four social entrepreneurs in Kerala, India, by using in-depth interviews as this context is not much explored in the literature. The study found that the creation of social enterprises is not merely the presence of personal interest or prosocial motives in social entrepreneurs. Rather, it rests on how these interests and motives interact and transition through the influence of triggering events. The study also found that triggering events can either happen naturally or be created. Identifying the latter could be useful for relevant stakeholders of social entrepreneurship, ranging from policymakers to practitioners, to create such trigger events to promote more social entrepreneurial activities. Therefore, the study recommends further studies to investigate the triggering events that influence the creation of social enterprises in different contexts.

3. Parvathy P.; Kavitha A. C.(2024), Educational Outcomes of the Tribal Students of Kerala - Exploring the Potential of Cultural Capital.

Scheduled tribes constitute 1.45 per cent of the total population of Kerala as per 2011 Census. Though Kerala has made significant strides in the field of education, tribal students in the state fall behind the non-tribal students as evident from several indicators such as lower rates of enrolment, higher drop-out rates and lower pass percentage at various levels of education. Lower pass percentage of tribal students in the qualifying examinations (58.01 per cent for the tribal students vis-à-vis the state overall pass percentage of 85.56 per cent in 2020-2021) poses a significant barrier to pursue graduation courses. Hence, an attempt is made to assess the role of cultural capital in determining the educational outcomes of the students belonging to various castes. A survey of the students enrolled in colleges revealed differences in the extent of cultural capital possessed by tribal and non-tribal students as evident from the differences in the education levels of parents which are corroborated by the results of Kruskal Wallis test. Cultural capital deficit places the tribal students at a disadvantage in various fields such as language proficiency and their ability to critically appreciate arts and literature. Inadequate cultural capital base of tribal students has adversely affected their educational outcomes.

4. Sathya Prakash. P,P,Dr. Sinitha Xavier (2024) Financial dependence of rural elderly in Kerala

The present article unveils the vulnerability of the rural elderly by analyzing their financial dependency. The financial dependency of the rural elderly was analysed by taking into consideration the degree of their financial dependence and the sources of financial support. Further, the study investigates the level of dependence on others for financial support based on their individual characteristics. For the analysis, a One-sample t-test was used to find out the significant sources of financial dependence, and both independent t-test and One-way ANOVA were used to analyze the level of dependence of the elderly on others for their financial needs based on their individual characteristics. The study is confined to the rural areas of Kerala. In the rural areas of Kerala, elderly women outnumber elderly men, and the elderly women (28.38%) depend more on others than the elderly men (13.8%) for financial requirements. In general, in the rural areas of Kerala, 61.34 per cent of the population is financially dependent on others. The study found out that offspring or progeny are the most noteworthy source of financial support for the rural elderly. The study also brought to light the fact that the elderly women, care-giving elderly and widowed elderly rely more on others for their financial aid.

Other Journals

1. Kottamkunnath Lakshmypriya, Bindi Varghese(2024), Indigenous Tribes and Inclusive Engagement: An Integrated Approach for Sustainable Livelihood Into the Future

Tourism acts as a stimulant in rural poverty reduction and inclusive socioeconomic development. Sustainable tourism can significantly contribute to the economic diversification and local economic development of rural areas with its ability to create jobs and encourage infrastructural development focusing on preserving the environment, culture and indigenous groups. The detrimental effects of tourism on the economy, society and culture have shifted attention to sustainable travel. As a result, terms like 'tribal tourism', 'ecotourism' and 'sustainable tourism' have become popular. Inclusive engagement is a crucial agenda item in future tourism development and a major concern of many international organizations, including the United Nations. This chapter focuses on exploring the tribal communities and their involvement in sustainable tourism initiatives with an overarching focus on the role of the indigenous community and their skill sets in creating sustainable livelihoods through tribal tourism. Apart from creating direct and indirect employment opportunities, tribal tourism will support the growth of locally produced goods and have significant multiplier effects as capability-building initiatives will give impetus to the community's socioeconomic development. Additionally, the sector offers notable advancements in the development of the tribal region. Tribal tourism will help people comprehend the significance of the ecosystem, local biodiversity, and emission control activities on a deeper level (Thanikkad & Saleem, 2021). This chapter explores the indigenous tribes of Kerala and their ethnic skill sets, capabilities, and means

of livelihood. Further, the discussion on how the tourism domain promotes inclusive engagement of these tribes and aids in mapping skill sets, livelihood, and inclusive engagement through tourism initiatives is explored.

2. Sooryaprabha V S Moly Kuruvilla (2024) Women's Political Leadership in Local Self Government Institutions of Kerala: Mobilization Through Kudumbasree,

Kudumbasree, the second-largest women's network in Asia, has nurtured the decision-making capabilities and leadership qualities among women in Kerala. This paper is based on the findings of an empirical study on 40 women representatives of Local Self Government Institutions (LSGI) from the Wayanad district of Kerala who previously were members of the Kudumbasree. Unstructured telephonic interviews were used to collect data from the sample. Kudumbasree activities have been found to contribute to the capacity building of women at grassroot levels so as to contest and win the LSGI elections. It is important to develop the capabilities of women through appropriate training so that they can rise to the highest level of political empowerment and contribute to the fostering of gender equality. The support received from religious communities and authorities is specially acknowledged by the study participants and is a positive change happening to the cause of women empowerment in the recent decades.

3. Jacob Ruth Elizabeth, Duraisamy A(2024),Framing a Conceptual Approach for Urban Conservation in Historic Cities-A Case of Kuttichira, Kerala

Studies suggest that the main reason for the low female labour force participation rate in India is due to overburdened unpaid domestic work. This paper attempts to compare time spent on unpaid work by women viz-a-viz their male counterparts. Using the Time Use Survey (TUS) and seemingly unrelated regression technique, the paper shows the trade-off between unpaid, paid and non-work activities between genders in Kollam m district in the state of Kerala. Unpaid domestic work is often taken for granted and is further endorsed as the moral responsibility of the weaker sex by most cultures if not all. The findings of the study reveal that in a day, unemployed married women who have children less than 6 years and belonging to the 36 to 40 age category spend 12.9 hours on care work but men with the same characteristics spent only 3.3 hours. Employed married women on the other hand are double burdened by paid and unpaid work which ultimately lowers their leisure time. This micro level study is done to throw light on the enormous work undertaken by women in the domestic sphere whose services are yet to be included in the national accounting system.

4. Abraham, A. (2024) Impact of international migration on intergenerational educational mobility in migrant sending households: does socio-economic status matter

This paper examines the impact of international migration on intergenerational educational mobility (IGEM) among left-behind children in migrant-sending households in the origin.

IGEM, measured as the difference in completed education between a parent and child, is a measure of mobility (or persistence) of educational attainments between generations within a household. If migration leads to a higher IGEM, it can be considered as a mechanism that creates a catching up effect in the society, as it enables attainability of aspirations irrespective of the initial distribution of endowments. The study uses data on 15,000 households from the Kerala Migration Survey 2018 and compares the IGEM of households with an international migration experience to those without it and finds the migration of a household member significantly and positively affects intergenerational educational mobility of children in the household. Disaggregating the sample by social and economic groups reveals that this impact is significantly higher in households from the middle and lower-middle income and social groups. However, children from the lowest income quintile and social strata, especially from communities that are educationally most backward, did not register any significant improvement in IGEM due to migration. This indicates that migration acts as a catching up mechanism for the middle strata of the society while it seems to leave the most disadvantaged sections, relatively even more disadvantaged.

