Fiscal Transfers from the Union to States and Healthcare in India

Janak Raj
Rahul Ranjan
Vrinda Gupta
Aakanksha Shrawan

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Janak Raj
Senior Fellow
Centre for Social and Economic Progress
New Delhi, India

Rahul Ranjan*
Research Associate
Centre for Social and Economic Progress
New Delhi, India

Vrinda Gupta**
Research Associate
Centre for Social and Economic Progress
New Delhi, India

Aakanksha Shrawan***
Research Associate
Centre for Social and Economic Progress
New Delhi, India

*Rahul Ranjan is currently working as Sovereign Credit Analyst at CRISIL.
**Vrinda Gupta is currently working as Manager, DEPR, RBI.
***Aakanksha Shrawan is currently working as Assistant Professor, NIPFP.

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Abbreviations

PM-ABHIM	PM-Ayushman Bharat Health Infrastructure Mission
AIIMS	All India Institutes of Medical Sciences
CGHS	Central Government Health Scheme
CSS	Centrally Sponsored Scheme
CV	Coefficient of Variation
FC	Finance Commission
FRBM	Fiscal Responsibility and Budget Management
FRL	Fiscal Responsibility Legislation
GDP	Gross Domestic Product
GFD	Gross Fiscal Deficit
GSDP	Gross State Domestic Product
GST	Goods and Services Tax
HLEG	High-Level Expert Group
PM-JAY	Prime Minister Jan Arogya Yojana
NCT	National Capital Territory
NHM	National Health Mission
NRHM	National Rural Health Mission
NSDP	Net State Domestic Product
NUHM	National Urban Health Mission
OOPE	Out of Pocket Expenditure
PC	Per Capita
PHE	Per Capita Public Health Spending

Abstract

The key focus of the study is to assess the role of fiscal transfers from the Union government compared to States' own revenue in explaining their healthcare spending. The study found that both States' own revenue and unconditional transfers from the Union impact their health spending. However, own revenue was more significant than unconditional fiscal transfers in explaining health spending by economically well-off states. In contrast, health spending by economically weaker states was determined solely by unconditional fiscal transfers from the Union. Generally, States were substituting their non-National Health Mission (NHM) health spending with NHM health spending. However, this substitution effect was much less pronounced in the case of economically well-off states compared with economically weaker states. Post-NHM, there was a slight increase in horizontal inequalities. The intricate interplay between fiscal transfers and health spending by Indian states underlines the need for nuanced policy changes. A differentiated strategy is needed for economically well-off and economically weaker states to improve healthcare spending in the country.

Executive Summary

This study delves into the intricate relationship between fiscal transfers by the Union[1] to States and States' own revenue in shaping health spending by States in India. Focusing on the period beginning 2004-05 (when the National Rural Health Mission—NHM—was constituted), this study seeks answers to the following four key questions: (i) How have fiscal transfers from the Union government to States evolved over the last 20 years? (ii) How has health spending by States shaped in light of changes in their own revenue as well as fiscal transfers from the Union? (iii) Do States substitute their non-NHM health spending with NHM spending? (iv) To what extent inter-state or horizontal inequalities in healthcare spending have been addressed post-NRHM?

The study found that the share of States' own revenue in their total revenue receipts declined sharply from 2014-15, with a simultaneous rise in fiscal transfers from the Union government, primarily driven by conditional transfers, particularly those from Centrally Sponsored Schemes (CSSs). The share of tax devolutions increased initially immediately after the recommendations of the Fourteenth Finance Commission (FC-XIV), but declined by 2019-20.

Health spending increased post-NHM, driven mainly by States, yet remained broadly unchanged over a 30-year period. The central government has also expanded its footprints in healthcare post-NRHM, though the nature of its involvement has changed. In the first five years after the introduction of NRHM, its role in healthcare expanded through CSSs, but thereafter through central sector schemes.

The States' own revenue and unconditional transfers positively impacted health spending, though the impact of the latter was more significant than that of the former. However, the results varied when States were categorised into economically well-off states and economically weaker states. Economically well-off states tend to rely more on their own revenue than unconditional fiscal transfers from the Union government for their health spending. In contrast, economically weaker states depend solely on unconditional fiscal transfers for health spending, with their own revenues having no impact.

States, in general, substituted non-NHM health spending with NHM contributions. However, the extent of substitution was much more pronounced in the case of economically weaker states than economically well-off states. Post-NRHM, there was no evidence of States with initially low health spending catching up with those with high health spending levels. Horizontal inequalities in health spending widened somewhat in the post-NHM period for all States, as well as high focus states.

These findings have significant policy implications. The finding that unconditional transfers matter more for health spending by economically weaker states suggests that greater resource transfers from the Central government to states will spur health spending. The finding that health-specific transfers do not impact health spending, combined with the finding that States, especially economically weaker states, substitute health spending, suggests that the NHM has limitations in promoting health spending by States. This could be due to a lack of ownership of healthcare schemes sponsored by the Central Government. Therefore, there is a need for a more flexible approach for centrally sponsored schemes for States to innovate and adapt. The evidence of growing horizontal inequalities post-NHM suggests a need to rethink the NHM's strategy and focus in health spending. Prioritising unconditional transfers and designing a differentiated strategy for economically richer and economically weaker states could be expected to result in better healthcare outcomes in India.

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[1] The terms union, union government, and the central government have been used inter-changeably in this paper.

1. Introduction

Health is a crucial element of human development, not only as an end in itself but also because it plays a critical role in furthering education and economic growth of both individuals and countries. Health spending in India has remained very low—both as a percentage of GDP and on a per capita basis—relative to many of India's peers, let alone advanced economies. As a result, India has one of the highest rates of out-of-pocket expenditure (OOPE) in the world, leading to various hardships and sacrifices, including impoverishment and indebtedness (Garg and Karan, 2009; Selvaraj and Karan, 2009). Several High-Level Expert Groups (HLEGs), Parliamentary Standing Committees, and even the government's own health policies have, from time to time, proposed that public investment in health be raised to 2.5-3 per cent of GDP. However, despite the rollout of multiple schemes, there has hardly been any change on the ground so far (Raj, *et al.*, 2024).

In India, health is primarily the responsibility of States under the Seventh Schedule of the Constitution of India, though some areas are also the joint responsibility of the States and the Union government. Since "Public health and sanitation; hospitals and dispensaries," is in the State List (Entry 6), it is the sole responsibility of States. As five areas relating to health are in the concurrent list, they are the joint responsibilities of the Union and state governments.[2] These are: (i) "Lunacy and mental deficiency, including places for the reception or treatment of lunatics and mental deficient" (Entry 16); (ii) "Population control and family planning" (Entry 20A); (iii) "Medical education" (Entry 25); and (iv) "Legal, medical and other professions" (Entry 26); and (v) "Infectious diseases" (Entry 29). Furthermore, the Union government can create institutions of national importance (such as the All India Institutes of Medical Sciences) under Entry 62 in the Union List. Though health is a state subject, and the primary responsibility for providing good healthcare services lies with the States, the Union has also been playing a role. However, it has shied away from taking direct responsibility for healthcare. In a written response to the Lok Sabha,[3] it was indicated that since health is a state subject, the Central Government supplements the efforts of the state governments in delivering health services through various schemes of primary, secondary, and tertiary care.

'Fiscal Federalism' is a broad term referring to the efficient provision of public services to meet varying preferences in multi-level fiscal systems. Under fiscal federalism, the national government first centrally raises financial resources through some form of taxation and then distributes them to local levels using allocation formulae (Rotulo *et al.*, 2020). The core of fiscal federalism is inter-governmental transfers (Reddy, 2019). As a corollary, fiscal federalism in healthcare would imply inter-governmental transfers relating to healthcare and other transfers, which may have a bearing on health spending. Fiscal choices by the States, including on health, are expected to respond both to their own resources as well as transfers from the Central Government. That is, healthcare financing by States is not only expected to depend on healthcare transfers alone but also on their overall financial capacity. This, in turn, depends on general-purpose transfers from the Union, apart from the States' own revenue. This is because there is a vertical imbalance in the country—relative to their spending responsibilities, the States have much fewer revenue sources. Because of this, under Article 280 of the Constitution of India, there is a provision for distribution of tax revenues between the Union and the States and amongst the States on the recommendations of an independent body, *viz.,* the Finance Commission (FC), appointed once every five years. Untied or general-purpose or unconditional transfers are, in fact, more important than tied or specific transfers as they give complete flexibility to the States to spend in areas which they feel are more appropriate and/or urgent.

In the last few years, significant changes have taken place that are expected to have influenced the overall finances of the States. These include fiscal responsibility legislations, increase in the share of tax devolution to the States from 32 per cent to 42 per cent based on the recommendations of the Fourteenth Finance Commission (FC-XIV). Centrally Sponsored Schemes (CSSs) framed under Article 282 of the Constitution, which were expected to play a role only at the margin, have become a key instrument for the Union government to transfer resources to States on subjects that were mainly in the state list. In

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[2] https://www.mea.gov.in/Images/pdf1/S7.pdf
[3] Press Information Bureau, 2018.

health, the Union government rolled out a major CSS in the form of National Rural Health Mission in 2005, which was rechristened as the National Health Mission (NHM) in 2013 by subsuming National Urban Health Mission (NUHM).

In this backdrop, this study examines whether the Union-State fiscal relations in general, and healthcare in particular, have any bearing on health spending by the States. Our specific interest is in understanding how far health spending by States is influenced by their own revenue vis-à-vis general-purpose transfers and also by health-specific transfers. Some of the key questions to which we seek answers in this paper are: (i) How have fiscal transfers to the States in general evolved in last 20 years? (ii) How has health spending by the States shaped in light of changes in their own revenue and fiscal transfers from the Union? (iii) How far do the States' own revenue and/or fiscal transfers from the Union influence health spending by states? (iv) Do the States substitute their non-NHM health spending with NHM spending? (vi) How far have inter-state or horizontal inequalities in healthcare spending been addressed post-NRHM?

It is not the objective of the paper to investigate the basis of general or specific-purpose transfers from the Centre to States or the design and implementation of fiscal transfers in India. Nor is it the purpose of this study to examine the impact of union-state fiscal relations on health outcomes. The limited objective of this study is to examine (i) how healthcare spending by the States has been shaped under the current arrangements of fiscal federalism; and (ii) the major factors that influence health spending by the States.

