

Fiscal Performance of Himalayan States/Union Territories

*P. S. Rawat, Etem Abhignu Yadav,
Atri Mukherjee[^]*

This study carries out an in-depth analysis of the fiscal health of 11 Himalayan states/Union Territories (UTs) in the recent period. There has been a sharp widening of their fiscal deficits and worsening of the debt sustainability indicators. As the capacity of these states to mobilise own revenue resources remains limited, they continue to receive large transfers from the centre even after the discontinuation of their special category status in 2015. The quality of expenditure of the Himalayan states/UTs has, however, seen some improvement in the last few years, even as their debt levels remain consistently higher than the other states of India.

Introduction

India is a land of diverse topography, with lofty mountains, broad plateaus, extensive plains, and long coastline. The topographical diversity has resulted in divergent social, economic and cultural growth across the states. The eleven Himalayan states/UTs¹ - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Jammu and Kashmir², Tripura, Himachal Pradesh, and Uttarakhand - due to their hilly terrains, suffer from various disadvantages such as, geographical isolation, scanty resource base and poor infrastructure³. These constraints had

resulted in poverty, unemployment and economic backwardness of the people living in these states (Bhattacharjee, 2014). While the challenges faced by Himalayan states are many, the available solutions are few on account of the cost disabilities and limited resource endowments of these states (Baldi, 2014).

The Union government sought to address this asymmetry by bestowing them the 'special category' status and envisaging to solve the problems of their economic backwardness through preferential access to central funds. The 14th Finance Commission (FC-XIV), however, effectively removed the concept of special category status in 2015 resulting in a discontinuity in the preferential treatment in central assistance to these states on account of socio-economic backwardness. Instead, it took steps to ensure adequate flow of resources to the states through tax devolution and grants to address interstate inequalities.

In the recent period, government finances across the world have come under severe pressure due to multiple global headwinds in the form of the pandemic, geo-political uncertainty, persistent high inflation, synchronised monetary policy tightening and global growth slowdown. According to the International Monetary Fund's Fiscal Monitor Report published in April 2024, the global public debt rose from 84.2 per cent of global GDP in 2019 to around 100 per cent in 2020 and it is estimated to be 93.8 per cent in 2024. In India, the general government debt level rose from 75.2 per cent of GDP in 2019-20 to 89.3 per cent of GDP in 2020-21 and has moderated since then to 81.6 per cent in 2023-24. The consolidated liabilities of the state governments in India reached a 15-year high of 31.0 per cent of GDP

[^] The authors are from the Department of Economic and Policy Research (DEPR). The views expressed in this article are those of the authors and do not necessarily represent the views of the Reserve Bank of India.

¹ The NITI Aayog coined the term 'Himalayan States' while constituting the 'Himalayan State Regional Council' by including all erstwhile special category States, through its press release dated November 15, 2018 on the web link <https://pib.gov.in/PressReleasePage.aspx?PRID=1552917>. In line with NITI Aayog, the term 'Himalayan States' has been used in this study.

² Under the provisions of Jammu and Kashmir Reorganisation Act, 2019, 'Jammu and Kashmir' was given the status of Union Territory with Legislation w.e.f. from October 31, 2019.

³ Ladakh was established as Union Territory of India on October 31, 2019, following the passage of the Jammu and Kashmir Reorganization Act. Separate fiscal data for Ladakh is not available for the period 2010-11 to 2023-24 covered in this study. Thus, Ladakh has not been included in this study as a separate UT.

at end March 2021. Although the debt levels of states have moderated to 27.6 per cent of GDP at end-March 2024, at a disaggregated level, some of the states have debt-to-GSDP⁴ ratios exceeding 40 per cent.

In this backdrop, this article examines how the Himalayan states/UTs have countered the headwinds from the pandemic and geo-political tensions with their limited resource base through an in-depth analysis of their fiscal performance in the recent period. The article is organised into 5 sections. Section II describes the centre-state fiscal transfer mechanism in India. Section III presents the stylised facts relating to the fiscal position of Himalayan states/UTs. A Fiscal Health Index for the Himalayan states/UTs has been constructed in Section IV, while the concluding observations are presented in Section V.

II. Fiscal Transfers from Centre to States

The objective of fiscal transfers is to correct the vertical and horizontal imbalances. Transfers from the central government to the state governments are aimed at correcting vertical fiscal imbalances. On the other hand, the allocation of transfers among the state governments aims at correcting horizontal imbalances.

Under Article 275 of the Indian Constitution, every state is entitled to a share of all central taxes in the Union list. This divisible pool of central taxes is shared between the centre and the states based on recommendations of the Finance Commission constituted once in every five years under Article 280 of the Constitution. As per the recommendation of the 15th Finance Commission (FC-XV), currently, 41 per cent of the central taxes are devolved to the states. The shares of individual states in this central devolution are determined by a formula that gives appropriate weightages to various factors like population, demographic changes, income distance, land area, tax effort and forest cover.

⁴ GSDP refers to gross state domestic product.

Apart from a share in the central taxes, the states also receive funds by way of grants from the centre, distributed for both plan and non-plan purposes. Among the plan grants, there are separate grants for states' own plan schemes, central plan schemes and centrally sponsored schemes. The non-plan grants are provided based on recommendations of the Finance Commission under Article 275 and include the statutory grants to finance the non-plan revenue deficit of the states, modernisation of administration as well as relief from natural calamities and other public purposes. In addition, the states can also borrow funds from the centre (Bhattacharjee, 2014).

The 5th Finance Commission (FC-V) introduced the concept of 'special category status' in 1969 to provide preferential financial treatment to certain disadvantaged states, which because of their inherent features, have a low resource base and cannot mobilise adequate resources for development. The criteria for granting special category status were: (i) hilly and difficult terrain; (ii) low population density or sizeable share of tribal population; (iii) strategic location along borders with neighbouring countries; (iv) economic and infrastructural backwardness; and (v) non-viable nature of state finances. Based on these criteria, all the Himalayan states were granted special category status over time during the period 1969-2001 (Table 1). These special category states (SCS) enjoyed certain additional financial benefits compared to the other states⁵.

The special category status given to the Himalayan states, however, had no constitutional backing (GoI, 2010). The FC-XIV effectively removed the concept of special category status in 2015, on the ground that adequate resources would be allocated to the

⁵ The additional benefits include preferential treatment in getting central funds; concession on excise duty to attract industries to the State; benefit of debt-swapping and debt relief schemes; exemption from customs duty, corporate tax, income tax and other taxes to attract investment; and the facility to carry forward any unspent money in a financial year, to the next financial year.

Table 1: Himalayan States of India

SN	Name of the State	Year of Granting SCS	Prior Status (State/Union Territory)
1	Assam	1969	Assam
2	Jammu and Kashmir	1969	Jammu and Kashmir
3	Nagaland	1969	Part of Assam
4	Himachal Pradesh	1971	Union Territory
5	Meghalaya	1972	Part of Assam
6	Manipur	1972	Union Territory
7	Tripura	1972	Union Territory
8	Sikkim*	1975	Princely State
9	Mizoram	1987	Union Territory
10	Arunachal Pradesh	1987	Union Territory
11	Uttarakhand	2001	Part of Uttar Pradesh

* Prior to 1975, Sikkim was a princely state. On May 16, 1975, Sikkim became the 22nd state of India and subsequently granted special category status.

Source: Websites of respective state governments.