5. Dayana Lalan K Dr.V.Shanthi Mr.V.Karthikeyan (2024), Consumer Perception Towards Organic Food Products - With Special Reference To Central Kerala

A wide range of consumers of organic food and non-organic food were addressed and scrutinized to obtain their observations and visions towards organic food. All organic food consumers are not having the same method of approach towards organic food. Subsequently the statistical process guides us to comprehend the relation and the model of the consumer behavior trends in organic food in India.Organic farming was practiced in India for thousands of years. The great Indian civilization thrived on organic farming and was one of the most prosperous countries in the world, till the British ruled it. In traditional India, the entire agriculture was practiced using organic techniques, where the fertilizers, pesticides, etc., were obtained from plant and animal products. Organic farming was the backbone of the Indian economy and the cow was worshiped (and is still done so) as a god. The cow not only provided milk, but also provided bullocks for farming and dung which was used as fertilizers.

6. A.K. Nirupama (2024):local self-government institutions and climate change: the case of Meenangadi panchayat in Kerala

India faces significant vulnerability to the effects of climate change, attributed to its varied geography, substantial population, and reliance on agriculture. The nation encounters numerous climate-related challenges, including more frequent and severe extreme weather events like heat waves, droughts, floods, and cyclones. Dealing with this intricate matter necessitates a comprehensive and

cooperative strategy that extends beyond conventional top-down governance models. Local governments have a vital role in formulating and executing climate change adaptation strategies. They assess local vulnerabilities, identify priority areas, and formulate plans to build resilience and reduce risks. This can involve measures such as infrastructure improvements, land-use planning, water management, and public health initiatives tailored to the specific needs of the community. Local governments often collaborate with stakeholders, including businesses and residents, to achieve greenhouse gas reduction targets. India has pledged to become carbon neutral by the year 2070, and achieving carbon neutrality is a complex and multifaceted endeavor that requires coordinated efforts across sectors and levels of government. The carbon-neutral Meenangadi in the Wayanad district of Kerala is a perfect example

7. Sushila Ramaswamy (2024), The Role of Women's Leadership in Community Centric Initiatives for the COVID-19 Pandemic in Kerala

Kerala's handling of the coronavirus pandemic in 2020-21 has brought to the forefront two aspects regarding the role of the leadership. One was the inspirational role played by its first woman Health Minister, Ms K.K. Shailaja, "Teacher", and her team consisting of public officials drawn from across the state and the police. The other was the effectiveness of bottom-up initiatives involving people at the grass roots. As a result of these the preparedness, planning and implementation proved more effective than the top-down, talk down one-person centric approach.

8. Dr. Remya R (2024),Marginalization Among In-Migrant Construction Workers in Kerala: Exploring the Socio-Economic and Political Dimensions

An attempt was made to understand the extent of marginalization among in-migrant construction workers in Kerala, and the socio-economic and political dimensions associated with this marginalization. Data mainly came from an individual survey conducted among 600 in-migrants working in the construction sector in Thiruvananthapuram and Ernakulam. In-depth interviews were conducted to understand the socio-economic and political dimensions of marginalization in Kerala. A composite index was constructed to understand the extent of marginalization among workers. Logistic regression models were used to understand the socio economic correlates of marginalization among the migrants. Around 77.7 percent of the in-migrants working in the construction sector experienced severe marginalization. Of the 16 issues listed for accessing the marginalization, they had 11 or more problems. Age and education were statistically associated with the marginalization. Young aged in-migrants were more likely to experience marginalization as compared to others. Migrants aged less than 25 years, and 25-34 years were respectively 2.86 times and 2.55 times more likely to report marginalization as compared the in-

migrants aged 35 years.of successful local self-government taking measures to achieve carbon neutrality.

9. Dr. Shanimon Saleem,Vince Thomas, Alelyamma p j. (2024). COVID-19 and its effect on the food service industry in Kerala, god's own country

COVID-19 has affected domestic and international food industries as a result of government closures of restaurants and bars in an attempt to stop the spread of the disease. The restaurant industry greatly aids every nation's economic stability. This study aimed to determine how COVID-19 restrictions would affect eateries and other related businesses. The primary subjects of this study were restaurant owners in the Idukki neighborhood. This study aims to investigate how lockdown restrictions affect Idukki District's restaurant businesses. The challenges faced by restaurant owners during the pandemic, the strategies they employed, the degree to which customers were happy with the services they received, and customers' expectations for the future of the restaurant industry are all covered in this research. The nature of the restaurant industry is described and examined in this study. Kerala, India's Idukki District, was home to the chosen sample. According to research, restaurants used technology extensively as a strategy during the outbreak, taking into account the opinions of their patrons. The majority of restaurants offered home delivery and online ordering, which fueled the growth of the restaurant business in Idukki District. Orders are fulfilled according to customer preferences, which aid restaurants in maintaining patrons throughout the pandemic.

10. Fazal P, Dr. Mohanadasan .T(2024), A Study on Purchase Behavior of Gold Consumers of Koduvally - The Golden City in Kerala

The purpose of this empirical research is to evaluate the purchase behavior of gold consumers and to explore the relationship between factors influencing the purchase behavior, both directly and indirectly, to validate the proposed research model in the context of gold consumers in Koduvally, the golden city. Koduvally, a place in God's own country, has a reputation as the "city of gold" and "golden city" due to its history in the gold trade in the 18th and 19th centuries. It was discovered that Koduvally is known for having more than 100 jewelers within a radius of just one km. It is based on 'perception, intention to purchase, shopping habit, and willingness to pay more in relation to socio economic, personal, and cultural factors and was analyzed by the data collected from 182 gold consumers. The findings revealed that purchase intention and perception were significantly and directly driven by personal, economic, and socio-cultural factors. However, psychological factors have the most significant positive effect on the shopping habits of the gold consumers in this model. Moreover, personal and economic factors were found to have the highest significant positive effect on the willingness to pay more for purchasing gold products. Hence, the present research model provides valuable inputs to gold marketers from the perspective of the purchase

behavior of consumers to design policies and strategies in order to cope with the changing environment in the gold market.

11. Prasanth A P , Ralimol M R , Girish S(2024),A Qualitative Study on Kerala Youth Diaspora

The experiences and challenges the Kerala youth diaspora face are poorly understood. While there is some research on migration and diaspora in Kerala, there is a need for more focused research on the experiences of young people in the diaspora. The Kerala youth diaspora also faces challenges, such as adapting to new cultures, dealing with discrimination, and maintaining their cultural identity. Many young Keralite struggle to balance their traditional values with the demands of a new environment, which can cause stress and anxiety. This research paper aims to address this gap by exploring the experiences of the Kerala youth diaspora and how they contribute to the development of Kerala and to examine the experiences of the Kerala youth diaspora and identify ways to support and engage with them. By engaging with the diaspora and understanding their experiences, this research paper can contribute to creating policies and programs that better meet their needs and support their engagement with Kerala. This can lead to a more inclusive and sustainable approach to development that leverages the potential of the Kerala youth diaspora and other diaspora communities.

12. Pinak Sarkar (2024) An Overview of Migration Story in Kerala: Analyzing In-migration and Out-migration Trends Using Census 2011

Census 2011 data clearly establish that the rate of out-migration for both males and females from Kerala for economic reasons such as work and employment is more than double the all-India figures, reflecting the economic dependence on migration in the state. It is well known that migrants from poor and backward states prefer more industrialized and urbanized states, but their choice of destinations has also evolved in a historical process. For migrants from Kerala, states like Tamil Nadu, Karnataka, Maharashtra, Delhi, etc., are top destinations, as these states have the pull characteristics and factors such as employment opportunities, industry, infrastructure, higher per capita income, education hubs, etc. Kerala also receives migrants from other states, such as Tamil Nadu, Karnataka, Maharashtra, West Bengal, etc., who work across various sectors such as construction, agriculture, services, etc. One of the most important factors for in-migration to Kerala is higher wages than the state of origin. It is also important to note that in-migration to Kerala is not uniformly distributed across all the districts: it is mainly concentrated in Ernakulam, Palakkad, Thiruvananthapuram, Kasaragod, etc., which have better economic prospects and employment opportunities.