Several important findings emerge from the study:

(i) The share of States' own revenue in their revenue receipts declined sharply from 2014-15, while that of fiscal transfers from the Union increased markedly. The increase in fiscal transfers was largely driven by conditional transfers, *i.e.,* CSS transfers, which the FC-XIV tried to reduce.

(ii) Based on various indicators, health remained a low priority in many states. Health was found to be a low priority even in some economically well-off states. Based on the income-health spending relationship, four patterns were observed, two of which included high-income low health spending states and low-income and high health spending states.

(iii) The Central Government has expanded its footprint in healthcare post-NRHM, though the nature of its involvement has changed. In the first five years after the introduction of NRHM, its role in healthcare expanded through CSS, but thereafter through central sector schemes.

(iv) The States' own revenue and unconditional transfers by the Union were found to have a positive impact on health spending by the States. However, the economic impact of unconditional transfers was greater than that of the States' own revenue, which was not the case prior to the award period of the FC-XIV. However, results changed quite dramatically when the states were split into economically well-off states and economically weaker states (based on average per capita income). Health spending by economically well-off states was influenced more by their own revenue than unconditional transfers. However, health spending by economically weaker states depended more on the unconditional transfers from the Centre (apart from income) and not at all their own revenue.

(v) States, as a group, were found to be substituting their non-NHM health spending with their spending on NHM. However, the substitution effect in respect of economically weaker states was much stronger than the economically well-off states.

(vi) The horizontal inequalities in health spending widened somewhat post-NHM.

The remainder of this paper is organised in seven sections. Section 2 outlines the historical and constitutional backdrop of fiscal federalism in India. Section 3 details the recent developments in fiscal federalism in general and healthcare, in particular, which might have had a bearing on healthcare financing by the States in India. Section 4 explains the impact of centre-state fiscal relations on the finances of the States in the recent period. Section 5 delineates the key trends in health spending by the States and explains the changing role of the Union in healthcare. Section 6 examines the factors affecting healthcare financing in India, with a specific focus on (a) the relative significance of the States' own revenue vis-à-vis transfers from the Centre in explaining health spending by the States; and (b) whether the States substitute their non-NHM health spending with NHM spending. Section 7 examines how far

healthcare financing by the Union government under the NHM has been able to address horizontal inequalities in health spending in India. Section 8 sums up the key findings of the study and spells out the policy implications.

2. Fiscal Federalism in India – Historical and Constitutional Backdrop

India's fiscal federalism is known to have several centralising features, with some leading scholars referring to it as "*quasi* federal" (Stephan, 1999). The Constitution of India grants the Union government overwhelming economic powers, including a significantly higher revenue-raising ability relative to the States, and imposes restrictions on State borrowings. The literature on fiscal federalism suggests three main economic rationales for inter-governmental transfers,

viz., (i) addressing vertical fiscal balances; (ii) addressing horizontal fiscal balances; and (iii) addressing inter-jurisdictional spill over effects (Box 1).

In India, the major burden of expenditure falls on the States, but they have limited sources of income. The Constitution of India assigns greater revenue-raising powers to the Union, while most of the expenditure responsibilities are vested with the States. For instance, the Fifteenth Finance Commission (FC-XV) observed that the States had access to only 37.3 per cent of the resources but were responsible for 62.4 per cent of the expenditure incurred. To address this vertical imbalance, the Constitution established a framework of fiscal transfers from the Union to the States, based on the recommendations of the Finance Commission. Additionally, resources are also transferred from the Union to the States by the respective central ministries. However, these transfers have been the subject of some controversy (Box 2).

Box 1: Fiscal Transfers – The Rationales

Addressing vertical fiscal imbalances: In most countries, the revenue-raising responsibilities of provincial or state governments typically fall short of their expenditure responsibilities. This shortfall arises because the national, federal or central government often retains the major tax bases, leaving provincial or state levels with insufficient fiscal resources. Therefore, inter-governmental transfers are needed to balance the budget at these sub-national levels.

Addressing horizontal fiscal imbalances: The fiscal capacity of States may also vary. Some States may have better access to natural resources or other tax bases than others. The capacity to raise revenues from their own sources may differ across states. Furthermore, the expenditures required to deliver specified service levels may also vary. These expenditure needs should, therefore, be addressed by Central Government transfers. A less stringent interpretation of this argument holds that the Central Government has an obligation to maintain a minimum standard of public services in all sub-national or state-level units. Regions that lack sufficient resources to reach this minimum level should be subsidised.

Addressing inter-jurisdictional spill over effects: Some public services have spillover effects (or externalities) that extend to other jurisdictions (Ma, J, 1997). Examples include pollution control (water or air), inter-regional highways, and higher education, where individuals with higher education may migrate to other regions for work. Thus, the Central Government needs to provide incentives or financial resources to address such under-provision problems (Ma, 1997). Another function of these transfers is to sometimes allow the federal government to exercise influence or oversight over the design of state programs (Boadway and Shah, 2007).

References:

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Boadway, R. W., and Shah, A. (2007). *Intergovernmental fiscal transfers: Principles and Practices*. World Bank Publications. http://hdl.handle.net/10986/7171

Box 2: Fiscal Transfers from the Union to States in India – Channels and the Controversy

There are three main channels through which fund transfers are carried out from the Union to the States in India. Major transfers occur through Article 270 and 275 of the Constitution, based on the recommendations of the Finance Commission. These are general-purpose transfers, the rationale for which is to enable all the States to provide comparable levels of public services at comparable tax rates (Rao and Singh, 2005). The basic rationale behind general-purpose transfers is to ensure equity on horizontal grounds (Buchanan, 1950; Boadway and Flatters, 1982). Article 270 provides for the distribution of taxes between the Union and the States—taxes that are levied and collected by the Union. On the other hand, Article 275 provides for grants-in-aid to the States. Unlike tax devolution which is untied or unconditional, grants under Article 275 could be conditional.

The third channel of transfers is through Centrally Sponsored Schemes (CSSs), introduced by the Union but implemented by the States on a matching contribution basis. Funds for such schemes were routed through Article 282 of the Constitution for financing targeted interventions for socio-economic development (Reddy, 2019).[4] Initially recommended by the Planning Commission set up in March 1950, these schemes are now carried out by respective central ministries. CSSs are discretionary transfers made by the Union to the States, and they often pertain to subjects within the domain of states or in the concurrent list (Ritwika, *et al.*, 2021). These are specific transfers which aim at enforcing a minimum standard of public service. However, none of the specific-purpose transfers in the Indian context is designed in this manner, *i.e.,* minimum standards have not been defined and specific transfers are not tailored to meet them (Rao, 2017).

Transfers by the Union to the States through CSSs under Article 282 have been a matter of significant controversy, mainly for two reasons. First, funds under Article 282 are tied, meaning that the States do not have the freedom to spend the resources as they deem fit. The design features of CSSs also do not offer enough flexibility for States to innovate and adapt. Owing to rigidities in the scheme, most CSSs suffer from micro-management, inadequate allocation to different activities, and subsequent wastage (Rao, 2018). Secondly, the Union uses CSSs to interfere in subjects that are within the domain of the States.

In its unanimous judgment in the famous 2010 Bhim Singh *versus* Union of India case, the Supreme Court held that the Union under Article 282 was unrestricted. The court observed: "Owing to the quasi-federal nature of the Constitution and the specific wording of Article 282, both the Union and the State have the power to make grants for a purpose irrespective of whether the subject matter of the purpose falls in the Seventh Schedule[5] provided that the purpose is 'public purpose' within the meaning of the Constitution."[6]

While the legality of the use of funds transfers by the Union under Article 282 is now settled, the proliferation of CSS tranfers has continued to be a point of contention in the centre-state fiscal relations. The Chairman of the Finance Commission XV argued that the provision (Article 282) was not meant to be an overarching route for effecting transfers, but an extraordinary one to be sparingly used (Singh, 2019). He opined:

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[4] Indian Fiscal Federalism

[5] The Seventh Schedule of the Constitution of India defines and specifies allocation of powers and functions between Union & States. It contains three lists – Union List, State List and Concurrent List.

[6] https://indiankanoon.org/doc/976795/

"I think Article 282 of the Constitution needs to be circumscribed and prescribed some conditions which can be invoked for undertaking schemes and measures which can undercut the basic functioning of the transfer mechanism through the Finance Commission. Indeed, in the history of the Finance Commission, the extra constitutional comfort of the Planning Commission in undertaking several of these transfers by recourse of Article 282 is part of this original sin".[7]

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Buchanan, J. M. (1950). Federalism and fiscal equity. *The American Economic Review*, *40*(4), 583-599.

Rao, M. G. (2018). Central transfers to states in India: rewarding performance while ensuring equity. *Final report submitted to NITI Aayog*.

Rao, M. G., and Singh, N. (2006). *Political Economy of Federalism in India*. Oxford University Press.

It is significant that federal governments in several other federal structures also play a role in healthcare, though the exact nature of this relationship varies from country to country (see Appendix I).

3. Fiscal Federalism and Healthcare in India: Recent Developments

In the last 20 years or so, several changes have taken place which have impacted the States' own revenue as well as the transfers from the Centre.

3.1 The Fiscal Responsibility and Budget Management Act

The Fiscal Responsibility and Budget Management (FRBM) Act was enacted by the Union government in 2003. This Act was mirrored by Fiscal Responsibility Legislation (FRL) enacted by the States. Fiscal targets were established, which were the same for all the States; the overall deficit was not allowed to exceed 3 per cent of GSDP at any point, while the revenue deficit was to be eliminated by 2008/9 (later extended to 2009/10). The fiscal deficit target was temporarily relaxed to deal with extraordinary situations such as the global financial crisis and the Covid pandemic. FRL thus imposed strict discipline on the States, meaning that spending by the States on any sector, including health, would largely depend on their ability to raise revenue.