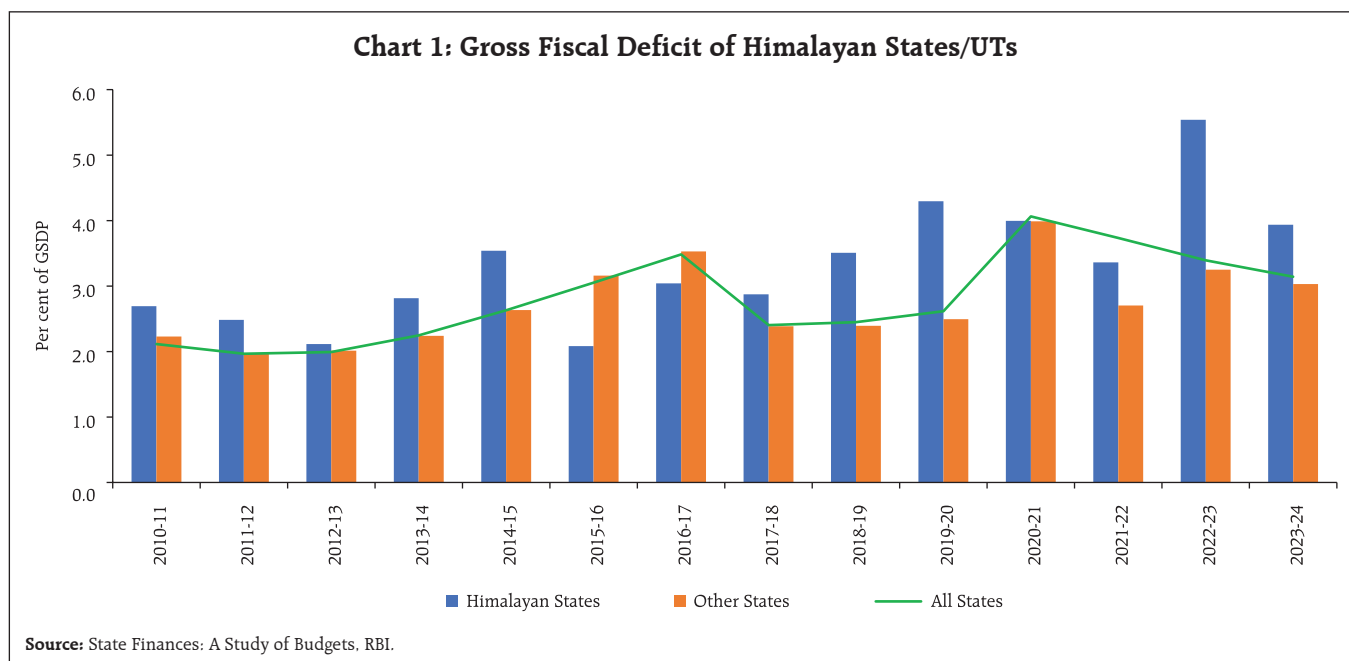
states through tax devolution and grants to address interstate inequalities. Accordingly, it recommended a quantum increase in states' share in divisible pool of central taxes from 32 per cent to 42 per cent for the period from 2015 to 2020. It was also decided that a revenue deficit grant would be provided for certain states for which devolution alone would be insufficient.

III. Stylised Facts

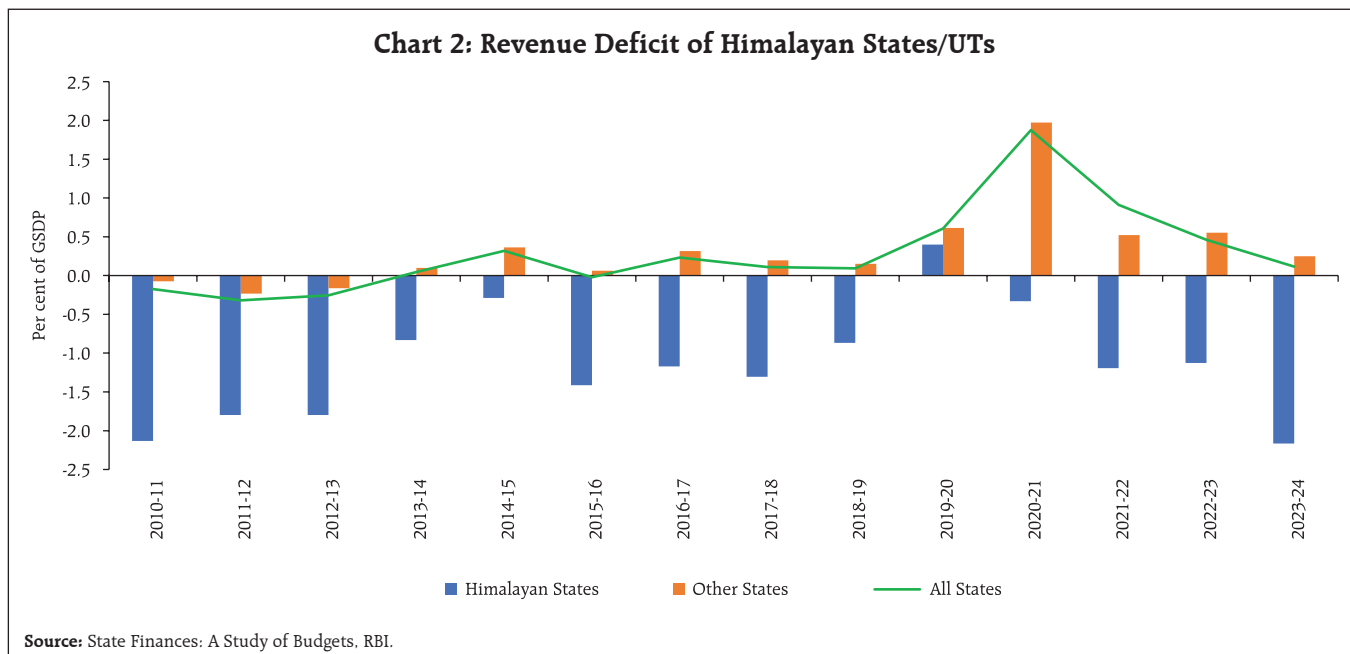
III.1 Key Deficit Indicators

The consolidated gross fiscal deficit (GFD) of the Himalayan states/UTs remained well within the FRBM threshold of 3 per cent of GSDP during the period from 2010-11 to 2017-18 (except in 2014-15). Their finances, however, deteriorated and GFD breached the 3 per cent mark in each year since 2018-19. In most of the years, the GFD of the Himalayan states/UTs has remained above the consolidated GFD of other states except for 2015-16 and 2016-17. While performance of most of the Indian states in deficit management improved after the implementation of the FRBM Act, the improvement was less perceptible for the Himalayan states (Saikia, 2022). The gap between GFD of Himalayan states/UTs and other states widened significantly in the last five years (Chart 1)⁶.

Interestingly, the Himalayan states/UTs have maintained revenue surplus during the entire period under study, except for 2019-20. High revenue surplus in certain North-Eastern states reflects a larger share of central transfers in their revenue receipts. In contrast, the other states have recorded revenue deficit in most of the years (Chart 2).



⁶ Data for the period of study includes Actuals for 2021-22, Revised Estimates for 2022-23 and Budget Estimate for 2023-24.