13. Ninu Rose (2024), Housing finance in India with special reference to Kerala - an overview

Housing also plays a key role in preserving the health of individuals, thereby providing better working efficiency. It also acts as a key indicator of measuring the standard of living of the people. Housing can be used for many purposes like residential, commercial, self-occupied and let out. So, it is beneficial in both welfare and economic terms. The demand for housing has been increasing rapidly due to the expeditious growth of population, wide expansion of industrial and commercial activities, and rural urban migration. The supply has become insufficient to meet the growing demand. During the post-liberalization era, the central and state governments have announced many schemes for various target groups for addressing their housing issues. Housing for all by 2022 is the recent and most important scheme introduced by the central government. The central government has introduced a private public partnership model in the 12th five-year plan to promote private involvement in addressing the housing problems. Currently the housing finance market is blessed with the presence of many institutions, from both public and private sectors with the active support of the government. These institutions are competing with each other to provide the best suitable products to prospective customers.

14. Mohammad Sohail Baba, Dr. Shaik Mastan Vali, A study on improving women entrepreneur through financial literacy

The monetary education of working women in India is examined in this regard. The ponder explores the level of monetary proficiency among Indian ladies in ranges like ventures, investment funds, and protections.100 working women from various age groups and income levels participated in an online survey that was sent as part of the study's quantitative research approach, which collects data. The study's discoveries appear that working ladies in India have a moo level of monetary proficiency, with as it were a modest rate having adequate mindfulness of money-related subjects. The study also shows that several variables, including age, income, education, and work experience, have an effect on women's finances.

Book

1.T.M. Thomas Isaac(2024),Kerala: Another Possible World

This book delves into the challenges of creating a "different world" in the communist-ruled Indian state of Kerala, characterized as a conflict between the rival slogans "There is no alternative" and "Another world is possible". Isaac describes the left's efforts to optimize growth while preserving the values of progressive culture, gender equality, environmental sustainability, redistribution, and social justice within both a globalized world and the strict limits imposed by India's Union government.The opening chapter deals with victory of the Communist Party in the 1957 assembly elections, Footnote 1 arguing that it took everyone, both friends and foes, by surprise. The victory may have been connected to the higher rates of literacy, life expectancy and birth

rate that Kerala had enjoyed in the colonial period (p. 57). The first major order of the new government was to ban all evictions of tenants. It was followed by debt relief, the abolition of non-rent payments to landlords and then a comprehensive agrarian bill. This law sharply reduced rents and enabled tenants to become full owners of their land by paying a multiple of the new fair rent (p. 35). The second chapter deals with the state's "Redistributive Development Strategy", including the introduction of collective bargaining in wage negotiations, the redistribution of assets through land reforms and the guaranteed public provision of basic services. More recently, direct income transfer, microfinance, and other poverty alleviation programmes have been added to the government's arsenal (p. 53). In the subsequent chapter, Isaac argues that redistribution rather than growth was the defining feature of the Kerala economy and that the average citizen was able to enjoy a relatively high quality of life at a relatively low per capita income. Over the following decades, however, Kerala was gradually transformed from a low income-consumption-saving-investment economy into a high income-consumption-saving and fast-growing one (p. 66). This period ended, however, with the economic crisis of the late 1980s and the left's loss of power

Book Chapter

1.Salu Dsouza (2024),Public-Private Partnership Ventures: A Diasporic Initiative in India Through Social Remittances and Philanthropic Work

Diaspora networks across the globe think of their homeland, which makes them continuously assist various projects that have public-private partnership ventures. Many of the members of the Indian diaspora had difficult times during their childhood in their native country. The conditions were not favorable within India prior to Indian Independence for acquiring desired skills in entrepreneurial activities. However, they managed to sail through the rough sea and reach the western coast in great adversity. The journey itself was a training for the early diaspora that resulted in learning the skills needed for setting up their business in the adopted countries. Indian diaspora from various developed countries have learned a great deal about the local culture, new skills in business partnership, consultancy services, research and innovations in technology that helped them to prosper in the adopted land and implement those ideas in their home country as a part of social remittances and giving back to the society. Developed countries have exhibited the feasibility of sustainable development through social entrepreneurship. Compulsory community service that trains people in new skill development also educates them in preserving the environment in which they reside. The public-private partnership model, which is in practice in developed countries, has become the agent of creation of social entrepreneurship with accountability toward the society. Diaspora communities that send social remittances to their home countries not only in the

form of money but also ideas, identities, and behaviors help set up public- private models of undertakings that would ensure sustainable growth in the long run. Philanthropic work is reckoned in the Public-Private Partnership (PPP) model that we see in various parts of India, especially in states like Punjab (Sikh diaspora), Kerala (Malayali diaspora) and Gujarat (Gujarati diaspora). In this background, this chapter tries to examine the Indian diaspora's schemes in India on the model of public-private partnership that they had either set up or observed in their adopted countries.

Environment

Scopus Indexed

1. Saranya Das K. & N. R. Chithra (2024): Machine learning-based prediction of agricultural drought using global climatic indices for the Palakkad district in India

Agricultural drought refers to soil moisture deficit, which causes adverse effects on the crop production and economy of a nation. This work compared the capability of artificial neural network (ANN) and support vector machine (SVM) algorithms in predicting agricultural drought in the Palakkad district of Kerala, India. Also, the influence of various global climatic indices on soil moisture stress in the study area is assessed. Two models were developed to investigate the impact of global climatic indices. Model 1 considered only local meteorological variables as predictors, and model 2 included global climatic indices along with meteorological variables. The results showed that ENSO has a commendable influence on the early prediction of agricultural drought in Palakkad and are more evident at higher lead times (2 to 4 months). For the first model of ANN and SVM, the R2 values at a 4-month lead range from 0.56 to 0.76 and 0.62 to 0.77, respectively. Similarly, for model 2, the R2 varies from 0.61 to 0.77 and 0.75 to 0.82 for ANN and SVM models, respectively. Further, the results indicated that the SVM model shows clear advancement in prediction over ANN especially at higher lead times, even though both show a comparable performance at 1-month lead time. The study provided useful information regarding the potential predictors of agricultural drought in the study area and suggested suitable models for the early prediction. This will support the decision makers in drought prevention and water resource management.

2. K., Saikrishnan; K.V., Anand; V., Agilan,(2024) .Coastal vulnerability assessment along the coast of Kerala, India, based on physical, geological, and socio-economic parameters

The increase in population and rapid economic development activities increase vulnerability along the coastal areas. Coastal zones are among the planet's most dynamic regions and are susceptible to natural and anthropogenic hazards. To comprehend how risks and hazards are distributed spatially along the coast, coastal vulnerability assessment is crucial. This study aims at identifying the vulnerable zones along the coast of

Kerala, India. The coastal vulnerability index (CVI) is calculated by considering the physical, geological, and socio-economic parameters. The physical-geological parameters considered are nearshore bed slope, shoreline change rate, coastal elevation, tidal range, and continental shelf width. The socio-economic parameters include population density, road network, and land use/land cover. Analytical hierarchy process (AHP) is used for obtaining weights for physical-geological and socio-economic parameters. Coastal vulnerability results show that 82.40?km of the coastal stretch has a very high CVI value along the coast of Kerala, accounting for 13.87% of the total coastline. The most vulnerable stretches are along the coast of Kozhikode, Malappuram, Thrissur, Ernakulam, Alappuzha, and Trivandrum districts, while Kasargod and Kannur districts have no coastal stretches with very high CVI. High population density, low nearshore bed slope, low coastal elevation, high erosion rates, built-up areas, and roads near to the coastline are some of the factors contributing to very high CVI in coastal districts of Kerala.