3.2 Three CSSs in Health Launched

The National Rural Health Mission (NRHM) was launched in April 2005. This was later renamed the National Health Mission in April 2015, subsuming NRHM and the new National Urban Health Mission (NUHM) launched. The NHM is the flagship healthcare programme of the Union, aimed at providing accessible, affordable, and quality healthcare, especially to vulnerable groups. The core focus of the scheme was on reducing maternal and child mortality. While it is not our intention to delve into the details of scheme here, three elements of the scheme are noteworthy. Initially, the Centre fully funded the scheme. In 2007, the funding pattern was changed to 85:15 (centre: states). Currently, the funding pattern is 60:40 (other than UTs without legislature and some north-eastern states). Second, for allocating funds under the NRHM, the States were categorised into two parts. The States with poor health status were classified as high focus States and others as non-high focus States. The funds for NRHM were allocated according to population, with high focus States receiving 30 per cent higher weight. (Coady *et al.*, 2012). Third, the Union followed a system of flexi pool as the basis of allotment, *i.e.,* the funding for each component of NHM by the Centre was fixed, and there was no flexibility in changing the funding among components.[8]

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[7] https://indiankanoon.org/doc/976795/
[8] This flexi pool system was changed only in 2022 to give greater flexibility to states.

The second important healthcare scheme of the Union is the Prime Minister *Jan Arogya Yojana (PM-JAY),* which aims to provide health protection cover to poor and vulnerable families against financial risk arising out of catastrophic health episodes (Govt of India, 2022). It offers a benefit cover of Rs 5 lakh per family per year (on a family floater basis) and covers medical and hospitalisation expenses for almost all secondary care and most tertiary care procedures (Govt of India, 2021). The funding pattern of the scheme between the Centre and the States is 50:50. PM-JAY replaced the erstwhile *Rashtriya Swasthaya Bima Yojana* (RSBY).

Third PM-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM) was launched in October 2021 to develop capacities of health systems and institutions across the primary, secondary, and tertiary healthcare levels, and to prepare health systems to respond effectively to current and future pandemics (Demand for Grants Report, PRS 2022-23).

3.3 NRHM Transfers – By-passing of State Budgets

With the introduction of NRHM, different societies were merged to form the State Health Societies (GoI, 2005a). NRHM funds from the Central Government were directly transferred to these societies, by-passing the state budgets, even though the CSSs were either fully or partially funded through a matching contribution from the State governments. This practice of transferring funds directly to SHSs was discontinued from 2014-15. Instead, NHM funds are now devolved directly to state treasuries which, in turn, transfer funds to SHSs. This change in the arrangement was made to improve transparency and accountability (Duggal *et al.*, 2014). As a result, NHM expenditure in state budgets prior to 2014-15 and post 2014-15 is not strictly comparable, and GoI NHM funds need to be adjusted to ensure comparability.

3.4 Recommendations of FC – XIV: Increased Tax Devolutions to States

The FC-XIV recommended significant changes in how tax resources were to be shared between the Central and the State governments. The FC-XIV was concerned with the large resource transfer to the States by way of grants under various CSSs, including those transferred directly to the implementing agencies, by-passing the state budget until 2013-14. The FC-XIV observed that between 2005 and 2012, the Central Government's spending on state subjects increased from 14 to 20 per cent and its spending on concurrent subjects increased from 13 to 17 per cent.

The FC-XIV was sensitive to the States' demand that resources should flow in the form of tax devolution and that the outlay on CSSs be reduced. It viewed tax devolution as the primary route of resource transfer to the States since it is formula-based and thus conducive to sound fiscal federalism. Taking a comprehensive view of the aggregate transfers from the Centre to the States and emphasising that tax devolution to the States should be the primary route, the FC-XIV increased the share of tax devolution to the States to 42 per cent of the divisible pool (as against 32 per cent recommended by the FC-XIII) to serve the twin objectives of increasing the flow of unconditional transfers to the States and yet leave appropriate fiscal space for the Centre to carry out specific-purpose transfers to the States. It is significant that the then Planning Commission, which was entrusted with the responsibility of making non-plan allocations to the State governments, was abolished in 2015.

3.5 Increased Tax Devolutions to States Countered by Transferring CSSs to States

When the FC-XIV submitted its recommendations, two other significant changes also occurred, which offset, to a large extent, the increased tax devolutions to states. First, in order to arrive at the greater devolution of 42 per cent to the States, more than 30 CSSs ought to have been transferred to the States. This is because the expenditure on them had already been considered as state expenditure.[9] However, the Central Government decided to delink only 8 CSSs from its support and continue other schemes as it believed that many CSSs were national priorities, and this also included the NHM. Second, it was decided to change the sharing pattern of 24 CSSs on the ground that

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[9] A committee of selected Chief Ministers of the States, with the Chief Minister of Madhya Pradesh as the convenor appointed by the Central Government, recommended the consolidation of the schemes into 28 schemes. These were then classified into 'core of the core,' 'core,' and 'optional' states, with the funding pattern of the Centre and the States in the ratio of 70:30, 60:40, and 50:50, respectively. The NHM and PM-JAY were categorised as core schemes. Following the recommendations of the sub-group of Chief Ministers on Centrally Sponsored Schemes (CSS), the share of the states' contributions to CSSs was increased from 25 per cent 40 per cent. The new funding pattern was implemented from the fiscal year 2015-16 onwards.

the States could share a higher fiscal responsibility for their implementation. In the case of NHM, the sharing pattern between the Union and the States was changed from 75:25 to 60:40.

3.6 Introduction of GST

The introduction of GST in July 2017 has brought considerable changes to the union-state fiscal relationship. The States no longer have the power of taxation or deciding tax rates, other than on petroleum products and liquor. They largely depend on GST collections. At the time of GST's introduction, the States' revenue subsumed under GST was legislatively protected for the transition period of five years (2017-18 to 2021-22), assuming a constant nominal growth of 14 per cent per annum over the 2015-16 revenue base. Any shortfall was to be funded through additional taxation (compensation cess) on sin/luxury goods.

3.7 Increased Grants-in-aid to States

To address the various challenges faced by the health sector in India, the Fifteenth Finance Commission (FC-XV) recommended total grants-in-aid support to the health sector aggregating Rs. 1.06 lakh crore. These included Rs. 70,051 crore through local governments, Rs. 31,755 crore sectoral grants, and Rs. 4,800 crore state-specific grants, constituting 10.3 per cent of the total grants-in-aid recommended by the Commission. These grants were unconditional.

The FC-XV also front-loaded this support over the award period to help address the immediate requirements of funds due to the then prevailing pandemic. The FC-XV noted that grants-in-aid can make corrections for cost disabilities and other redistributive requirements, which can be addressed only to a limited extent in any devolution formula. Furthermore, grants-in-aid are more directly targeted and used to equalise standards of basic services.

4. Fiscal Transfers to States – An Analysis

Healthcare financing in the Indian context encompasses three aspects. First, a State's spending on any sector, including health, is based on its overall financial capacity, which, in turn, depends on its own resources/revenue and untied or unconditional transfers from the Union government. It is undeniable that a State's own revenue is crucial for its spending on any sector. However, in situations where States do not have many avenues to levy taxes,[10] the transfer of resources from the Union to the States are expected to play a key role in their spending decisions. Secondly, the Central Government makes specific health transfers to the States under CSSs, with the States making matching contributions. The purpose of these specific transfers is to ensure minimum standard of healthcare throughout the country, as alluded to before. Thirdly, the Union government also spends directly on health under the CSSs (Box 3).

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[10] Other than collecting GST, the States can collect only parts of indirect tax, *viz.*, professional tax and VAT on items not listed in GST like petrol, diesel, natural gas, and alcohol etc.

Box 3: Central Government Spending on Health – Components

- Of the total expenditure on health by the Union government, about 55 per cent[11] is transferred to states under CSSs, while the rest is spent directly by the Centre (Figure 3a).

- Direct expenditure constitutes expenditure on autonomous bodies such as AIIMs, central sector schemes, CGHS, and other hospitals. These schemes are listed in Appendix I.

- Of total funds, 72 per cent are earmarked for central sector schemes go to two central sector schemes, *viz.*, Pradhan Mantri Swasthya Suraksha Yojana (PMSSY) and AIDS control (Figure 3a).

- The three main CSSs (NHM, PMJAY and PM-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)) constitute 99 per cent of the total transfers under CSSs (Figure 3b).

Figure 3a: Central Health Expenditure
(As budgeted for 2023-24)
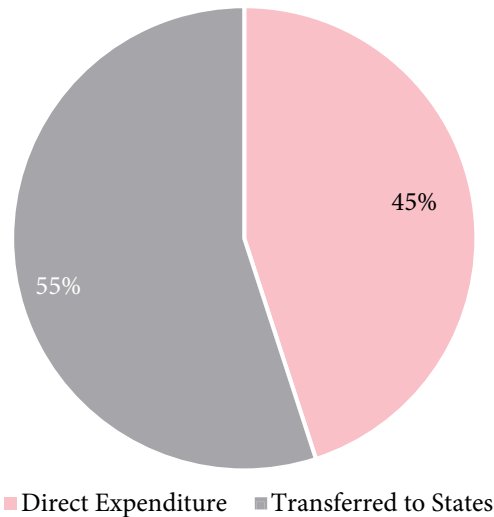
Source: Union budget 2023-24.

Figure 3b: Composition of Direct expenditure
(As budgeted for 2023-24)

Legend: Others, CGHS, Other hospitals and colleges, Central Sector Schemes/Projects, Autonomous Bodies

Source: Union Budget 2023-24.
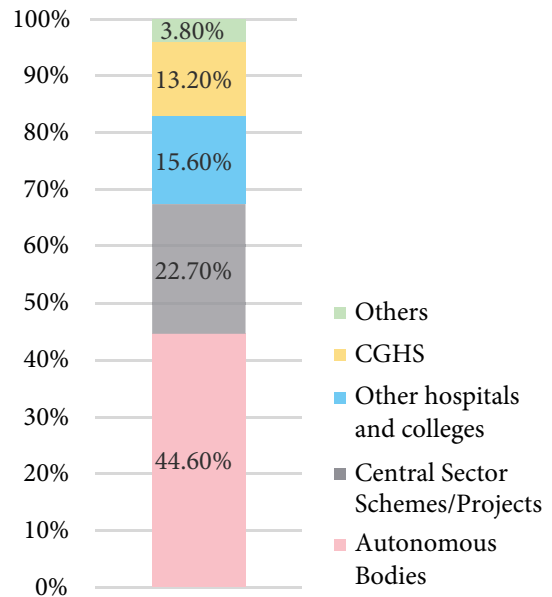
Figure 3c: Composition of Transfer to States
(As budgeted for 2023-24)

Legend: Others, PMABHIM, PMJAY, NHM
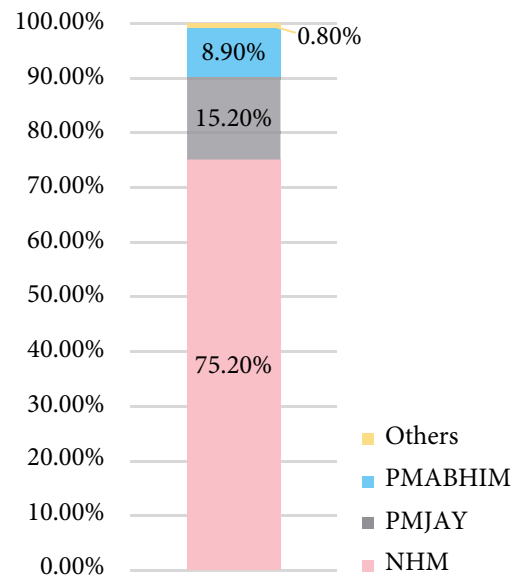
Source: Union Budget 2023-24.