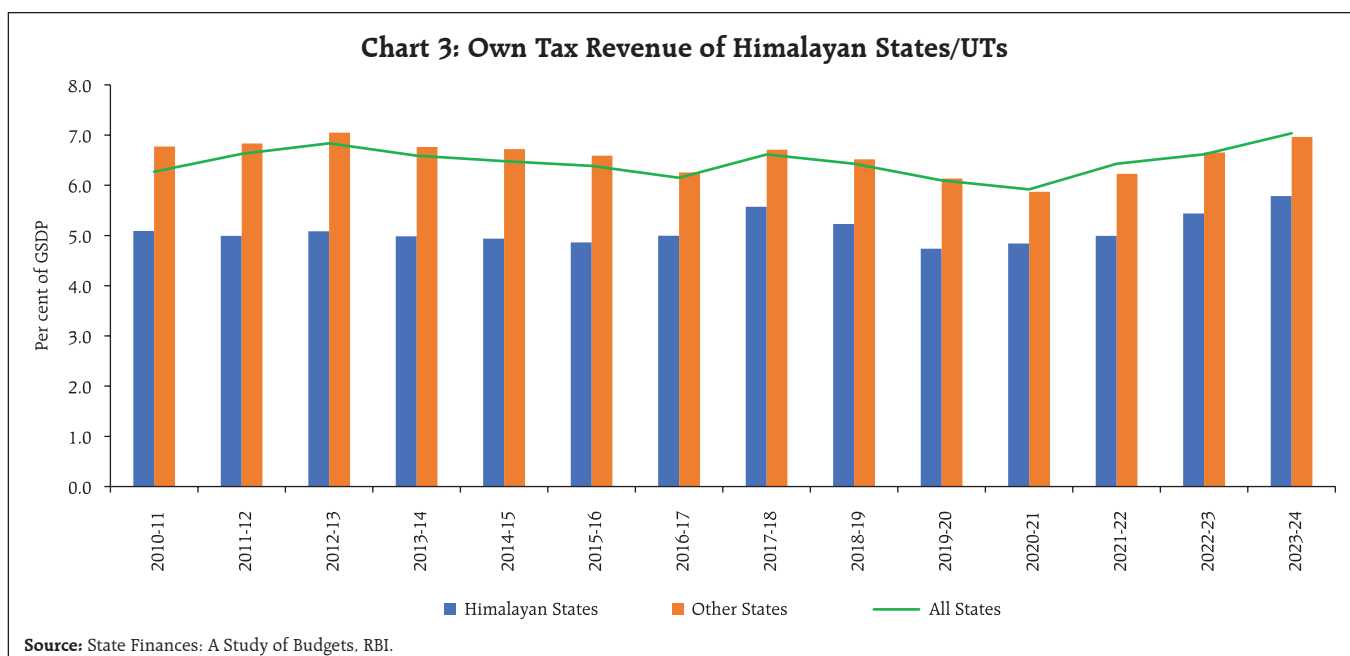


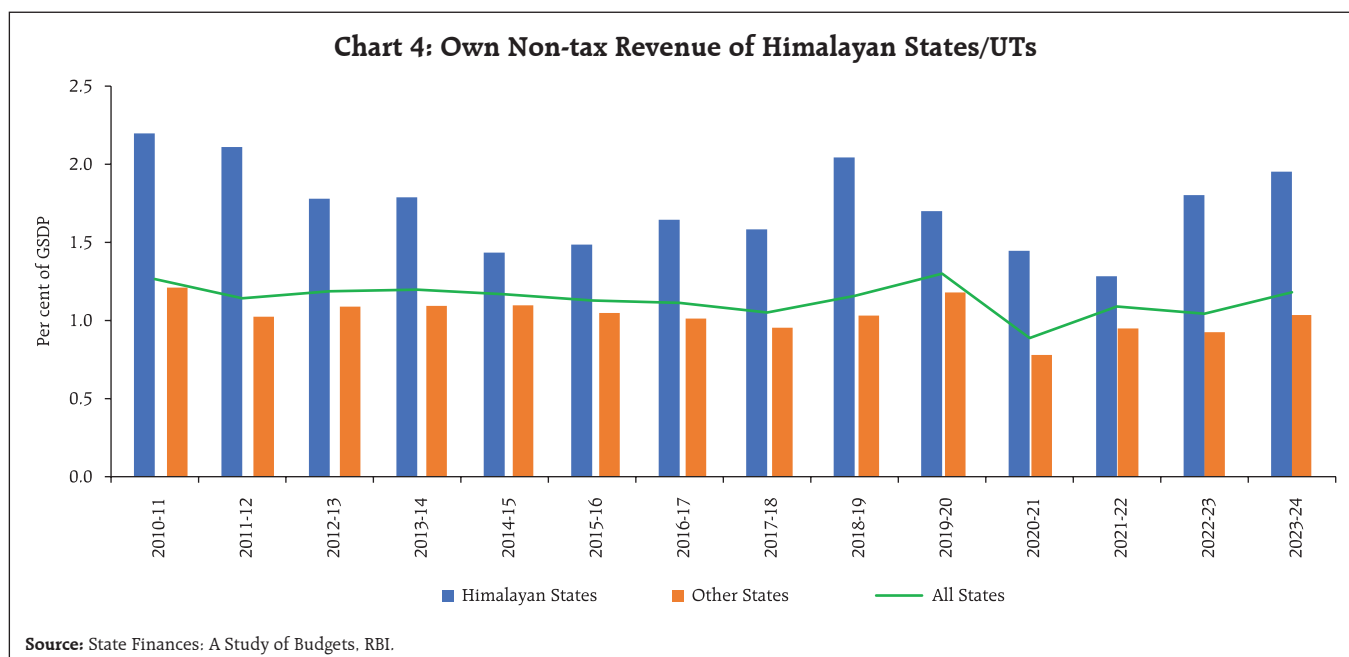
III.2 Revenue Mobilisation

III.2.1 Own Tax Revenue

Own tax revenue of Indian states generally includes collections from stamp duty & registration fees; land revenue; professional tax; property tax; sales tax; excise duties; and State Goods and Services Tax (SGST). The capacity of the Himalayan states/UTs to mobilise their own tax revenue is limited due to

lower economic activity. The average annual per capita income of the Himalayan states/UTs is estimated at ₹1,76,551 in 2021-22 lower than the all-India average of ₹1,98,147. Own tax revenue of the Himalayan states/UTs generally remained around 5 per cent of GSDP during most of the period under study (2010-11 to 2023-24) as against 6-7 per cent for the other states (Chart 3). The North-Eastern states have been the biggest beneficiaries of the GST regime, recording





a compound annual GST revenue growth rate of 27.5 per cent since its implementation *vis-a-vis* 14.8 per cent for all states (RBI 2023).

III.2.2 Own Non-Tax Revenue

For most of the Indian states, the main sources of non-tax revenue include interest receipts, dividend and profits and charges on services provided by the state governments. The non-tax revenue of the Himalayan states/UTs remained modest in the range of 1.3-2.2 per cent of GSDP during the study period (Chart 4).

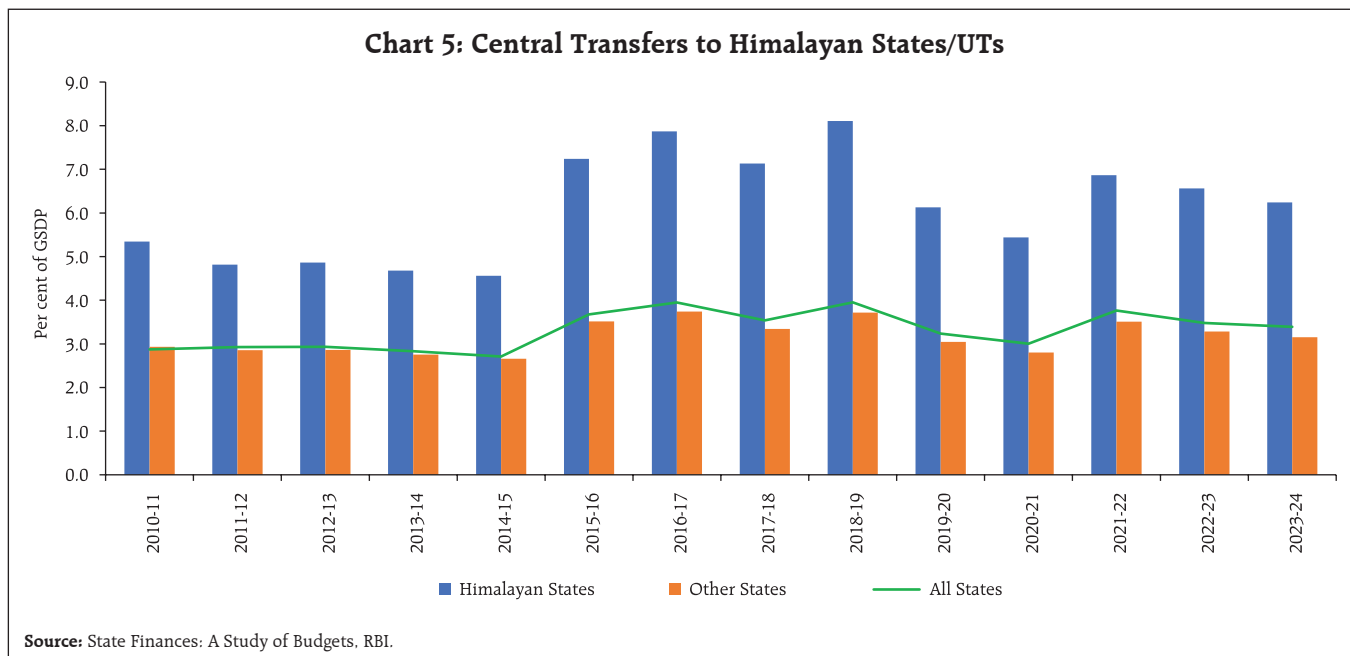
III.2.3 Resource Transfers from Centre

The centre's current transfers to states comprise tax devolution and grants, which play an important role in bridging the resource gap between states' expenditure commitments and their own resources for funding such expenditure. During the period under study, the Himalayan states/UTs received higher transfer from the centre compared to other states (Chart 5). These states/UTs continued to receive higher transfers even after the removal of their special category status in 2015 by FC-XIV.