Other Journals

1.K. Chithra,B. V. Binoy & P. Bimal (2024),.Modeling flood susceptibility on the onset of the Kerala floods of 2018

Floods are the most devastating global hazard which affect the environment and economy of several regions in the world. Flood management requires the identification of areas susceptible to flooding and measuring the impact of flood conditioning parameters. This study examines the application of bivariate relative frequency ratio (RFR) and multivariate logistic regression (L.R.) models to identify flood-susceptible regions in three districts of northern Kerala, India. A comprehensive flood susceptibility study utilizing high-resolution terrain information and past flood inventory is conducted in the study area. The current study generated the flood inventory of August 2018 during the Kerala floods using Sentinel-imagery of 10 m resolution. Thirteen flood conditioning parameters related to the terrain, land usage, climate and vegetation are used as independent variables in the statistical modeling. The terrain-related parameters such as elevation, slope, curvature, flow accumulation, topographic wetness index (TWI), and stream power index (SPI) are derived from CartoDEM of 10 m resolution. The other independent variables used are rainfall, normalized difference vegetation index (NDVI), waterbody distance, drainage density, soil type, and geology. In GIS, the dependent and independent variables are spatially combined, and SPSS and R are used for statistical modeling and validation. The final flood susceptibility map is divided into the risk categories of very low, low, medium, high, and very high. Both RFR and L.R. model results were found reliable, and the low-lying coastal wetlands are highly susceptible to flooding in the study area. The area under curve values show that the L.R. The model performs better with 92.7% accuracy than

the RFR model with 85.6% accuracy. The generated flood susceptibility map can be a valuable tool for sustainable planning and development in the target region.

Agriculture and Rural Economy

Scopus Indexed

1. Johnson Jament and Caroline Osella(2024),The Impact of COVID on Kerala Fish-vending Women

This article discusses women's role in Kerala's small-scale marine fishing industry and changes that took place during COVID-19. Pandemic conditions enabled and accelerated the restructuring of Kerala's fishing industry practices, leaving marginal groups even more marginal. Small-scale producers and sellers were edged out by larger players in a new wholesale market. Meanwhile, female vendors who utilized public transport and face-to-face sales methods found themselves locked out from new retail methods introduced during the pandemic, which made use of smartphone apps, online platforms, and private light vehicles. Underemployed workers with access to digital technology and mobility moved in to fill the lockdown retail gap. The Gulf states' continuing squeeze on jobs and resultant migration slow-down contributed to these trends. Female fish-vending activity has also been affected by Kerala's acceleration of bourgeois respectability norms. The state government's modernisation and centralisation policies also led to the shrinking of women's spaces in fish auction markets. Recent inequalities in digital and mobility access sit on top of longstanding entrenched class and status inequities and conservative gender norms, while the enduring chronic 'wicked problem' of Kerala's unemployment levels demands urgent attention.

Other Journals

1. Arathi S. M. and Ushadevi K. N. (2024) Factors Influencing Purchase Decision of Jackfruit Products in Thiruvananthapuram District

Jackfruit is popularly known as a poor man's fruit in the eastern and southern parts of India. In India, Kerala is the largest jackfruit-producing state. Beyond its nutritional benefits, jackfruit has received attention for its significant environmental and economic benefits, which arise from its numerous culinary applications and potential as a sustainable food supply. Understanding the factors influencing consumer purchase decisions for jackfruit products is becoming increasingly important as the global perspective on food choices moves towards healthier and more sustainable options. Considering this, the study aimed to analyze different factors influencing the purchase decision of jackfruit products in the Thiruvananthapuram district. Primary data were collected from the consumers residing in urban centers of Thiruvananthapuram district who had consumed at least one selected product. A purposive sampling method was employed to select 30 consumers for each product category, namely jackfruit chips, jackfruit ice cream, jackfruit flour, and jackfruit varatti. Secondary data were

gathered from government reports, publications, and journals. Statistical tools like the Index method, Kruskal Wallis, test and Mann-Whitney test were used for the analysis. The study was conducted from August to September 2023. The taste and quality of the product emerged as common variables significantly influencing the four consumer groups in their purchase decisions. Factors like brand availability, quality certification, brand image, and social media were the factors not influencing consumers, except for jackfruit ice cream, which stands out due to additional promotional activities compared to other products. The results of the Kruskal-Wallis and Mann-Whitney test highlight significant differences among consumer groups regarding variables such as taste, convenience to use, convenience to cook, and convenience to travel.

2. Mathew, Merlin (2024) A Study on the Production Economics of Ginger in Wayanad, Kerala, India

The present micro level study examines the economic aspects of ginger production in the Wayanad district, Kerala, India. Spices, the high margin and export-oriented crops contributed significantly to the Indian economy. In terms of spice production and international trade, India holds a prominent role in world trade. The study was carried out to assess the costs and return of ginger production in Wayanad district of Kerala state during the crop year 2015-16. Four villages which were leading in the area of ginger cultivation were selected and twenty farmers from each village, totalling 80 farmers, were chosen randomly as respondents for the study . The results indicated that cost of cultivation and gross returns were positively related with size of the holding. The overall cost of cultivation was Rs. 4, 54,991.62 and Rs. 4, 94,501.03 per hectare on small and large farms. The expenditure on seed was found to be highest, constituting about 35.01 per cent of total cost followed by human labor, and machine power All the farm income measures exhibited a positive relationship with the farm size. Returns per rupee of expenditure were found to be Rs. 0.60 and Rs. 0.67 per hectare on small and large farms respectively. An overview of the analysis indicates that the gross income, net income, family labor income, farm investment income and net income per rupee expenditure showed a direct relationship with the size of the holding. This showed that large farmers realized more returns than small farmers for their fixed resources, family labor use, and per rupee expenditure in the cultivation of ginger.

3. Kujur Nitu, Bashir Bimal (2024).Overview of dairy milk co-operative societies of Kalpetta block, Wayanad, Kerala

Dairy cooperative societies play a pivotal role in the agricultural and dairy sectors, providing a collaborative platform for local farmers in the Kalpetta block, Kerala. This study delves into the dynamics and functioning of 14 dairy cooperative societies, showcasing their impact on dairy sector in the study area. The societies were

classified from Class 1 to Class 10 based on daily milk procurement capacity, each contributing uniquely to the cooperative's resilience and inclusivity. The study utilized structured interviews and data analysis to present a comprehensive overview of the cooperative landscape, emphasizing the societal, economic, and agricultural impact of these entities. The entire study examined data on milk procurement, member demographics, feed supply, animal possession, and workforce dynamics revealed each class's diverse and vital contributions. The research contributes to understanding dairy cooperatives as drivers of community engagement, knowledge exchange, and socio-economic development.