As alluded to in Box 2, there are three channels of fiscal transfers from the Union to the States. Over the years, the quantum and composition of these fiscal transfers have undergone significant changes, as detailed in Appendix II. The key points emerging from the analysis are summarised below:

(i) The share of tax devolutions in revenue receipts of the States increased sharply during the overall award period of the FC-XIV *vis-a-vis* that of the FC-XIII. However, beginning 2019-20, *i.e.,* the fourth year of the FC-XIV award period, the share of tax devolutions in the revenue receipts of

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the States declined significantly (Figure A1 and Table A1, Appendix II).

(ii) The share of the States' own revenue in their revenue receipts declined sharply from 2014-15 onwards, while that of fiscal transfers increased. Consequently, the shares of the States' own revenue and fiscal transfers in overall revenue receipts of the States almost converged in 2020-21 (Figure A5 and Table A2, Appendix II). Relative to GDP, the States' own revenue has remained flat in the last 15 years, while the share of fiscal transfers from the Union increased by more than 2 percentage points of GDP from 4.4 per cent to 6.7 per cent in 2020-21 (Figure A7 and Table A4, Appendix II).

(iii) With respect to fiscal transfers, the share of tax devolutions in revenue receipts of the States remained broadly unchanged between 2014-15 and 2020-21, while that of tied transfers (CSS and others) increased sharply, which the FC-XIV tried to reduce. Because of this, the gap between tax devolutions and CSS transfers narrowed down sharply (Figure A5 and Table A2, Appendix II).

(iv) These trends suggest that the States' dependence on fiscal transfers has increased post FC-XIV,

and within fiscal transfers, the reliance on tied transfers has increased much more than that on untied transfers. These developments do not augur well for the autonomy of the States and their own development needs.

(v) The relative significance of NHM transfers in total CSS transfers declined over the years (Figure A8, Appendix II). In the following section, we assess how these changes have shaped health spending by the States. We also look at the changing role of the Union government in healthcare financing.

5. Public Health Spending in India – An Analysis

5.1 India versus Select other Countries

Public spending on health in India, measured both as a percentage of GDP and in per capita terms, is among the lowest in the world. Other emerging countries such as Brazil, Chile, Colombia, Thailand, Malaysia, and South Africa allocate significantly higher proportions of their GDP to health relative to India. This is both in terms of percentage of GDP and on a per capita basis (Figure 1).

Figure 1: Public Health Spending: India and Select Countries - 2019

Domestic public health expenditure (% of GDP) (L.H.S)

Domestic public health expenditure per capita, PPP (current international USD) (R.H.S)
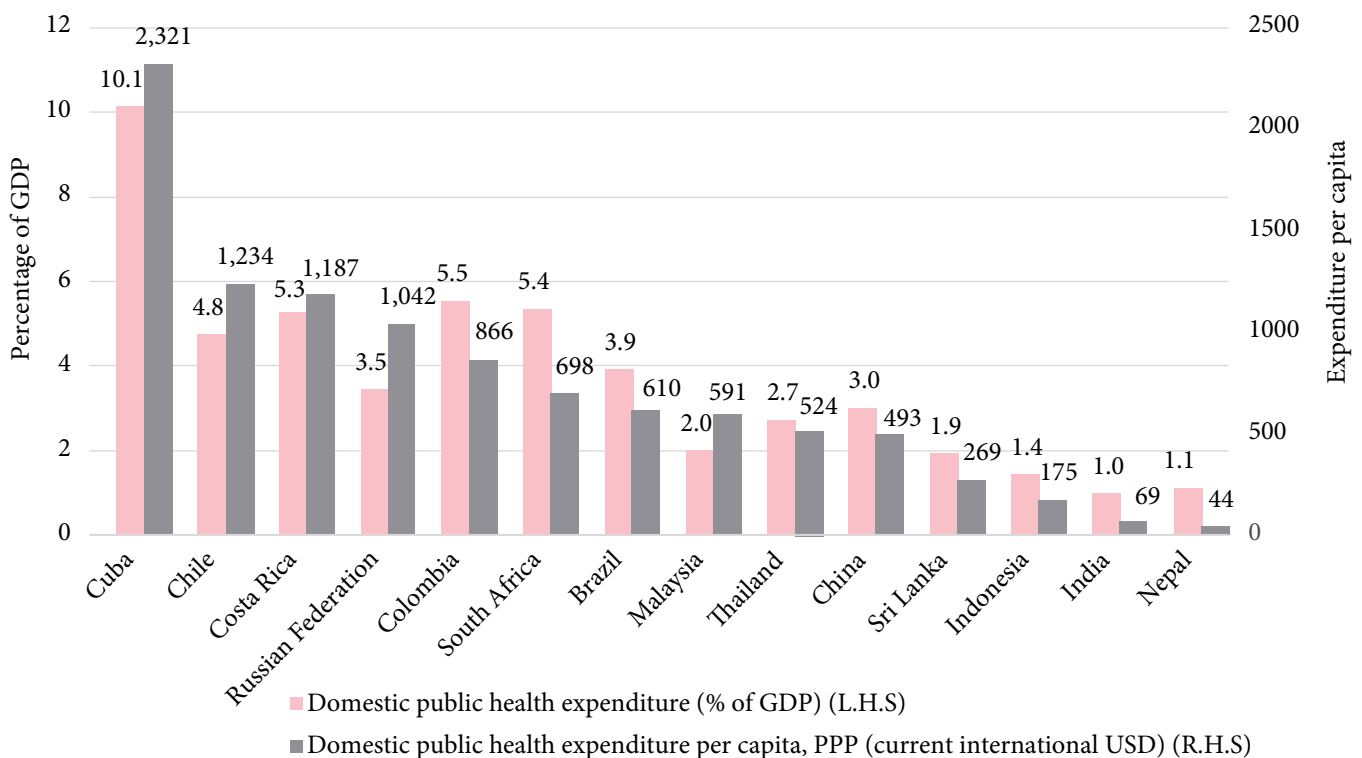
Source: Compiled using data from World Development Indicators, World Bank.

Growth in per capita spending on health by both the Union and the States surged following the launch of the NRHM, but it moderated from the fiscal year 2015-16 onwards (Figure 2).

5.2 Union government vis-à-vis the States

Of over 1.0 per cent of its GDP spent by India as public expenditure on health, over two-thirds is contributed

Figure 2: Growth in Per Capita Public Health Expenditure
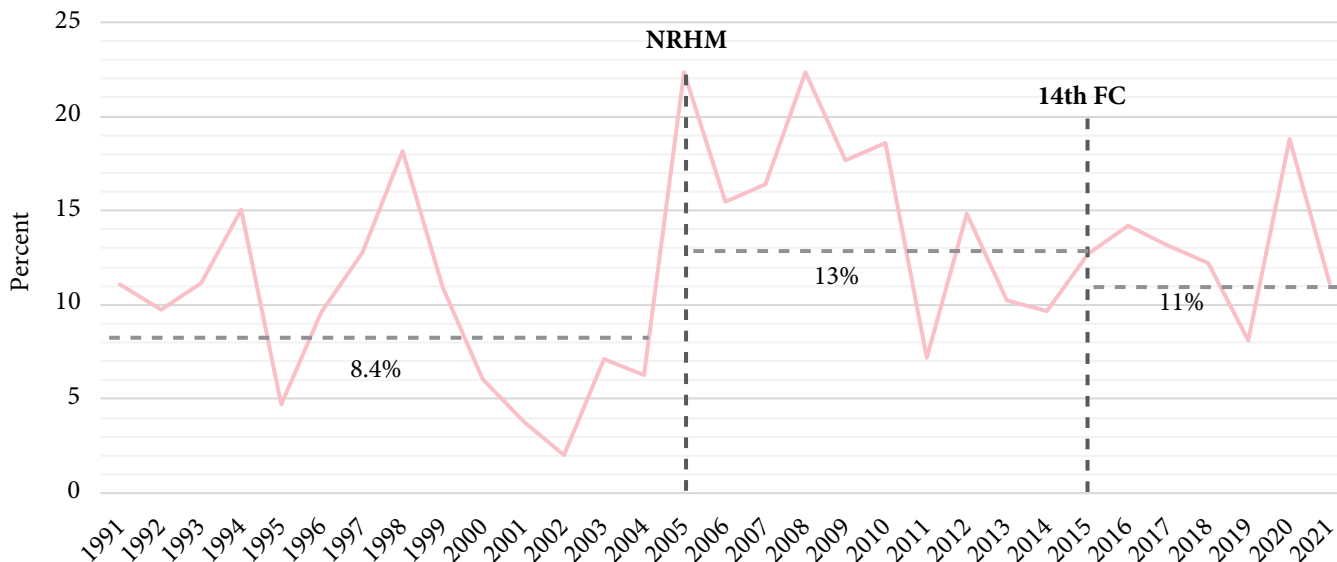
Source: RBI State Finances, A Study of Budget; Union Budgets.

Note: i. Total Public health expenditure includes expenditure by the Centre and the States on Medical and Public Health and Family welfare. Health expenditure by ministries other than Ministry of Health has been excluded.

ii. Data used in this chart have been separately provided in Table A5 (Appendix III).