This heavy dependence of the Himalayan states/UTs on the centre for revenue exposes them to vulnerabilities. First, a sudden decline in Union government's revenue sharing pattern may adversely impact their expenditure. Second, a significant proportion of funds transferred by the centre is tied to specific purposes, limiting the states' flexibility in spending. These factors can weaken state capacity, and affect the delivery of social, economic and general services (Pradhan 2023). Accordingly, the Himalayan states would benefit by relying more on own tax revenues rather than transfers from the centre by identifying new sources of revenues and/or leveraging the existing sources more effectively along with a strengthening of their tax administration. The states can also increase their non-tax revenue by revising the existing rates charged for various services/utilities provided by the state government (Pradhan 2023).

III.3 Quality of Expenditure

In the Himalayan states, particularly the North-Eastern states, public expenditure plays a crucial role in economic growth as private investment is

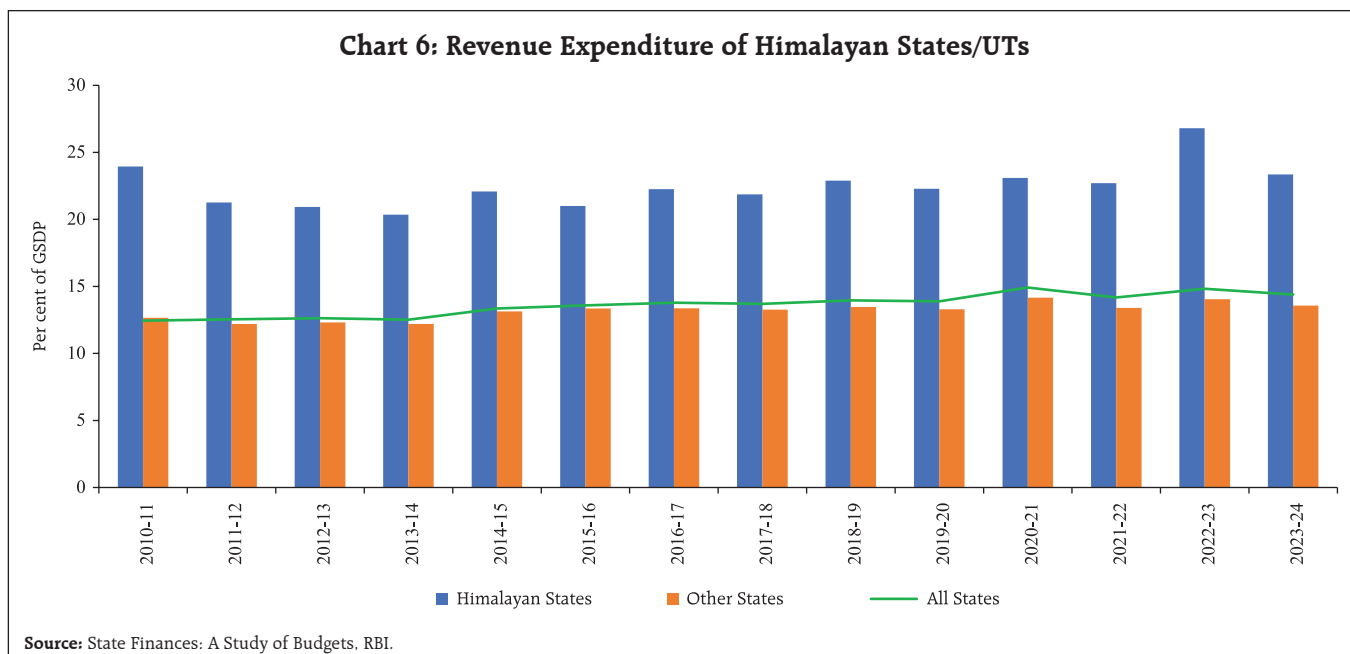


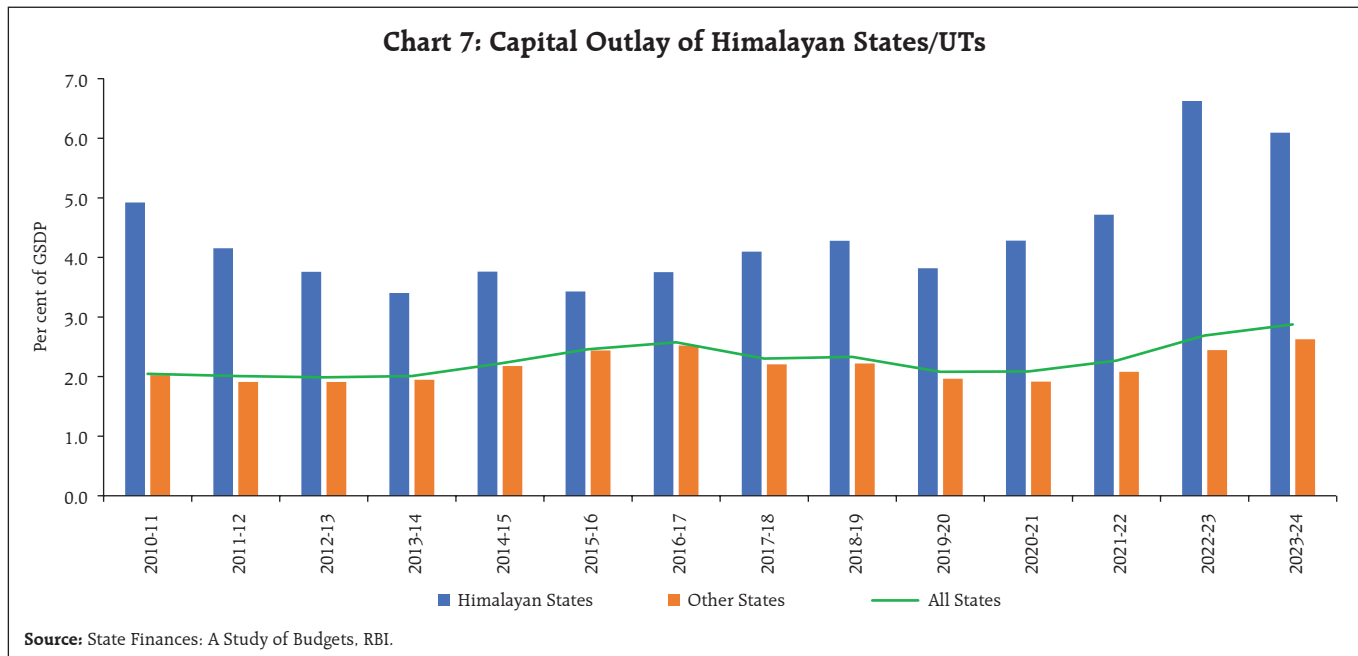
negligible (Sarma and Nayak 2006; Nayak and Rath, 2016). Accordingly, the share of public expenditure in GDP of the Himalayan states is much higher compared to other states.

III.3.1 Revenue Expenditure

Revenue expenditure to GDP (RE-GSDP) ratio of the Himalayan states/UTs is consistently higher than other states with the gap widening in the recent

period (Chart 6). RE-GSDP of Himalayan states/UTs, which has moved in the range of 20-24 per cent during the study period, had crossed 26 per cent in 2022-23 revised estimates. RE-GSDP of other states, on the other hand, has remained range bound within 12-14 per cent. Most of the sub-components of revenue expenditure, viz., interest payments, pension and administrative expenses of the Himalayan states/UTs were higher than the other states.