4. Geethu G. Das, S. Adarsh, S. Sruthi, C. R. Sreelekshmi, Urmila Dileep & Ameesha J. Fathima (2024), Analyzing the impact of meteorological drought on crop yield of Kerala, India: a wavelet coherence approach

Drought is a natural phenomenon which is considered as an indicator of changing climatic conditions. The growth of crops is significantly affected by the lack of soil moisture caused by insufficient rainfall over a specific period. This study examines the occurrence of drought over seven districts in Kerala, India, by utilizing drought indices, namely the standardized precipitation index (SPI) and the agricultural standardized precipitation index (aSPI). The measured data pertaining to rainfall and computed data of crop yield of the seven districts have been gathered to analyze the teleconnections of crop yield. Modified standardized yield residual series (M-SYRS) of different crops are prepared by the proposed approach of empirical mode decomposition-based detrending. The correlation between aSPI and M-SYRS exhibits a higher magnitude compared to the correlation that SPI and M-SYRS, confirming the significance of aSPI in the analysis of agricultural yield. The wavelet coherence analysis yields the values of percentage of significant coherence (PoSC) and average wavelet coherence (AWC) for the time scales of 3, 6, and 12 months, with respect to the variables aSPI and crop yield. The crop with the greatest AWC value of 0.71 and PoSC value of 62 is banana, which holds a dominant position in the agricultural landscape of Kottayam district. It is further noted that the short to medium seasonal droughts have profound impact on the agricultural yield of the different districts.

Banking

Scopus Indexed

1.Firos Khan,Siji Cyriac,Akhil Thomas, Somasekharan T M,Manoj Pk (2024), Empathy of Bank Employees and Its Influence on Service Quality of Banks: Evidence from the Knowledge Economy of Kerala in Digital India

ICT is being aggressively promoted by the Govt. of India (GOI) as part of its 'Digital India' and such other policies like JAM. In this ICT-thrust era in Digital India, 'Empathy' aspect of service quality of banks is studied in this paper, focusing on housing finance segment-a national priority. 'Housing for All' is a national goal

of the GOI and topmost priority is being accorded to housing sector by the State and Union Governments and also by the regulatory bodies like National Housing Bank (NHB) and Reserve Bank of India (RBI). This study is based on the feedback from 600 housing loan customers of banks in Kerala - a State that strives to turn into a 'Knowledge Economy' or 'Digital Kerala' in the context of 'Digital India'. This paper makes an empirical study of the service quality in respect of the housing finance business of banks with a focus on the empathy of staff. It observes that even in this ICT era, a real 'Willingness to help' and other empathy values for the bank staff and also a 'Human touch' in their deals are vital for success.

Other Journals

1. Pradeep Kumar B,B. S. Sumalatha (2024), Repercussions of Reliance on Informal Sources of Finance: A Study of Tribal Communities in Kerala

The economic and social consequences of reliance on informal finance are enormous in the case of socially and economically disadvantaged people like the tribal communities. These communities have become more financially vulnerable due to the severe barriers in accessing institutionalized formal finance. Drawing on data collected from 246 randomly chosen households from four tribal communities (Kurichya, Kuruma, Adiya and Paniya) in the Wayanad district of Kerala, and using mixed-method approach, the study seeks to examine the repercussions of reliance on informal source of finance by the tribal communities. The study reveals that the agents of informal financiers also resort to social demoralizing and mental harassment towards the tribal households. The study shows that tribal households may not be aware of the compounding effect of interest rates when they avail credit from any source of finance, especially informal finance. This in turn increases the indebtedness among the tribal communities. All these call for the need of tailoring institutional (formal) credit solutions suitable to the credit needs and socio-economic conditions of the weaker segments of the society like the tribal communities. The study suggests adopting supply-side cum demand-side strategies.

2. Girish, Prasanth A P (2024) The effect of green banking practices for a sustainable development of SBI on customer satisfaction in Kerala - a structural equation modeling approach

Around the world, awareness of sustainability is growing steadily in light of Agenda 2030. Institutions across the world are trying to reduce their carbon footprint, and the same is valid for banks and financial institutions. The banking process has bought some indirect problems for India, such as global warming, climatic changes, irregular monsoon, air pollution, heavy rainfall, losing air quality, health issues, ozone layer depletion, the use of fossil fuels, the recurrent completion of destruction of the forest for daily use, improper disposal of e-waste. Sustainable banking (Green banking) practices are commonly appreciated as an effective way to overcome all those issues, and it enhances

the satisfaction and quality of life of the customers. But the motive of sustainability can be attained only when the successful acceptance of green banking by the customers as well as their level of satisfaction. Through green banking, customers can enjoy micro-level and macro-level sustainability such as Social Sustainability, Economic Sustainability and Environmental Sustainability. With a focus on India's largest public sector banking sector, this report provides a comparative review of sustainability integration into customer satisfaction. The current theoretical analysis first offers a thorough review of the concepts of social sustainability, economic sustainability, and environmental sustainability as well as the degree of customer satisfaction. This is followed by a thorough analysis of factors that make green banking practices dissatisfying factors, which includes some evidence from SBI in Kerala.

Health

Scopus Indexed

1. Saju Madavanakadu Devassy, Lorane Scaria, Shilpa V Yohannan, Lija Mary Mathew, Salini Baby John, & Sunirose Ishnassery Pathrose (2024): Individual, Familial and Environmental Risk Factors for Treatment Relapse Among Patients with Substance Use Disorders in Kerala: A Mixed Method Study

A statewide mixed-methods study was conducted at government-funded deaddiction centers in Kerala, India, to examine the psycho-socioeconomic risk factors of addiction relapse. 435 randomly selected participants from 36 Government-funded centers were included in the quantitative assessment. Among them, 50 were purposively selected for qualitative assessment. The quantitative assessment examined self-esteem, personality dimensions, and various risk factors associated with relapse. On the other hand, the qualitative assessment explored individual, psychological, familial, societal, and economic challenges. Among the beneficiaries, 271 were current and 166 ex-beneficiaries, and among the latter, 73 had addiction relapse. Relapsed patients were younger, had relatively stable jobs, used multiple substances more frequently, and had a family history of addiction. Additionally, individual risk factors of impulsivity and environmental risk factors of association with deviant peers were prevalent. Qualitative analysis identified risk and protective factors under three major domains - individual, environmental and familial. In relapsed patients, the individual and psychological vulnerabilities were activated by social and familial triggers. Though the family was protective, the patient's expectations from the family were dissimilar and vague, which would be clarified during the treatment process. Therefore, the research suggests developing a patient-centric and process-driven personal care plan to prevent the risk of addiction relapse.

2.Ashok Thomas,Kausik Gangopadhyay, Kulbhushan Balooni, Satheeshan Balasubramanian, Maya Padmanabhan (2024),Is Government Health Subsidy Targeted Enough in India? Evidence from a Tertiary Hospital

In emerging economies like India, the focus of public health policies is shifting toward treating non-communicable diseases to preventing communicable diseases. The public welfare demands appropriate targeted healthcare subsidies for non-communicable diseases. In this paper, we investigate whether out-of-pocket expenditure toward mitigating non-communicable diseases for the poorer section of the population is catastrophic by nature. In a representative futuristic scenario for an emerging economy, we have collected the cancer patients' expenditure data from the patients and hospital management in a not-for-profit cancer hospital located in the state of Kerala. We have analyzed the variation of expenditure categorized as government subsidy toward treatment, private expenditure toward medical goods and services, and private expenditure toward non-medical goods and services against different socio-economic variables. The analysis of catastrophic health expenditure data reveals that relatively lower income lower-income households face more risk of catastrophic health expenditure and are in greater need of government subsidy.

Other Journals

1. MRosna Vincent, R. Nalini & K. Krishnakumar (2024). Mothers' Perspectives on Sexual and Reproductive Health and Rights of Adolescents with Intellectual and Developmental Disabilities in Kerala, India

Sexual and reproductive health and rights (SRHR) are fundamental for human well-being and development. This descriptive phenomenological study examines the mothers' perspectives on SRHR of adolescents with intellectual and developmental disabilities (IDD). The study involved 21 participants selected through purposive sampling, and data saturation criteria were applied. Data was gathered through face-to-face, semi-structured, in-depth interviews. The participants were from backgrounds marked by poor socio-economic conditions that may have influenced their experiences and perceptions. The study identifies key themes, including "neglect and denial of sexual and reproductive health education (SRHE)," "fear of sexual abuse," and "healthcare inequity." It is essential to prioritize inclusive SRHE and ensure accessible healthcare services. The paper discussed social work implications also. In this scenario, it is crucial to enable parents and educators with the knowledge for informed discussions-needed innovative interventions aimed at promoting the SRHR of adolescents with IDD.