Figure 3: Public Health Expenditure (as per cent of GDP)
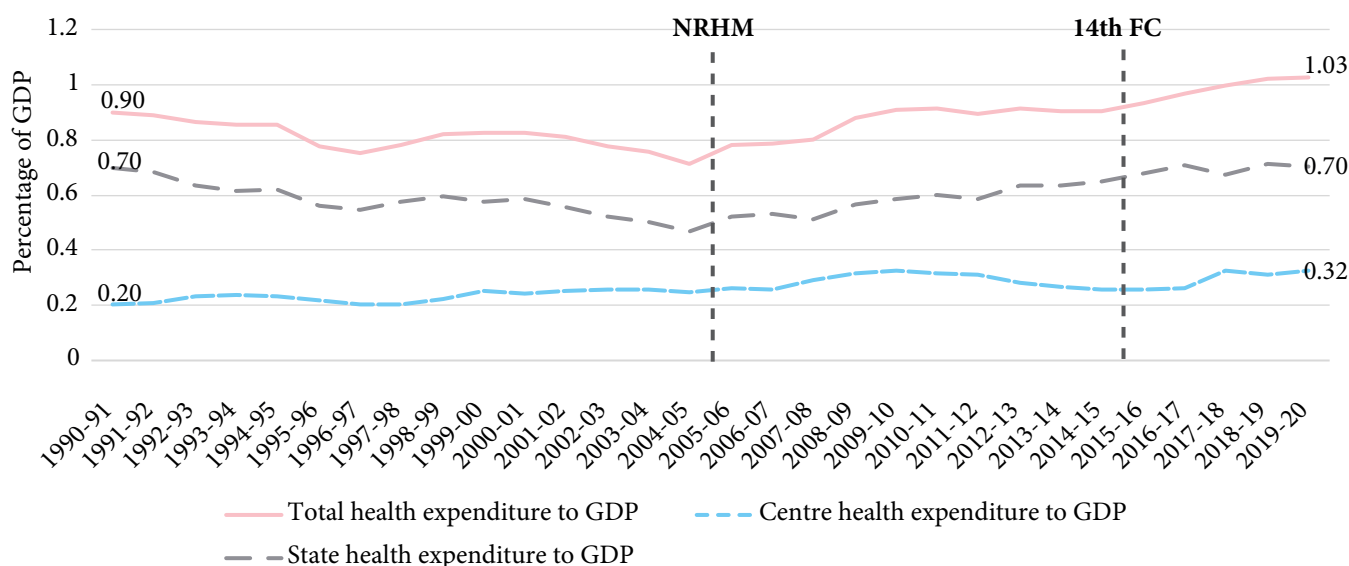
Source: RBI State Finances, A Study of Budget; Union Budgets.

Note: i. Total health expenditure includes expenditure by the Centre and the States on Medical and Public Health and Family welfare. Health expenditure by ministries other than the Ministry of Health has been excluded.

ii. Data used in this chart have been separately provided in Table A6 (Appendix III).

by the States and one-third by the Centre. However, it is disconcerting to note that in the 30-year period between 1990-91 and 2020-21, health expenditure in India rose only marginally by 0.14 percentage points of GDP. The increase was contributed entirely by the Union's health spending, while the States' health spending as percentage of GDP remained unchanged. Health spending by the States declined almost continuously from 0.70 per cent of GDP in 1990-91 to 0.47 per cent of GDP in 2004-05. This declining trend was reversed after the launch of the NHM, which restored the States' health spending to 0.70 per cent of GDP in 2019-20—the same level that existed in 1990-91 (Figure 3).

5.3 Health—A Low Priority in State Budgets

Given the resources available to the States, a question arises: How do they prioritise health? This aspect could be assessed using various indicators. Intriguingly, health spending as percentage of GSDP in many economically well-off states such as Maharashtra, Karnataka Gujarat, Punjab, Haryana, Tamil Nadu, and Delhi (NCT) is below the average spending on health. On the other hand, health spending as percentage of GSDP in some states, including Arunachal Pradesh, Mizoram, Jammu and Kashmir, Meghalaya, Nagaland, Manipur, Puducherry, and Tripura, is above the national average (Figure 4). The latter states are mostly small and hilly, belonging to the category of Special Category States.

Figure 4: Health Expenditure as Percentage of GSDP - 2019
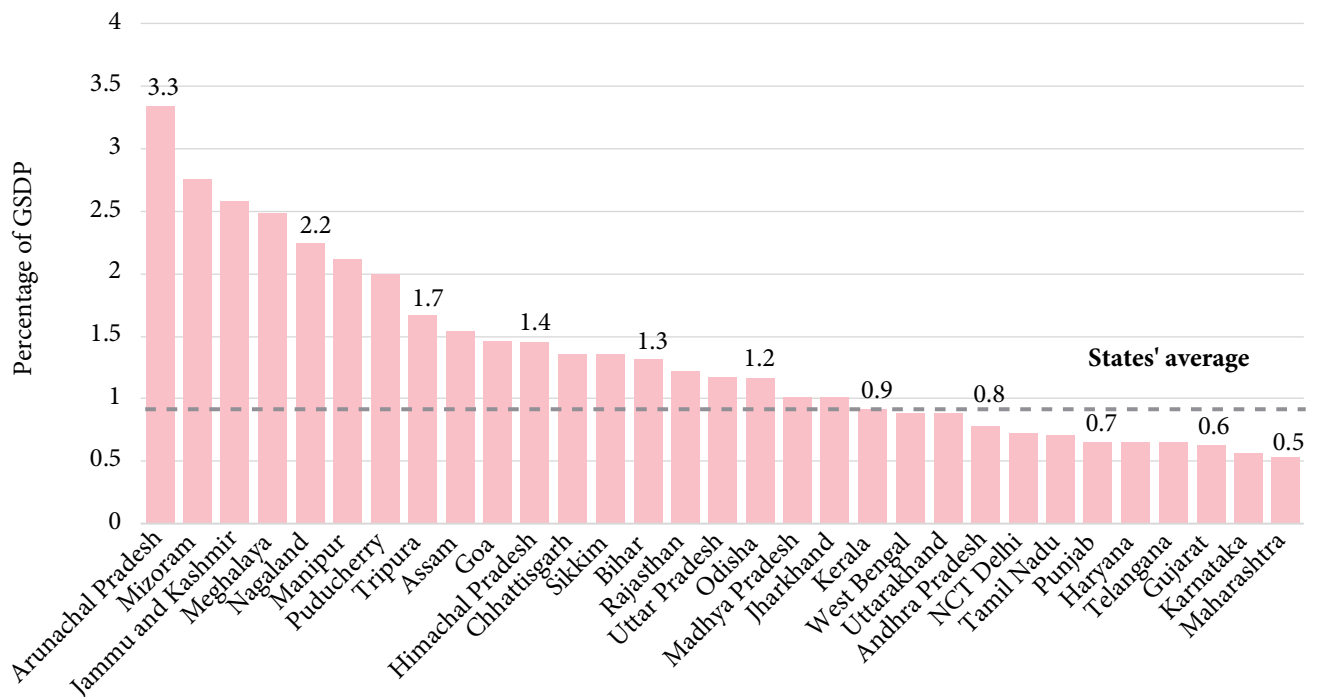
Source: RBI State Finances; RBI Handbook of Statistics for Indian States.

Note: i. Including the Centre's health transfers to the States.

ii. Data used in this chart have been separately provided in Table A7 (Appendix III).

Figure 5: Share of Various Items in Total Expenditure (States)
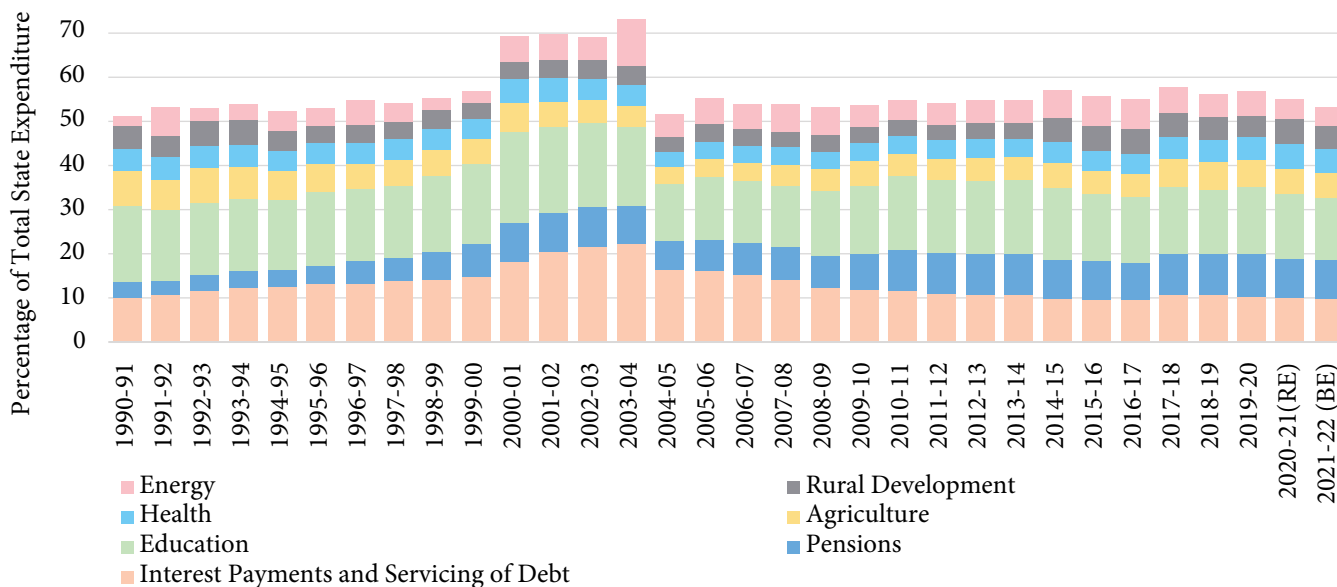
Source: RBI State Finances, A Study of Budgets.

Note: Including the Centre's health transfers to the States.

Among all the major items of expenditure in State budgets, health has consistently been one of the lowest priorities. Over the past 30 years, the share of health spending in the total budgets of the States remained within the range of 3.5 to 5.5 per cent (Figure 5).