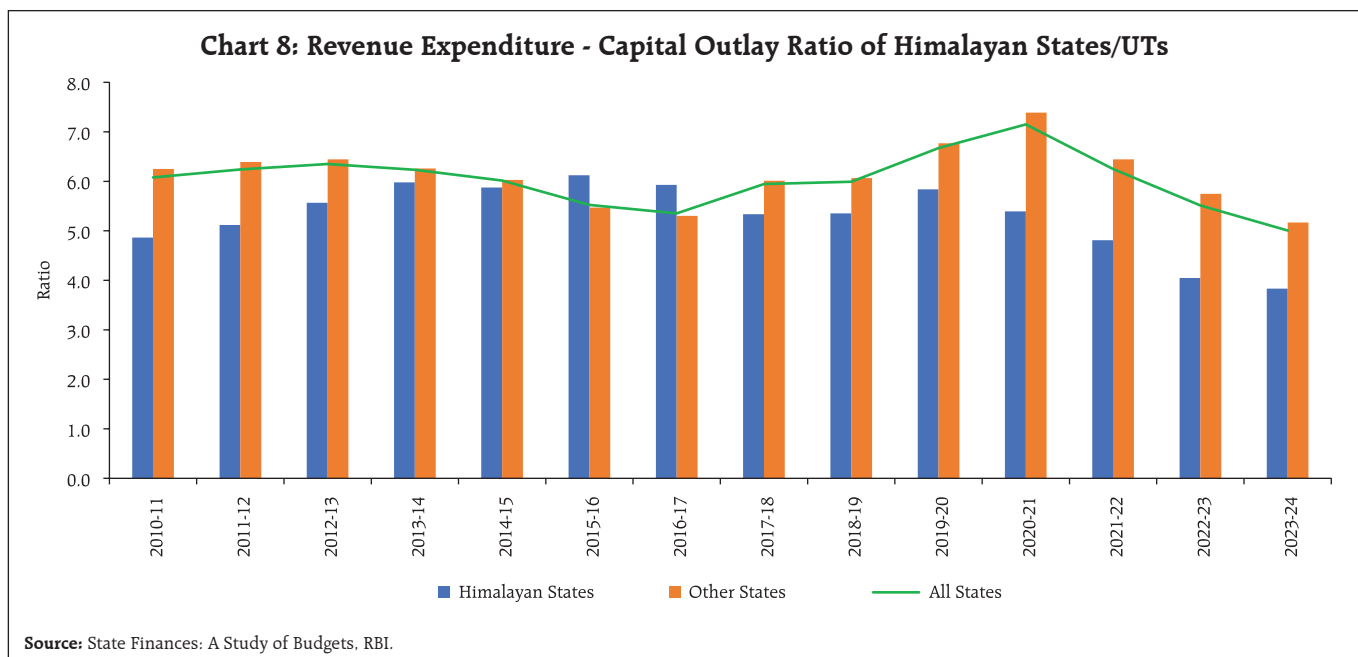
III.3.2 Capital Outlay

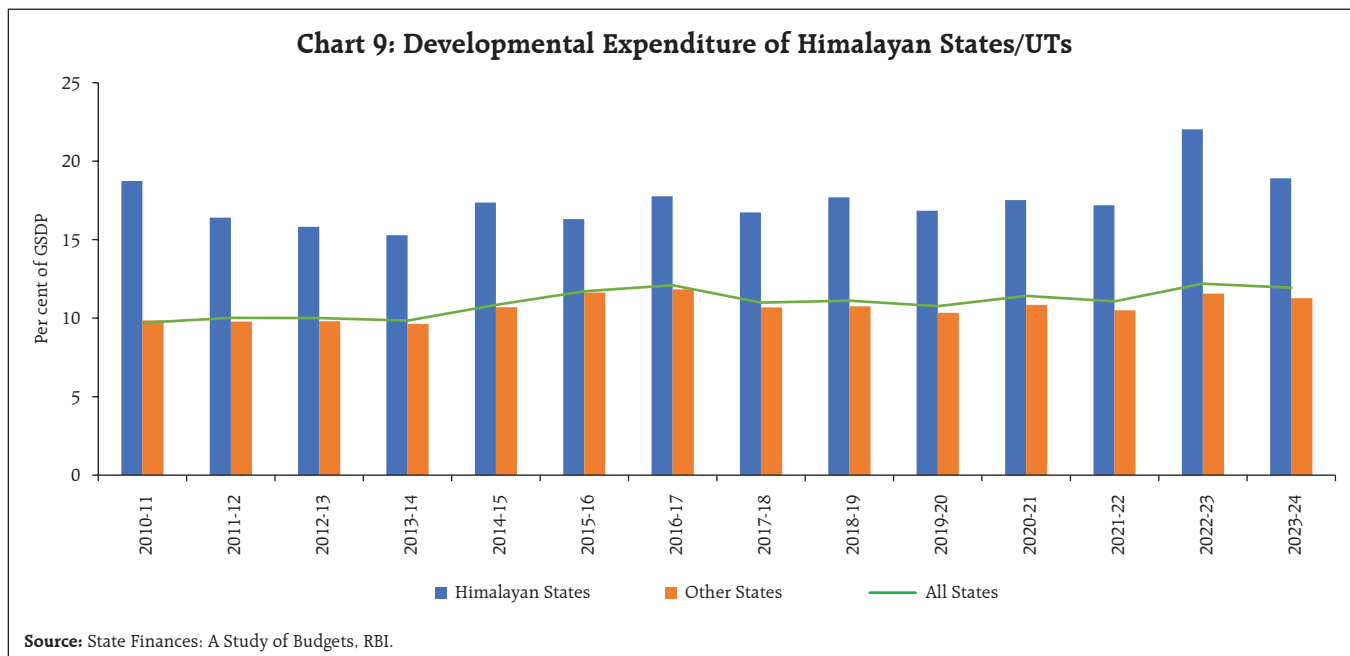
Like in the case of revenue expenditure, capital outlay of the Himalayan states/UTs has also been noticeably higher than other states throughout the study period. Capital outlay of the Himalayan states/UTs increased sharply in the post-Covid period, which can be partly attributed to the thrust towards capital expenditure projects for North-Eastern states

under the scheme for 'Special Assistance to States for Capital Expenditure' for 2020-21 and 2021-22 (Chart 7).

III.3.3 Revenue Expenditure to Capital Outlay Ratio

Revenue expenditure to capital outlay (RECO) ratio of the Himalayan states/UTs - an indicator of expenditure quality - was marginally lower than other states during most of the study period (Chart 8).





The RECO ratio for the Himalayan states/UTs has witnessed a steep fall since 2020-21, indicating further improvement in their quality of expenditure in the post-pandemic period.