2. Jos Chathukulam ,Manasi Joseph,T V Thilakan,V Rekha,C V Balamurali (2024) Utilisation of Fifteenth Finance Commission's Health Grants: A Kerala Story

This paper evaluates the strengths, weaknesses, opportunities, and challenges involved in the management and utilization of health grants in Kerala, a state renowned for its decentralized healthcare system, with the support of empirical evidence from all the urban and rural local governments in the state. It critically explores the factors that led to poor utilization of health grants through the lens of politicization, personalisation,

corruption, post-office syndrome, capability traps, poor self-esteem, over emphasis on legalistic framework and rule-bound approaches, and relative absence of thick and thin accountability. While the 15th Union Finance Commission took inspiration from the Kerala model of decentralized healthcare to involve the rural and urban local governments in the health sector and extend additional resources to strengthen the primary health system at the grassroots level with the introduction of health grants, the shocking underutilization of health grants in the model state is a disappointing one.

What is new(s) from GIFT

A. Webinar

Panel Discussion on RBI State Finances: A Study of Budgets - 24 January 2024

The panel discussion on RBI State Finances: A Study of Budgets, organized in GIFT was chaired by Shri. K. M. Chandrasekhar, former cabinet secretary, Government of India. In the discussion, Shri. K. N. Balagopal, Finance Minister, Government of Kerala, delivered the presidential address and Prof. M. Govinda Rao, Member, 14th Finance Commission delivered the Keynote address. In the first session, Dr. Deba Prasad Rath, Principal Adviser, Department of Economic Policy and Research (DEPR), RBI, presented on the topic, *"Recent Trends in State Finances and Analytical Studies on Subnational Fiscal Policy in India".*

The next session is chaired by Dr. Gopakumaran Nair, DGM, NABARD. In the session, Prof. K.N. Harilal, President, KEA, talked on *"State Finances in Challenging Fiscal Federal Context"*, Shri. R. Mohan, Honorary Fellow, GIFT, shared his thoughts on "State of State Finances: *Challenges and Prospects",* and Dr. Nadhanael G V., Director, DEPR, RBI, presented on *"Recent Global and Economic Developments and their Implications for Fiscal Policy".*

Webinar on: India Developed in 2047: Questions on Feasibility and Challenges - 25 January 2024

The webinar on *"India Developed in 2047: Questions on Feasibility and Challenges"* was chaired by Shri. K. M. Chandrasekhar, former cabinet secretary, Government of India. Prof. M. Govinda Rao, Member, 14th Finance Commission and Distinguished Fellow, GIFT, was the speaker.

Panel Discussion on Prospects of Kerala Economy: Sectoral Reflections in the Backdrop of Kerala Budget 2024-25 - 11 March 2024

GIFT and Kerala Economic Association (KEA), jointly organized a panel discussion on *Prospects of Kerala Economy: Sectoral Reflections in the Backdrop of Kerala Budget 2024-25.* Shri. K. N. Balagopal, Finance Minister, Government of Kerala, inaugurated the session. Prof. K.N. Harilal, President, KEA, and Prof. K. J. Joseph Director, GIFT were the moderators. Shri. Rosha Kainady (Agriculture), Dr. M. P. Sukumaran Nair (Industry), Prof. Mridul Eapen (Gender Issues), Prof. Beena P L (Gender issues), Adv. V K. Prasad (Banking), Shri. S. N. Raghuchandran Nair (Chamber of Commerce), Shri. Raju Abraham (Trade), Shri. E S. Biju (Trade), Shri. Ranjit Karthikeyan (Chartered Accountant) and Shri. Elias John ((Infrastructure) were the panelists.

National Seminar in collaboration with Kerala Economic Association (KEA and Kerala University on Cooperative Federalism: Challenges ahead - 16 March 2024

GIFT in collaboration with Kerala Economic Association (KEA) and Kerala University organized a national seminar on *Cooperative Federalism: Challenges ahead* on 16 March 2024. The meeting was inaugurated by Dr. Jeyaranjan, Vice Chairman, State Planning Commission, Tamil Nadu and key note address was delivered by Prof. M. A. Oommen, Distinguished professor, GIFT and Chairman of Fourth State Finance Commission, Kerala. Other invited speakers of the seminar were, Prof. Vinod Vyasalu, O P Jindal Global University & Founder, Centre for Budget and Policy Studies, Bengaluru, Prof D Narasimha Reddy, Formerly at University of Hyderabad, Dr R Srinivasan, Member, State Planning Commission, Tamil Nadu, Prof M Vijayabhaskar, Member, State Planning Commission, Tamil Nadu & Professor, Madras Institute of Development Studies, Chennai, Prof. Lekha Chakraborty, Professor, NIPFP. Prof. K. N. Harilal, President, KEA and Prof K J Joseph, Director, GIFT were the moderators.

B. Teaching and Training programmes

1. Post Graduate Diploma in GST (PGDGST)

PGDGST 2023-24: Batch - Ongoing

The training for the sixth batch (academic year 2023-24) of PGD-GST started in July 2023 and was completed in March 2024. A total of 172-hour training programmes were conducted during these nine months. Shri Suresh, an official of the Central GST Department, handled the special training session. The training consists of theoretical and practical sessions to equip the students to understand and comply with various CGST/SGST/IGST Acts, Rules & Forms, and accounting provisions. A total of 210 students have joined the course. It is proposed to conduct the examination for this batch in May 2024. The faculty members who handled the sessions are Dr Vidya V Devan, Dr Meenu Mohan, Smt. Jenny Thekkekara, Smt, Anith Kumary, Dr Thomas Joseph and Dr N Ramalingam

Course Co-ordinator: Dr. N Ramalingam

For more details: https://www.gift.res.in/index.php/course/detail/14/PGD-GST

2. PhD programme

The activities of the Ph.D programme during January to March, 2024 are listed below. Following the completion of foundation course, the core courses such as Public Finance, Economy and Development (PED) and Taxation, Finance and Economy were started in January 2024 for the fifth batch of the Ph. D Scholars. The proposal presentations of the fourth batch of Ph.D Scholars were held from 12th to 15th March 2024. The invited lectures organised as part of Ph. D programme include Foundations of Public Finance I and II by Prof. M. Govinda Rao on 23rd and 24th, January 2024, Recent trends in State Finance by Dr. Deba Prasad Rath, the Principal Advisor, DEPR, RBI, on 24th January 2024, Economic implications for fiscal policy by Dr. Nathaneal, Director DEPR, RBI, on 25th January 2024, Reorienting Public Finance with reference to Local Governments - I and II by Prof. M. A Oommen on 19th and 26th February 2024, Market Failure and Role of Government by Prof. Pulin B Nayak on 21st February 2024, Macroeconomic Policy Responses to Poly crisis by Prof. Lekha Chakraborty on 12th March, 2024, Issues in Fiscal Federalism- Emphasis on Indian Context - I and II by Shri R Mohan on 25th and 26th March 2024, Budgeting: Concepts and Practices by Dr. Shyjan Davis on 2nd April 2024.

Publications by Research Scholars

Niveditha P S, Ph.D Scholar, GIFT published an article titled *"Identifying Safe-haven assets: Evidence from Fractal Market Hypothesis"* in Computational Economics Journal, March,

Steffy Antony published an article titled *"Does Increased Borrowing Lead to Higher Development Spending in Kerala"* in the Kerala Economy in October-December 2023 issue.