Health spending by most States has been around 5 per cent or lower of their total expenditure, even though the National Health Policy, 2017 exhorted the States to increase their health expenditure to 8 per cent of their total expenditure. Only two States/UTs, *viz.*, Delhi and Puducherry, spend more than 8 per cent of their total expenditure on health. On average, States spend 5 percent of their total expenditure on health, but one State, *viz.*, Punjab, spends even less than 4 per cent of its total expenditure on health (Figure 6).

Figure 6: Health Expenditure as Percentage of Total Expenditure (2019-20)
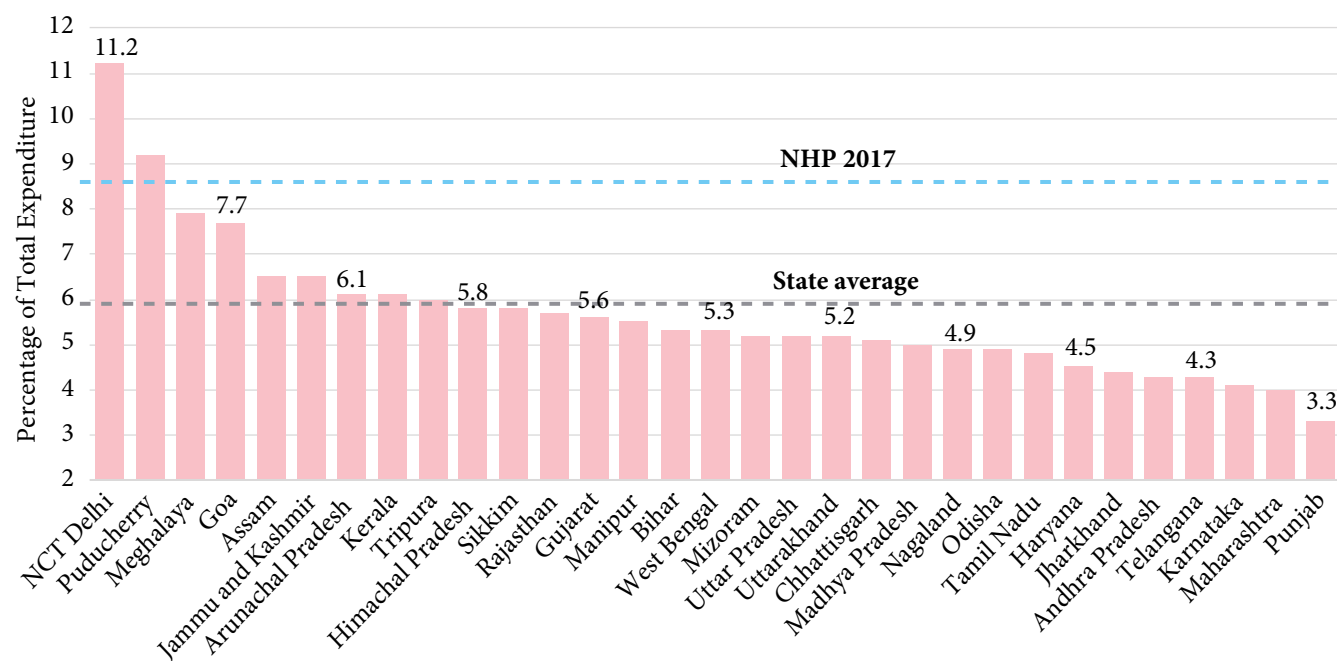
Source: RBI State Finances, A Study of Budget.

Note: i. Including the Centre's health transfers to the States.

ii. Data used in this chart has been separately provided in Table A8 (Appendix III).

However, measuring health expenditure as a portion of the total budget may be misleading, as States have varying levels of committed liabilities (such as interest payments and pensions), which pre-empt their resources, leaving less room for discretionary spending in other sectors. By adjusting for these committed liabilities, we derive what we call 'discretionary capacity.' The ranking of many States changes significantly when their health spending is measured against this discretionary capacity. Kerala, for instance, occupies the top position in health spending, surpassing New Delhi. Punjab, which is at the bottom in terms of health spending based on total expenditure, moves up the ladder to the second position when measured against discretionary capacity. Tamil Nadu and Haryana are two other States that also moved up several places

in health spending based on discretionary capacity. Conversely, Maharashtra and Karnataka, despite being economically well-off states, are almost at the bottom in terms of both measures of health spending (Figure 7).

Public spending on crucial social sector priorities such as health and education also depends on the fiscal space available to the States. Under the FRBM Act, States are required to maintain a zero revenue deficit and keep the fiscal deficit at 3.0 per cent. An analysis of data on key deficit indicators from all States suggests that, until Covid-19 induced disruptions in the economy, States generally maintained almost zero revenue deficit on average, and even recorded a surplus in some years. However, despite having fiscal space, States' health spending remained low (Figure 8).

Figure 7: Health Expenditure as Percentage of Discretionary Capacity (2015-20)
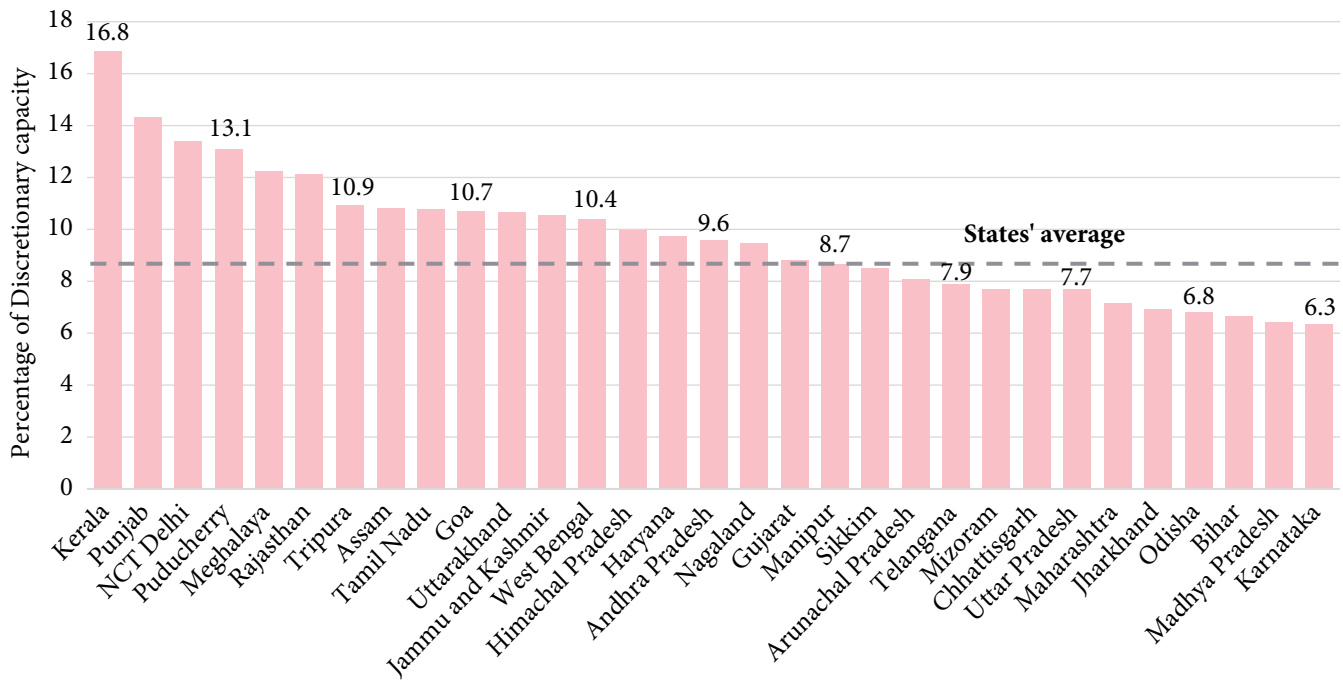
Source: RBI State Finances, A Study of Budgets.

Note: i. Discretionary capacity is total revenue capacity minus non-developmental expenses.

ii. Including the Centre's health transfers to the States.

Figure 8: Key Deficit Indicators and Health Expenditure – All States
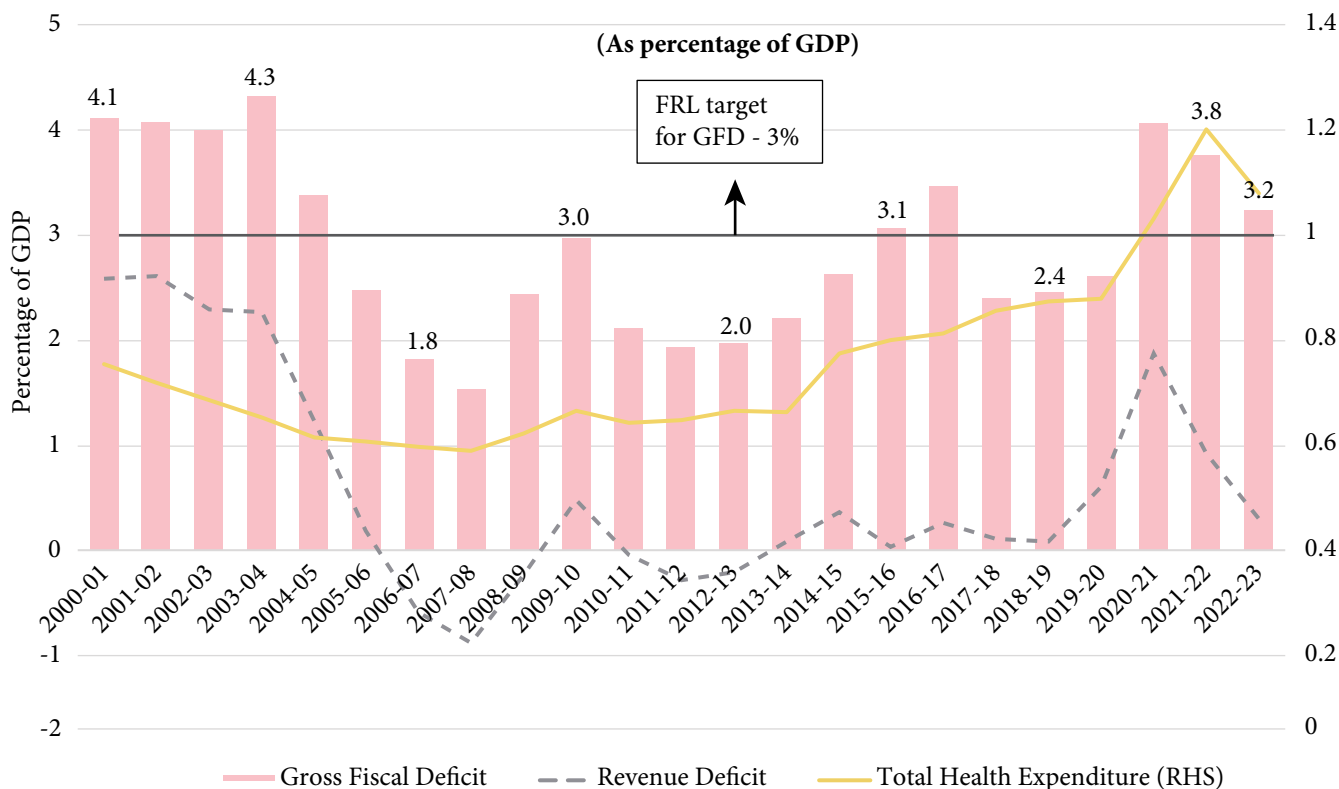
Source: State Finances, A Study of Budgets, RBI and Union Budget documents.