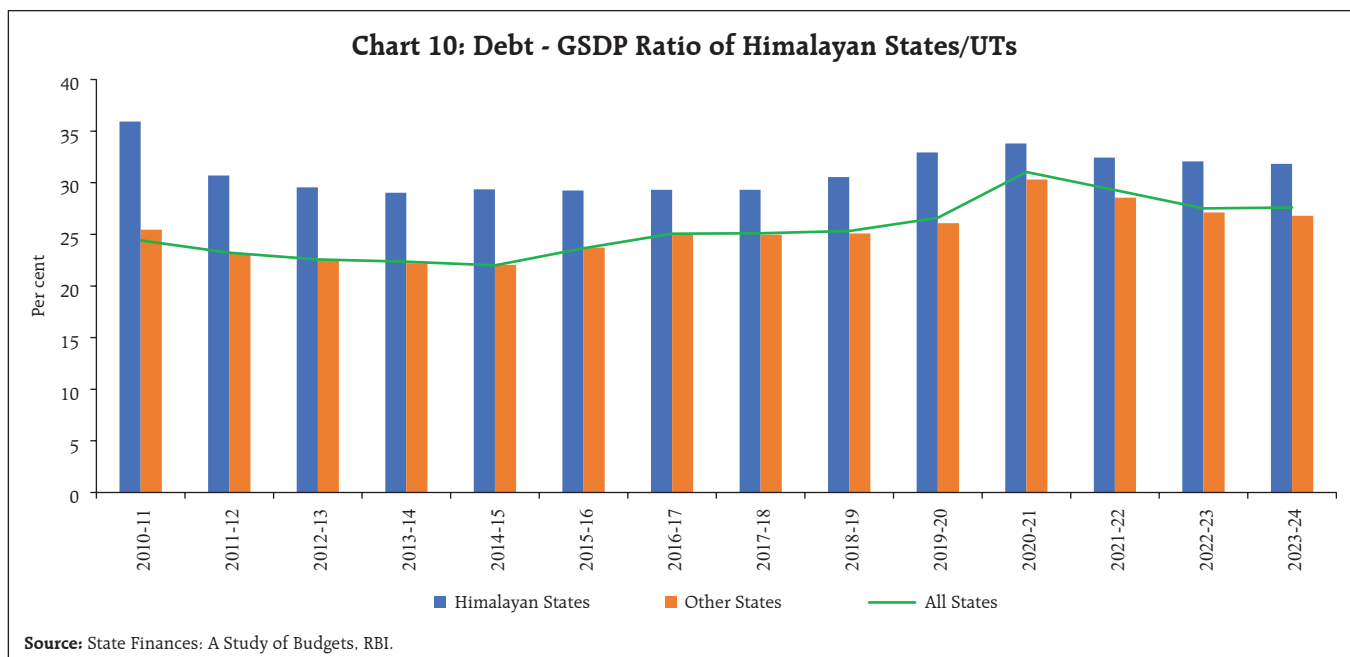
needs. Developmental expenditure of the Himalayan states/UTs moved in the range of 15-22 per cent of GSDP during the period under study as against 9-12 per cent for the other states (Chart 9).

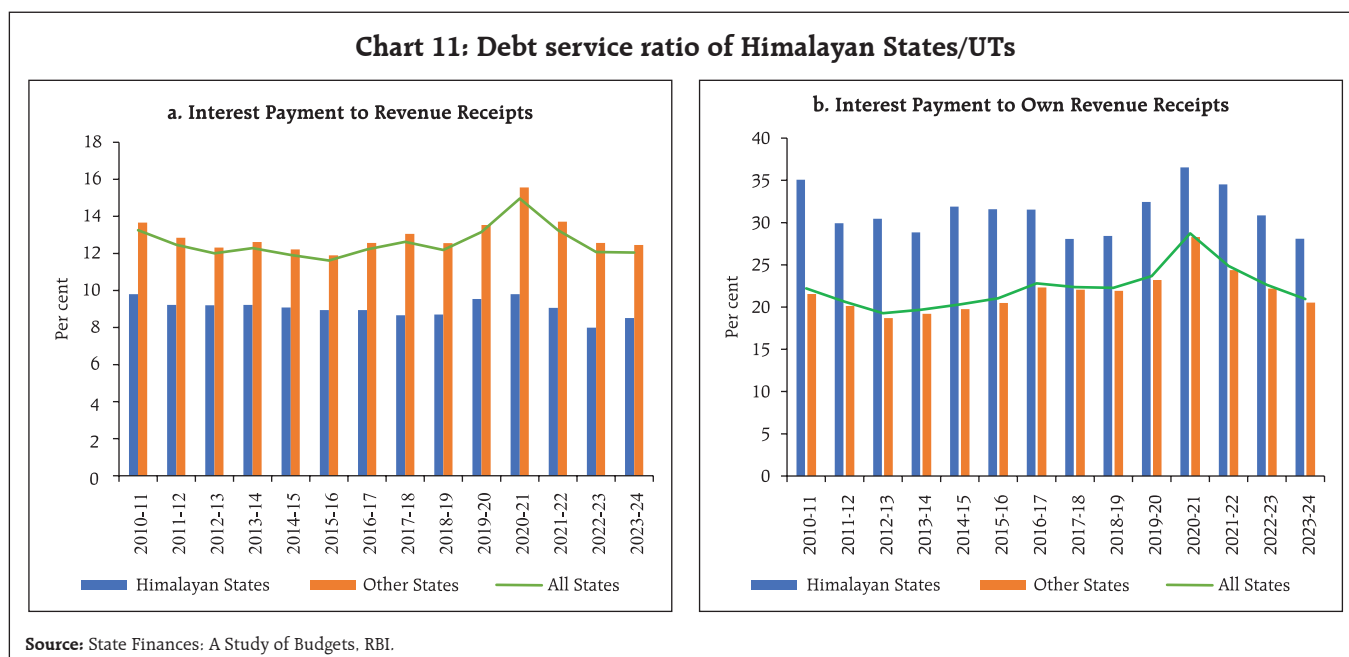
III.3.4 Developmental Expenditure

III.4 Debt Position

Developmental expenditure of the Himalayan states/UTs is significantly higher than other states, in line with their greater socio-economic developmental

The debt-GSDP ratio of these states/UTs, which was around 29 per cent during the period 2012-13 to 2017-18, has crossed 30 per cent since 2018-19 (Chart 10),





reflecting the combined impact of high fiscal deficits and lower growth rates. Nayak and Rath (2016) found that in the long run, none of the Himalayan states has a sustainable Debt-GSDP ratio except Assam. Dholakia *et al.* (2004) recommended high growth rate along with compression of primary expenditure to achieve tolerable debt - GSDP ratio for these states.

Debt service ratio (interest payment to revenue receipts) of Himalayan states/UTs remained fairly stable in the range of 8.0- 9.8 per cent during the period under study. The debt service ratio of other states, on the other hand, moved in a higher range of 12-16 per cent during the same period (Chart 11a). The ratio of interest payment to own revenue receipts of the Himalayan states/UTs was, however, much higher than the other states reflecting lower resource base (Chart 11b).

IV. Fiscal Health Index

Drawing upon Dholakia and Solanki (2001), Bhide and Panda (2002), and Dholakia (2005), several studies have developed fiscal performance indices for Indian states to track parameters such

as revenue efficiency, expenditure quality and debt sustainability. For instance, Venkatraman (2003) ranked states based on six key indicators which *inter alia* include fiscal deficit and per capita income, while Das and Baig (2014) focused on four crucial aspects including debt burden and revenue mobilisation. Expanding on the framework proposed by Mohanty and Mishra (2016), the current study organises the various dimensions of fiscal health of the Himalayan states/UTs under five heads, *viz.*, (a) Deficit Indicators, (b) Revenue Performance Indicators, (c) Quality of Expenditure Indicators, (d) Debt Burden Indicators and (e) Debt Sustainability Indicators and constructs a Fiscal Health Index (FHI) for the Himalayan states/UTs.

For analytical convenience, the study period 2010-11 to 2023-24 is divided into two sub periods: (i) Period 1 (2010-11 to 2014-15) – the period prior to FC-XIV; and (ii) Period 2 (2015-16 to 2023-24) – the Period following FC-XIV (Table 2). The objective of this periodisation is to observe the fiscal impact of FC-XIV's decision to cease the 'special category' status of the Himalayan states.

Table 2: Finance Commissions and their Durations

Finance Commission	Operational Duration
13 th	2010-11 to 2014-15
14 th	2015-16 to 2019-20
15 th	2020-21 to 2025-26

Source: GoI.

IV.1 Components of FHI

The different components and sub-components of FHI are as follows:

(a) Deficit Indicators

- (i) Revenue deficit as a proportion of GSDP.
- (ii) Gross fiscal deficit as a proportion of GSDP.

(b) Revenue Performance Indicators

- (i) Own tax revenue as a proportion of GSDP.
- (ii) Own non-tax revenue as a proportion of GSDP.

(c) Quality of Expenditure Indicators

- (i) Development revenue expenditure as a proportion of revenue receipts.
- (ii) Development capital expenditure as a proportion of revenue receipts.

(d) Debt Burden Indicators

- (i) Interest payments as a proportion of revenue receipts.
- (ii) Debt stock as a proportion of GSDP.

(e) Debt Sustainability Indicators

- (i) Debt Spread indicator obtained as the difference between growth rate of GSDP and growth rate in debt stock.
- (ii) Rate Spread indicator obtained as the difference between the growth rate of GSDP and the average cost of borrowing. Average cost of borrowing of a particular year reflects the effective interest rate,

i.e., the ratio of interest payments of the current year to the debt stock of the preceding year.