Vipasha Ray Hajong published an article co-authored with Dr Aswathy Rachel Varughese, Assistant Professor, GIFT titled Bridging the career break gap among women: How far India needs to traverse? in Financial Express on 13th March 2024.

Paper presentations by research scholars

Rju Mohan A, Ph.D Scholar, GIFT presented a paper titled *"Climate Change Vulnerability and Policy Performance of India: An Integrated Conceptual Framework and Index"* in the National Conference on Finance and Sustainable Practices- 2024, organised by the Department of Commerce and Management Studies, University of Calicut on 4th March 2024.

Amalu Seby, Ph.D Scholar, GIFT attended a five-day workshop on 'Open Economy Macro economics in EMEs' at Madras Institute of Development Studies, Chennai from 19 Feb to 23 Feb 2024.

Niveditha P.S presented a paper titled Identifying Safe-haven assets: Evidence from Fractal Market Hypothesis in the 58th Annual Conference of The Indian Econometric Society (TIES), held at the Central University of Tripura, Agarthala during 22nd to 24th February 2024.

Niveditha P.S and Meghna Jayasankar presented a paper titled as Does Spillovers and Volatility Connectedness Exist in Crypto currency Markets? An Empirical Examination of Metaverse Coins Market", in the 16th International conference on Banking and Finance, IBS Hyderabad during 29th February and 1st March 2024.

Joyal P Joseph, Ph.D Scholar, GIFT presented a paper titled 'How monetary policy Impact output and inflation? Evidence from India', in the 5th Annual Macroeconomics Conference, organised by the Ahmedabad University during 5th and 6th January 2024.

Steffy Antony, Ph.D Scholar, GIFT presented a paper titled Expenditure Response to Fiscal Limits in India: The Sub national Experience" in the 58th Annual Conference of TIES, held at Tripura University from 22nd to 24th February 2024.

Athira Karunakaran, Ph.D Scholar, GIFT, presented a paper titled Do Federal Transfers Stimulate Regional Economic Growth? Evidence from India in the 58th Annual Conference of the Indian Econometric Society (TIES) held at the Tripura University during from 22nd to 24th February 2024.

Athira Karunakaran presented a paper titled Do Federal Transfers Stimulate Regional Economic Growth? Evidence from India in the second Annual Conference on Public Finance and Policy organised by the Madras School of Economics during 7th and 8th March 2024.

Athira Karunakaran delivered an invited talk on the topic Analysis of Union Budget 2024-25: Rhetoric and Reality in the National Conference on Fiscal Federalism and Union Budget organized by Nirmalagiri College, Kannur on 15th February 2024.

A M Indu A S Maheswaran, Ph.D Scholar, GIFT presented a paper titled Global and Domestic Reporting on Sustainability: A Panoramic View in the International Conference on Multidisciplinary Approaches to SDGs an International Partners' Meet 2024 organized by Rajagiri College of Social Sciences (Autonomous) and Rajagiri Business School, Kochi from 10th to 13th January, 2024.

Ashkar K, Ph.D Scholar, GIFT presented a paper titled Demographic Transition and Fiscal Dynamics: Exploring the Impact of Population Ageing on Health Expenditure and Fiscal Federal Aspects in the National Seminar on Elderly Wellbeing in India: Issues, Challenges and Prospects Sponsored by National Institute of Social Defense (NISD), Ministry of Social Justice & Empowerment, Govt. of India organised by Department of Social Work, Aligarh Muslim University, Aligarh on 6th March 2024.

Meghna Jayasankar, Ph.D Scholar, GIFT presented a paper titled Efficient market Hypothesis vs Multifractality Evidence from the stable coin market in the 58th Annual Conference of The Indian Econometric Society (TIES), held at the Central University of Tripura, Agarthala during 22nd to 24th February 2024.

Munawara Zubair, Ph.D Scholar, GIFT presented a paper titled Impact of Crude Oil Price Volatility on Indian Stock Market Returns: A Quintile Regression Approach in the 58th Annual Conference of The Indian Econometric Society (TIES), held at the Central University of Tripura, Agarthala during 22nd to 24th February 2024.

Vipasha Ray Hajong, Ph.D Scholar, GIFT presented a paper titled Time Poverty as a fitting alternative to measure the well-being of Unpaid Workers in the 58th Annual Conference of The Indian Econometric Society (TIES), held at the Central University of Tripura, Agarthala during 22nd to 24th February 2024.

Vipasha Ray Hajong, Ph.D Scholar, GIFT presented a paper titled Time Poverty as a fitting alternative to measure the well-being of Unpaid Workers in the Indian Context in the 64th Indian Society of Labour Economics (ISLE) Conference held in Hyderabad Central University, Hyderabad from 29th to 31st March 2024.

Vipasha Ray Hajong was invited as a resource person in a practical session for Research Capacity Building Program (RCBP) conducted by Gulati Institute of Finance and Taxation in the period of February-March 2024 at Thiruvananthapuram. The classes involved NSS data extraction in R using the Periodic Labour Force Survey (PLFS).

Vipasha Ray Hajong delivered an invited lecture on the topic Overview of the Periodic Labour Force Survey (PLFS)', as a part of the lecture series on Database on Indian Economy conducted by the Department of PG Studies and Research in Economics, Government College Kasaragod on 16th March 2024.

Course Coordinators: Dr Sumalatha and Dr Renjith P S

3.Research Capacity Building Programme (RCBP)

GIFT in collaboration with Kerala State Higher Education Council (KSHEC) jointly commenced the Research Capacity Building Programme (RCBP) 2023-24 in February 2024.

The program aims to make meaningful interventions toward enhancing cognitive skills and the quality of research, teaching and learning outcomes.

The certificate program, RCBP, is designed to meet the needs of researchers and teachers, offering more than 60 hours of immersive teaching, serving as an engaging platform, both offline and online, to enhance their research capabilities.

The RCBP curriculum consists of (i) Introduction to Social Science Research: An Interdisciplinary Perspective, (ii) Research Methods, Statistical Analysis and Basic Econometrics (iii) Data Structure, Data Processing and Databases for Research (iv) Data Analytics for Research with

R, (v) Extensions and Basic Research Methods and (vi) Qualitative Research, Academic Writing and Research Ethics. The program is envisioned to operate in a hybrid mode with 36 hours conducted offline and the remaining hours delivered online.

The course commenced with an opening lecture by *Prof. R RamaKumar, School of Development Studies, Tata Institute of Social Science, Mumbai on 'Introduction to Social Science Researches'.*

Currently, we have completed *71 hours of lectures,* including offline and online. It also includes the special lecture series on *'Interdisciplinary approaches in social science research'* by *Prof. Tara S Nair* Co-founder and Director (Research) at Work Fair and Free Foundation, Bangalore, *Prof. Babu P Ramesh,* Department of Development Studies, Ambedkar University and *Prof. KM Seethi,* ICSSR Senior Fellow and Director, Inter-University Centre for Social Science Research and Extension(IUCSSRE), Mahatma Gandhi University.

The program is scheduled to conclude on April 13th, 2024, with a concluding lecture by *Prof. Rajan Gurukkal, Chairman, Kerala State Higher Education Council.*

Course Coordinators

Dr. P.S Renjith, Dr. Aswathy Rachel Varughese and Dr. Nirmal Roy V.P

C. New Faculty at GIFT

Dr Nirmal Roy

Dr Nirmal Roy V P joined Gulati Institute of Finance and Taxation as Assistant Professor of Social Science in January 2024, from the Department of Economics Kannur University where he served from 2020 to 2024. He has also worked as a consultant with the Indian Institute for Human Settlements Bengaluru (2019-2020) and as a Research Assistant with the Kerala State Planning Board (2012-2019). He has done his doctoral research at the Madras Institute of Development Studies Chennai and MPhil from Centre for Development Studies Thiruvananthapuram. His research interests are broadly in the area of Development Studies with emphasis on Financialisation, Fintech, Land markets, Household wealth and Property. He has presented his research in several conferences abroad and in India. His work has been published in reputed journals and publishing houses in India.