Note: The 3 per cent GFD for States was relaxed temporarily to 3.5 per cent in 2008-09 and to 4 per cent in 2009-10.

5.4 Income and Health Spending by States – Pattern of Relationship

After analysing various health spending indicators, we sought to examine the pattern of the relationship between income and health spending. For this purpose, we used weighted per capita state health spending and weighted per capita income, with weights based on the population levels of the respective States for the year 2019-20, as benchmarks to measure the States' performance in health spending. Four distinct different patterns emerged: (i) Quadrant B includes States with above-average per capita income and above-average per capita health spending (high-income high-health spending States). This quadrant comprises Delhi, Himachal Pradesh, Kerala, Gujarat,

Tamil Nadu Karnataka, Sikkim, Goa, and Andhra Pradesh. (ii) Quadrant D encompasses States with below-average per capita income but above-average health spending (low-income high-health spending States). States in this quadrant include Nagaland, Meghalaya, Jammu and Kashmir, Tripura, Rajasthan, and Manipur. (iii) Quadrant A represents States with above-average income but below-average health spending (high-income low-health spending states) such as Maharashtra and Punjab. (iv) Finally, Quadrant C consists of States with both below-average income and below-average health spending (low-income low-health spending states), including Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh and Assam (Figure 9).

Figure 9: Income and Health Spending: Pattern of Relationship
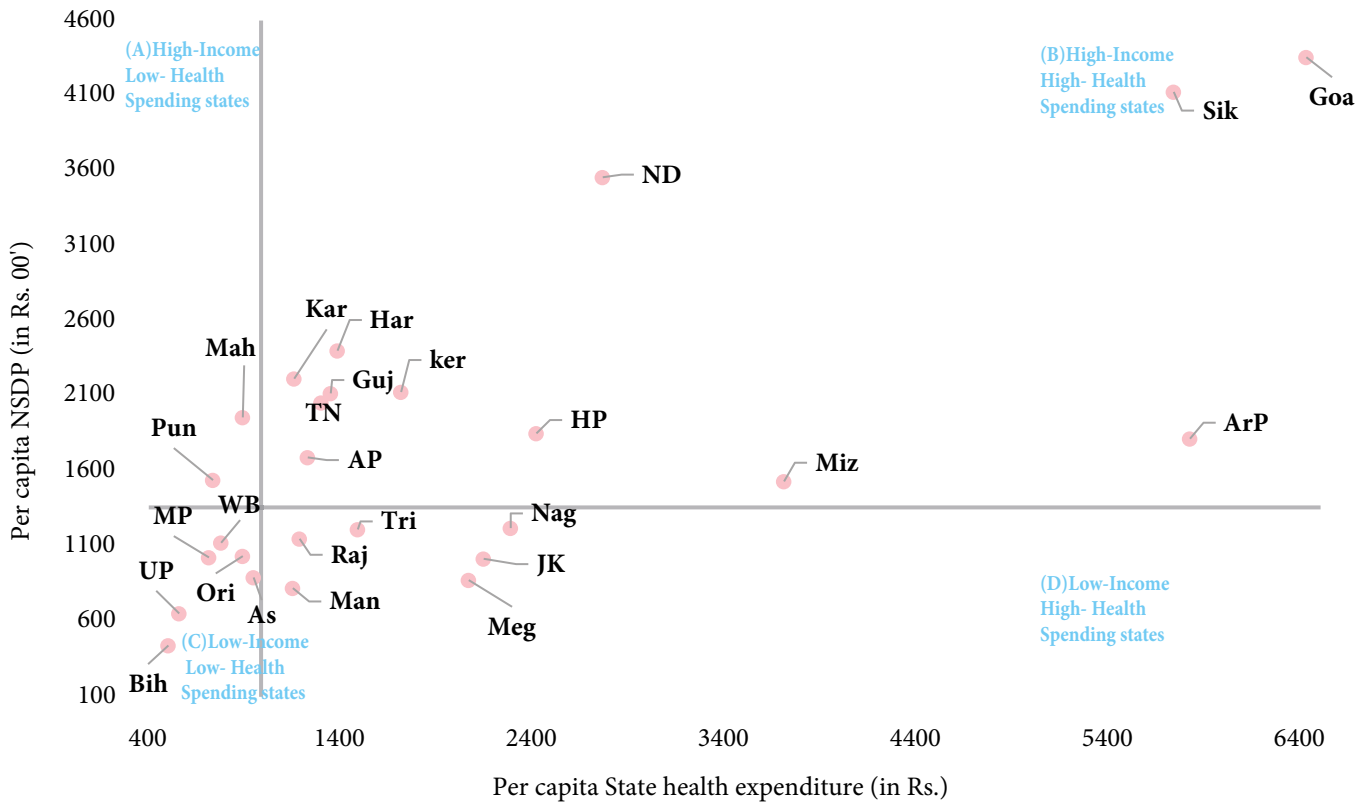
Source: Author's calculations based on data from State Finances, A Study of Budgets, RBI and Union Budget documents.

Based on various indicators, some contrasting trends emerge at the State level. Notably, some north-eastern States, especially, Meghalaya, Sikkim, and Arunachal Pradesh, spend much more on health than many of their counterparts. Sikkim's higher per capita income partly explains its increased health spending. However, Arunachal Pradesh, despite having much lower per capita income, spends as much on health per capita as Sikkim, suggesting that health is a high priority for Arunachal Pradesh. Meghalaya and Mizoram were two other States where health spending was better relative to their income levels. In contrast, Maharashtra and Karnataka, despite being economically well-off, spend much less on health relative to their incomes.

5.5 Public Health Financing – Rising Role of the Central Government

Though health is a state subject, the Union government has been playing an increasingly greater role in health financing. With the launch of several CSSs such as the NHM, Ayushman Bharat, and Central Schemes like the *Pradhan Mantri Swasthya Suraka-sha Yojana* (PMSSY), the Union government has expanded its footprint in healthcare. Reflecting a higher rate of health spending compared to its overall spending, the share of health expenditure in the total spending of the Union Government increased post-NHM, reaching a peak of 2.6 per cent in 2017, before declining thereafter (Figure 10).

Figure 10: Central Government Budget – Health Spending (As per cent of total budget)
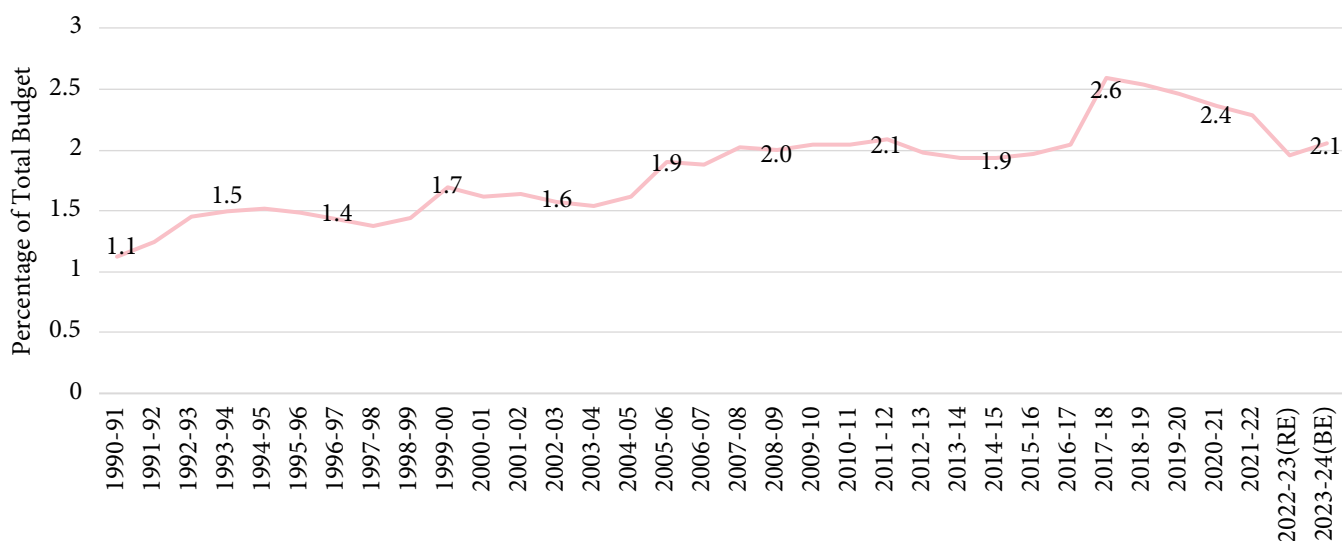
Source: Union Budgets.

Note: Data used in this chart have been separately provided in Table A9 (Appendix III).

Before the NHM was introduced, the share of health transfers to States in total health spending by the Centre was 45.6 per cent in 2004. This figure shot up to 63.0 per cent in 2005 following the launch of the NRHM to peak at 70.0 per cent in 2009. Thereafter, the share gradually declined (Figure 11). This trend suggests that the Central government now allocates relatively more resources on health spending through central sector schemes rather than indirectly through CSSs.