IV.2 Methodology

This study uses Relative Distance methodology for constructing the fiscal health index. The relative distance methodology involves comparing observations or variables in terms of their relative positions within a dataset rather than their absolute values. This approach helps in identifying patterns, similarities, and differences between data points. The distance between two data points can be measured through both parametric and non-parametric methods. While parametric methods make specific assumptions about the underlying distribution of the data, non-parametric methods make minimal assumptions about the same. Parametric methods are often computationally efficient and easy to interpret but may not perform well if the underlying assumptions are violated. Non-parametric methods are often used when the distribution is unknown or cannot be assumed to follow any specific form. Non-parametric methods are robust to the underlying distribution of the data but may be computationally challenging especially for large datasets. Thus, both parametric and non-parametric methods have their own advantages and disadvantages, and the choice between them often depends on the nature of the data and the specific problem at hand. This study uses relative distance with min-max (non-parametric) method of scaling or normalising data points for constructing the fiscal health index⁷.

⁷ Relative distance methods, whether parametric or non-parametric can be subjected to various biases that affect the accuracy and validity of their results. Upward bias in relative distance refers to a systematic tendency for the calculated distances between data points to be consistently overestimated or inflated. This bias can distort the perception of how dissimilar or distant the points are from each other, potentially leading to inaccurate analyses or conclusions. Bootstrapping technique to address upward bias in relative distance involves Bootstrap Resampling, Computing Relative Distances, Bias Correction, Confidence Intervals, Validation and Sensitivity Analysis. The scope of bootstrapping, however, is not feasible in this study because of limitation in resampling.

In the first step, the level of each of the indicators described above is normalised to an index value ranging from 0 to 100. This is similar to the methodology used to construct Physical Quality of Life Index (PQLI) (Morris, 1982) and Human Development Index (HDI) by the United Nations Development Programme (UNDP). This method can take both favourable and adverse parameters to construct an index. The index which is constructed for favourable indicators is called as the Improvement Index. The index which is formed by taking adverse parameters is called the Deprivation Index. The value of both the indices will lie between 0 and 100.

$$\text{Deprivation Index (D)} = \frac{[\text{Max (X)} - X]}{[\text{Max (X)} - \text{Min (X)}]} * 100$$

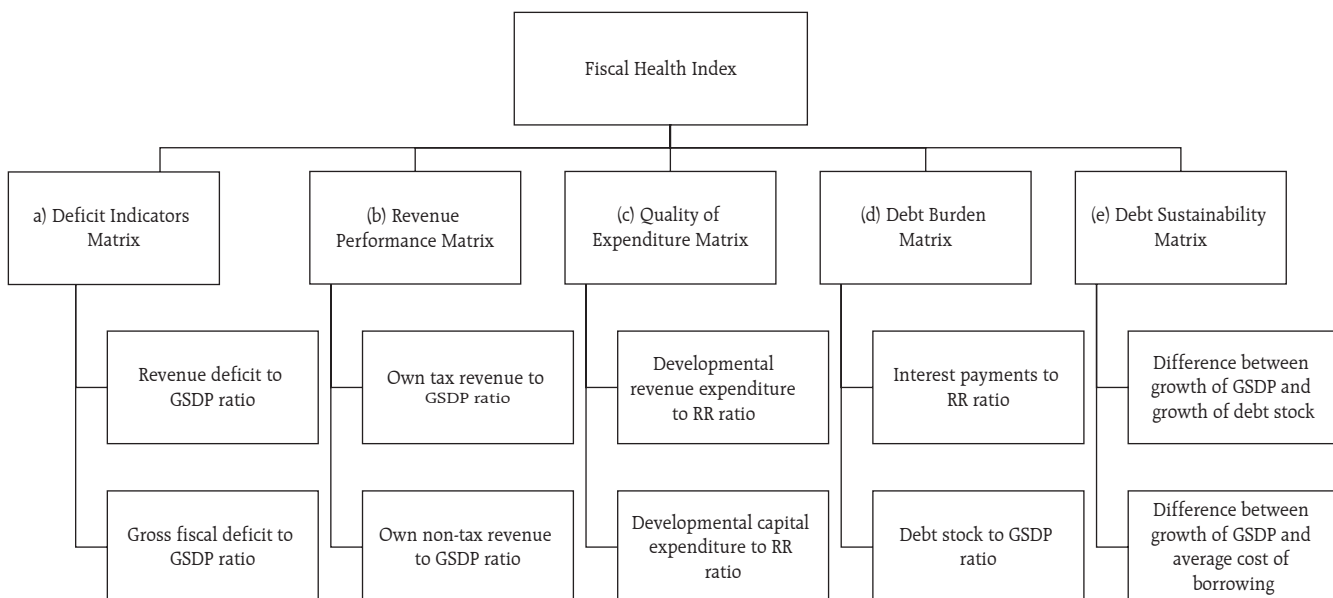
$$\text{Improvement Index (I)} = \frac{[X - \text{Min (X)}]}{[\text{Max (X)} - \text{Min (X)}]} * 100$$

Where, X refers to the actual value of the parameter for a given state. Max (X) and Min (X) are the maximum and minimum value of the parameter across the states in a specified

period. The value of D and I will lie on a 0 to 100 scale where 0 depicts worst performance and 100 implies the best performance.

In this study, for normalisation, the formula for deprivation index is applied on deficit indicators and debt burden indicators as they are negatively correlated to fiscal health of a state. On the other hand, the formula for improvement index is applied on revenue performance indicators, quality of expenditure indicators and debt sustainability indicators as they are positively correlated to fiscal performance. In the next step, the average of normalised indicators under each of the five different heads are computed to obtain five different matrices: Deficit Indicators Matrix, Revenue Performance Matrix, Quality of Expenditure Matrix, Debt Burden Matrix and the Debt Sustainability Matrix. The simple average of these five matrices yields the composite Fiscal Health Index (FHI) (Table 3).

Table 3: Structure of Fiscal Health Index



Source: Authors' Interpretation

IV.3 Results

The FHI reveals large variations in fiscal health of the Himalayan states/UTs (Table 4). In Period-1, Tripura, Meghalaya, Mizoram and Arunachal Pradesh emerged as the top four best performing Himalayan states. The FHI values of the Himalayan states/UTs ranged from 55 for Tripura to 40 for Jammu and Kashmir during this period. On the other hand, in Period-2, Mizoram, Assam and Tripura occupied the top three positions among the Himalayan states/UTs. Meghalaya, which was one of the top performing states in Period 1, slipped to 8th position in Period 2. The FHI values of most of the Himalayan states/UTs declined in period 2, indicating stress on their fiscal health (Chart 12). The decline is the sharpest in the case of Meghalaya (14 points), followed by Uttarakhand (12 points) and Tripura (7 points). The only exception is Assam which has witnessed an improvement in FHI value by 2 points. Interestingly, the FHI of other states also declined between Period 1 and Period 2, mainly on account of the impact of Covid 19 pandemic on the state finances in terms of lower tax revenue, higher expenses and the resulting rise in deficit indicators (Chart 12). The FHI values of the other states, however, remain above the Himalayan states/UTs.

For most of the Himalayan states/UTs, there is a deterioration in the deficit indicator matrix in Period 2 (Appendix Table A); this could be attributed to the Covid 19 pandemic, which drove the consolidated GFD of Indian states to a peak of 4.1 per cent of GDP in 2020-21.