D.Publications

1. Kerala Tax Reporter (KTR)

December , January and February 2024 issues of KTR published Online and offline.

https://www.gift.res.in/ktr

2.Innovation and Development

A Routledge journal from GIFT, Volume 14, No. 1 (2024) published, Editor in Chief, KJ Joseph.

For details, please visit https://www.tandfonline.com/toc/riad20/current

3. Weekly update on Finance, Taxation and the Indian Economy

This is an attempt by the Young Scholar' Forum in GIFT, led by Dr. Shency Mathew to update on important developments on Finance, Taxation and the Indian economy. Twelve issues of Weekly updates published during January to March 2024 which are available in GIFT Website. Latest issue: 23-29 March 2024.

For details, please visit https://www.gift.res.in/index.php/publish/publish_list/14/Weekly-Updates-on-Finance

F Faculty Publications

GIFT Discussion Paper

Rao M G (2024), Can we become a Viksit Bharat or will be caught in the middle-income trap?, GIFT Discussion Paper Series No.1/2024

Abstract: The fast-paced economic recovery after deep contraction during the pandemic has helped India to reach the pre-pandemic level of income and the momentum has been maintained. India has emerged as the fastest-growing large economy and is poised to become the third-largest economy by 2030. The fast pace of growth has prompted the Prime Minister to set an aspirational target of becoming a developed country status by the centenary year of independence, 2047. The task is gigantic as, at present with a per capita income level of just about USD. 2600 India is characterised as a lower-middle-income country and has a rank of 142 among the 197 countries in the UN Charter. Achieving a developed country status would require an increase in per capita income by 5 times, at the current exchange rate. Equally important is the challenge of absorbing the addition to the labour force and absorbing those in the informal sectors in productive better-paying jobs. This paper presents the nature of the challenge and the macroeconomic and structural reform needed to achieve them.

https://www.gift.res.in/index.php/publish/list_detail/404/012024-Can-we-become-a-Viksit-Bharat-or-will-be-caught-in-the-middle-income-trap

Publications

B. S Sumalatha (co-authored with Pradeep Kumar B). 2024. Repercussions of Reliance on Informal sources of Finance: A study of Tribal communities in Kerala. *The International Journal of Community and Social Development. https://doi.org/10.1177/25116602624122836*6.

B.S Sumalatha (co-authored with Lekha D Bhat and Chitra KP) (Eds). 2024. Impact of Covid-19 on Child Health: Preliminary evidence from a Southern state of India, Kerala in Children and Scars of Covid-19 Pandemic in India: Issues and Challenges edited by Abhimanyu Datta & Bipin Jojo, Routledge (on 5 March, 2024).

Paper Presentations

Sumalatha B S & Anitha Kumary L: paper titled 'Public Expenditures and Deficits among States in India in the post FRBM period: An analysis with special focus to Kerala's fiscal position' presented in the conference on Kerala and the World Economy organised by the Centre for Development Studies, Thiruvananthapuram during 18th and 19th March, 2024.

Sumalatha B S: paper titled 'Issues and Challenges of Agriculture Sector sustainability in India' presented in the International conference on Responsible Production and Consumption with overarching theme of Agricultural Sustainability and Food Security organised by the School of Management Studies, University of Hyderabad during 5th to 7th March, 2024.

Dr.Swathy Varma P.R., Post Doctoral Fellow, GIFT served as a Resource Person on the topic titled " *Kerala's Health Sector and Health Protection Schemes,Indo-Japanese Study Programme "*in the programme "SOCIO-ECONOMIC AND HUMAN DEVELOPMENT STUDY OF

INDIA:A CASE STUDY OF KERALA MODEL." Academic Exchange Programme organised by Teresian International and Dept. of Economics & Centre for Research, St. Teresa's College (Autonomous), Ernakulam in association with *Sophia University-Tokyo, Japan from 18th-21st August 2023.*

Dr Vidya V Devan & Dr Aswathy Rachel Varughese, Assistant Professors, GIFT presented paper on National Conference on Human Rights and Emerging Issues, Xavier Law School, Bhubaneshwar G20 Nations' Efforts in Curbing Greenhouse Gas Emissions: A Multidimensional Assessment

Invited lectures

Dr Aswathy Rachel Varughese, Assistant Professor, GFT as a Resource person for a one-day seminar on 'Crafting a Sustainable Future: Designing a Model Budget for Kerala' organised by Centre for Budget Studies (CBS), Cochin University of Science and Technology (CUSAT). The title of the lecture was 'Solving the Puzzle for Revenue: Prelude to Kerala Budget'

Dr Aswathy Rachel Varughese, Assistant Professor, GFT as a Resource person for a national conference on "Mercantilism to the Intriguing Realm of Quantum Economics: A Journey into the Hallmarks of Econophysics" at PSG College, Coimbatore

Newspaper article

Bridging the career break gap among women: How far India needs to traverse?

Financial Express, https://www.financialexpress.com/opinion/bridging-the-career-break-gap-among-women-how-far-india-needs-to-traverse/3423891/ , 13th March 2024.

Aswathy Rachel Varughese & Vipasha Ray Hajong

Call for Papers: Kerala Economy Journal

Dear Scholars and Researchers,

We welcome submissions for publication in the Kerala Economy Journal, an esteemed peer-reviewed quarterly publication of the Gulati Institute of Finance and Taxation (GIFT).

Aims and scope of the journal

Kerala Economy has been a beacon of knowledge, enlightening readers with its monthly publication since its inception in September 2020. As a testament to our commitment to accessibility, we present not only the English edition but also a meticulously translated Malayalam counterpart, ensuring that our invaluable insights reach audiences far and wide. In a world of constant evolution, we adapt and evolve. From 2022 onwards, Kerala Economy has blossomed into a quarterly journal, offering deeper analyses, fresher perspectives, and richer content.

Priority is given to papers which are

- relevant to important current research in finance and taxation, macroeconomics and development issues from a public economics perspective either at regional, national, or international levels
- that offer critical evaluations, based on empirical research, of alternative theories, perspectives, or schools of thought

We welcome original research articles, insightful reviews, thought-provoking analyses, and innovative perspectives from scholars, researchers, and practitioners across the globe. Whether your expertise lies in economics, finance, taxation, or multidisciplinary fields, we encourage you to submit your work for consideration.

The editors also welcome surveys of the literature in the relevant fields.

Each research article in this journal undergoes a thorough peer-review process, which includes initial screening by the editor and anonymous peer review.

Instructions for Authors on how to submit your article

- Authors/Researchers are encouraged to submit their academically significant and original works for publication.
- Submission of any article/paper will be taken to imply that it is unpublished and not in communication for publication with any other publisher/journal.

- Every article should carry a short abstract between 150-250 words, summarising and foregrounding the significance of the article.
- The article length shall not be more than 4000 words(excluding references).
- The manuscript shall be anonymous in nature
- A separate title sheet with article title, author affiliation and communication address shall be provided
- Images/Tables shall be continuously numbered and appropriately placed in the manuscript
- For initial submissions, there are no formatting requirements. However, the authors are expected to follow a uniform formatting criteria. After acceptance, the authors shall format the article as per journal requirements.
- Spelling, dates, references and footnote numbers should be checked for accuracy.
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