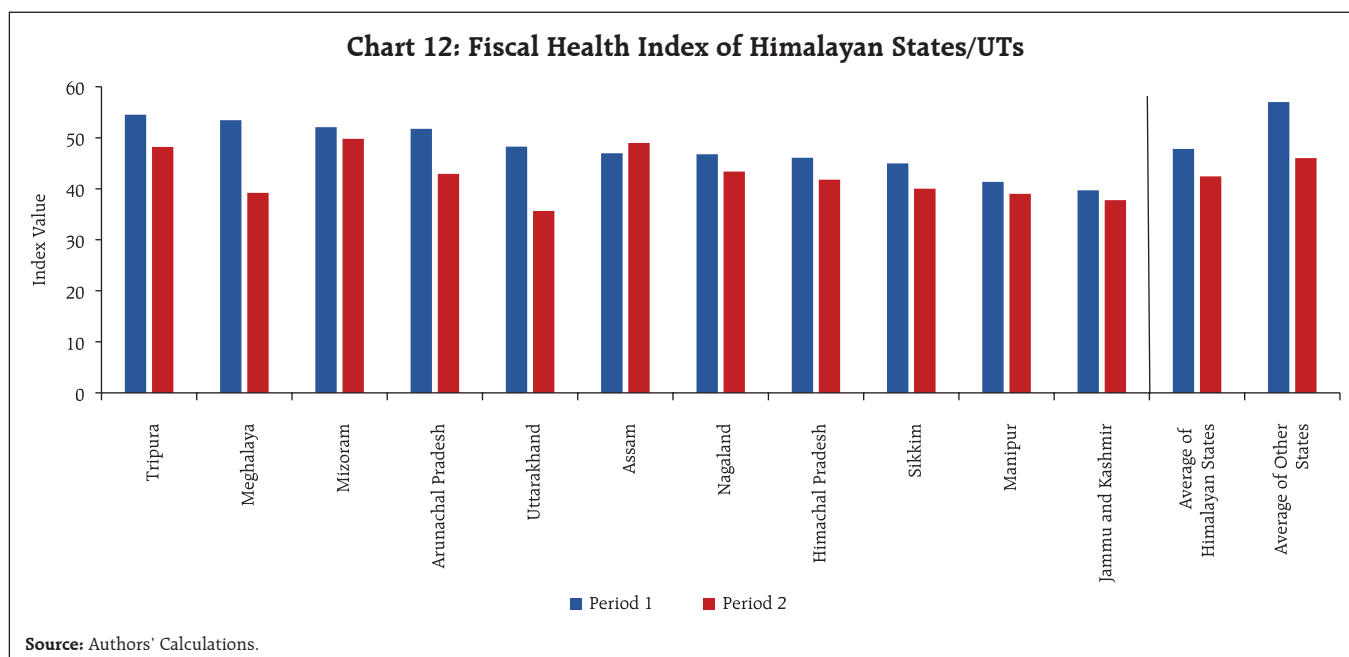
The performance of the Himalayan states/UTs in terms of the Revenue Performance Matrix was comparatively better with six states improving their scores in Period 2 (Appendix Table B). Meghalaya had the best revenue performance in Period 2, followed by Uttarakhand and Mizoram. In terms of the Quality of Expenditure Matrix, five states showed an improvement in expenditure quality and six a deterioration in Period 2 (Appendix Table C).

The Debt Burden Matrix of the Himalayan states/UTs shows a mixed picture with six of them recording a higher score in Period 2 compared to Period 1 (Appendix Table D). On the other hand, the Debt Sustainability Matrix of all the Himalayan states/UTs deteriorated in Period 2, with matrix value less than 30 for states like Uttarakhand, Jammu and Kashmir, Manipur and Sikkim (Appendix Table E).

Table 4: FHI values of Himalayan States/UTs

Period 1 (2010-11 to 2014-15)			Period 2 (2015-16 to 2023-24)		
Rank	State/UT	Period 1	Rank	State/UT	Period 2
1	Tripura	55	1	Mizoram	50
2	Meghalaya	53	2	Assam	49
3	Mizoram	52	3	Tripura	48
4	Arunachal Pradesh	52	4	Nagaland	43
5	Uttarakhand	48	5	Arunachal Pradesh	43
6	Assam	47	6	Himachal Pradesh	42
7	Nagaland	47	7	Sikkim	40
8	Himachal Pradesh	46	8	Meghalaya	39
9	Sikkim	45	9	Manipur	39
10	Manipur	41	10	Jammu and Kashmir	38
11	Jammu and Kashmir	40	11	Uttarakhand	36

Source: Authors' Calculations.



V. Conclusions

The overall fiscal position of the Himalayan states/UTs exhibited stress in the last five years, with their consolidated GFD breaching 4 per cent of GSDP in 2019-20, 2020-21 and 2022-23. The gap between GFD of Himalayan states/UTs and other states has widened during this period. The capacity of the Himalayan states/UTs to mobilise own tax revenues remains constrained due to the challenges emanating from their economic and geographical structure. Public expenditure plays a crucial role in economic development of the Himalayan states as private investment in these states is limited. Accordingly, the share of public expenditure in GSDP of these states/UTs is much higher than other states of India. The quality of expenditure of the Himalayan states/UTs measured in terms of RECO ratio has seen sharp improvement in the last few years.

The debt level of the Himalayan states/UTs has been consistently higher than the other states in India. At a disaggregated level, there is large inter-state variation in fiscal performance of the Himalayan states and the Fiscal Health Index values of most

of these states have declined in the recent period. Among the different indicators of fiscal performance, the deficit and debt sustainability indicators have contributed most heavily to the recent stress on their fiscal health suggesting growing need for fiscal consolidation. The Himalayan states continue to receive higher transfers from the centre even after the discontinuation of their special category status in 2015. This can reduce their flexibility in spending and these states, therefore, need to identify new sources of revenue, leverage existing sources more effectively and improve their tax administration to garner higher resources.

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Appendix Tables

A. Deficit Indicators Matrix

S. No.	State/UT	Period 1	Period 2	Change
1	Arunachal Pradesh	49	59	10
2	Assam	64	55	-9
3	Himachal Pradesh	60	66	6
4	Jammu and Kashmir	49	46	-3
5	Manipur	52	38	-14
6	Meghalaya	59	53	-6
7	Mizoram	27	58	31
8	Nagaland	69	48	-21
9	Sikkim	77	48	-30
10	Tripura	81	31	-49
11	Uttarakhand	61	38	-23

Source: Authors' Calculations.

B. Revenue Performance Matrix

S. No.	State/UT	Period 1	Period 2	Change
1	Arunachal Pradesh	23	31	8
2	Assam	58	41	-17
3	Himachal Pradesh	58	29	-29
4	Jammu and Kashmir	27	42	16
5	Manipur	36	31	-6
6	Meghalaya	39	51	11
7	Mizoram	29	46	18
8	Nagaland	24	43	19
9	Sikkim	58	29	-29
10	Tripura	60	26	-33
11	Uttarakhand	19	47	28

Source: Authors' Calculations.

C. Quality of Expenditure Matrix

S. No.	State/UT	Period 1	Period 2	Change
1	Arunachal Pradesh	54	39	-15
2	Assam	24	54	30
3	Himachal Pradesh	25	30	5
4	Jammu and Kashmir	43	42	-1
5	Manipur	38	51	13
6	Meghalaya	58	50	-8
7	Mizoram	66	44	-22
8	Nagaland	50	42	-8
9	Sikkim	20	49	29
10	Tripura	34	49	16
11	Uttarakhand	54	34	-19

Source: Authors' Calculations.

D. Debt Burden Matrix

S. No.	State/UT	Period 1	Period 2	Change
1	Arunachal Pradesh	60	70	10
2	Assam	63	58	-4
3	Himachal Pradesh	43	65	21
4	Jammu and Kashmir	43	57	14
5	Manipur	37	69	32
6	Meghalaya	83	44	-40
7	Mizoram	25	80	54
8	Nagaland	31	62	31
9	Sikkim	80	49	-31
10	Tripura	63	61	-2
11	Uttarakhand	73	44	-29

Source: Authors' Calculations.

E. Debt Sustainability Matrix

S. No.	State/UT	Period 1	Period 2	Change
1	Arunachal Pradesh	79	47	-33
2	Assam	65	41	-23
3	Himachal Pradesh	62	34	-27
4	Jammu and Kashmir	37	24	-13
5	Manipur	42	24	-18
6	Meghalaya	52	37	-15
7	Mizoram	72	56	-16
8	Nagaland	41	34	-8
9	Sikkim	48	25	-24
10	Tripura	65	60	-5
11	Uttarakhand	54	24	-29

Source: Authors' Calculations.