Figure 11: Share of Health Transfers to States in Total Union Spending on Health
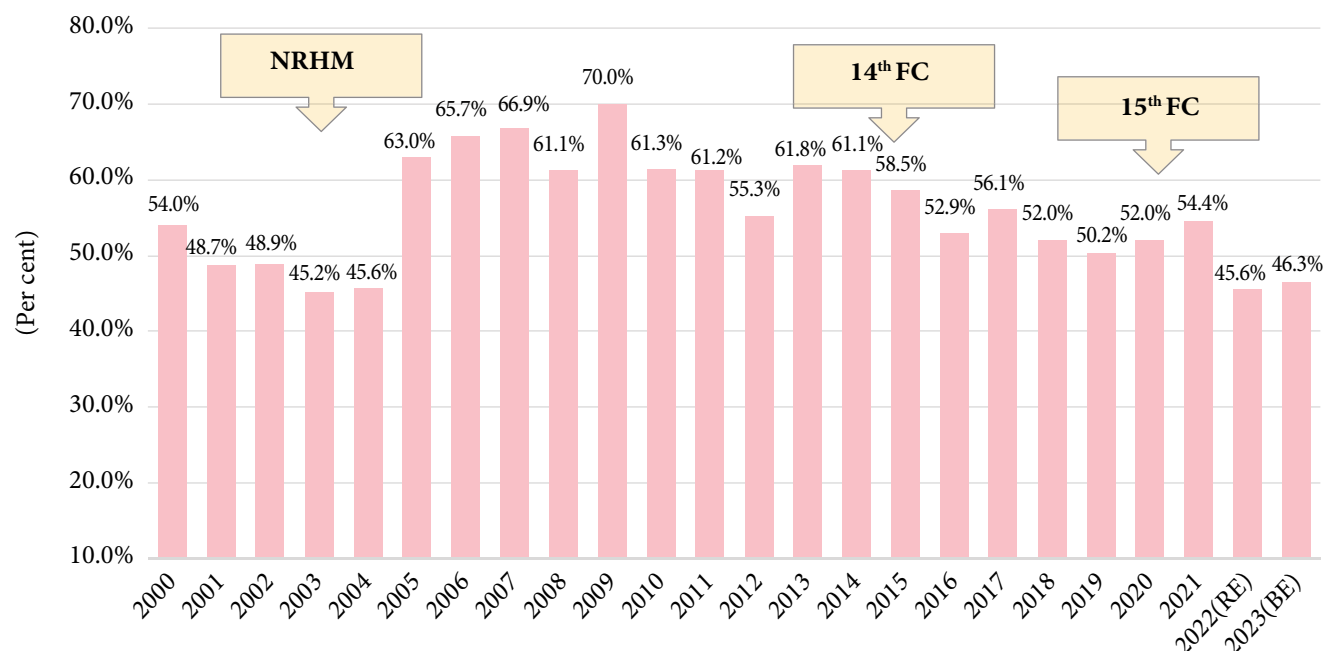
Source: Union Budgets.

Note: 15th FC reduced the share of tax devolution to states to 41 per cent on account of reorganisation of the state of Jammu and Kashmir into 2 union territories.

The following key points emerge from the above analysis:

(i) First, the growth rate of public health spending improved significantly after the launch of the NRHM/NHM, driven by increased spending by both the Union and the States. Health spending by the States, measured as percentage of GDP and their total expenditure, increased post-NRHM, reversing the declining trend observed from the early 1990s. However, overall spending by States on health in their total expenditure remained broadly unchanged at 0.7 per cent of GDP and 5.5 per cent of total expenditure over the last 30 years. As such, health generally remains a low priority in State budgets, including in some economically well-off States.

(ii) Four patterns in the income-health spending relationship were observed: (i) high-income high health spending states; (ii) low-income high health spending states; (iii) high-income low health spending states; and (iv) low-income low health spending states.

(iii) Health spending by the Union government increased post NRHM/NHM. However, most of the increase occurred directly through central sector schemes than through CSSs.

6. Determinants of Health Spending by States

Having analysed trends in the States' own revenues, untied transfers, health-specific transfers by the Centre to the States, we explain their role in determining the health spendings by the States in this section. We seek answers to essentially three questions: (i) To what extent are States' own revenue and untied transfers from the Union are important in explaining health spending in India? (ii) Do States substitute their non-NHM health spending with NHM spending? (iii) To what extent have health transfers by the Centre been able to address horizontal inequalities in health spending post-NHM?

6.1 Literature Review

Several academic works explored the relationship between income and health expenditure across countries. The first seminal work on this topic dates back to 1977 by Joseph P. Newhouse in 1977, who argued

that the income elasticity of health expenditure is greater than one, involving a cross-national study of 13 OECD. Subsequent studies by Leu (1986), Parkin *et al.* (1987), and Brown (1x987) confirmed the relationship between income and health spending, along with several other non-income determinants of healthcare expenditure such as public expenditure, dependency ratio, ageing, and the cost of healthcare services.

The works referred to above generally studied the total health expenditure, comprising both private and public expenditure. A series of literature has also focussed on public health expenditure, which is the interest of our study. Karatzas (2000) studied the determinants of public health expenditure in the U.S. between 1962 and 1989 and found ageing to be the most important factor, followed by income level. A panel data analysis across Italian regions from 1980-95 by Giannoni and Hitiris (2002) also found per capita income and population ageing to be the major determinants of public health care expenditure. Clemente *et al.* (2004), in a panel data analysis across OECD countries from 1960-77, argued income level was the only determinant of public health expenditure. Lu *et al.* (2010), however, found income to be an insignificant determinant of public health expenditure in several low and middle-income group countries. In an interesting study on Chinese provinces, Yu *et al.* (2013) found strategic interaction among the provinces to be determining the level of health expenditure. Boachie *et al.* (2014) found that health policies initiated in the country had a positive role in increasing the public expenditure on health. A Bayesian model used by Byaro *et al.* (2018) identified the old age population as a major determinant of health spending in Tanzania after GDP per capita.

A few studies also explored the relationship between fiscal federalism and public health expenditure. A lot of heterogeneity in public health expenditure in Spanish regions could be explained by the level of decentralisation (Font and Novell, 2006). Matteo and Matteo (1998) found that per capita central transfers of revenue (in real terms) to provinces were a significant and positive determinant of provincial public health expenditure in Canada. A somewhat similar result was observed by Pan and Liu (2011) in a panel data analysis of Chinese provinces. Both the fiscal transfers and budget revenue were found to be significant determinants of public health expenditure in China, but the elasticity of fiscal transfer was

slightly lower than that of the latter. They also found that urbanisation had a negative impact on public health spending, while the proportion of female population in the total population was not found to be impacting health spending.

Several studies also exist on the determinants of public health expenditure in India. Bhat and Jain (2004) analysed public health expenditure at the state level from 1990-2002 using Panel Generalized Method of Moments (GMM) estimation. They found the States' income is the main determinant of public health spending, with an income elasticity of 0.68. In a similar attempt with a panel of 14 states and time period from 1971-91, Rahman (2008) found an income elasticity of 0.47 in India. The study also found the literacy rate to be a significant determinant of public health expenditure with a positive correlation, whereas other supply-side factors, such as doctors relative to population and the primary health care centres, were found to be insignificant. Bringing out the importance of political economy, Hooda (2016) claimed that the election participation was directly related to the level of public health expenditure across the States. The study also found that income elasticity over the years had increased to around unity (i.e., one per cent increase in income led to an almost one per cent increase in public health spending) and availability of financial resources with the States played a crucial role in determining the public health expenditure.

The substitution of health expenditure by States/provinces with health spending by the federal/central government has also been a widely discussed issue worldwide. Farag *et al.* (2009) found evidence of a strong substitution effect in their study, i.e., the extent to which health aid is substituted for, rather than complemented by, domestic health financing among the developing countries. In another study on health financing among developing countries, Lu *et al.* (2010) asserted that the external assistance on health spending decreases health expenditure by the domestic government.

In the Indian context, Rao and Choudhury (2012) in their study on health financing comprising 14 Indian states for the period between 1991 to 2007

found a strong evidence of substitution of states' own health expenditure with centre's health grants. That is, increased central grants to States had the opposite impact on changes in States' own expenditure on health. Kotasthane *et al.* (2018) extended the same analysis to the period 2012-15 and found the similar results. Bowser *et al.* (2019) studied the degree of additionality provided by central grants for primary healthcare among 16 Indian states for the period 2005-13. They suggested a lack of additionality effect between central allocations and States' own contribution to public health. They found this phenomenon was more severe for the wealthier states.

To sum up, studies in the international context have found income to be the main determinant of health spending. However, population ageing, rather than income, was identified as the primary determinant of public health spending. Interestingly, while income was the sole determinant of public health spending in advanced economies, it was not a determinant for low- and middle-income countries. Some studies, which explored the relationship between fiscal federalism and healthcare identified per capita central transfers of revenue to provinces as the key determinant of health expenditure by the provinces.

Studies in the Indian context have found income to be the main determinant of public health spending by States. Additionally, the financial resources available to States were also found to play a key role in public health spending. Literacy was another determinant of public health spending in India. Studies in both international and Indian contexts have found evidence of a substitution effect. A study in the international context found that health aid decreased domestic government health expenditure. In the Indian context, a study found that increased Centre's grants to States were found to be reducing States' own health expenditure.

6.2 Data and Methodology

The study covers 25 states[12] and one UT[13] spanning from 2005-06 to 2019-20, *i.e.,* after the introduction of National Rural Health Mission (NRHM) in 2005. For our analysis, we use the following variables: (i) per capita public state health expenditure; (ii)

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[12] Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Punjab, Rajasthan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh, West Bengal.

[13] New Delhi

net state domestic product (NSDP) as a measure of income of a State; (iii) States' own revenue; (iv) untied or unconditional transfers from the centre; (v) health-specific transfers from the Centre to States. The variables of interest are (i) the States' own revenue and (ii) unconditional and health-specific transfers from the Centre. Per capita Net State Domestic Product (NSDP) is used as a control variable. Following studies by Gerdtham *et al.* (1992) and Pan and Liu (2011), we also use proportion of the female population and the proportion of urban population as other control variables. We were unable to control for literacy rate and aging population due to the unavailability of data.

Per capita nominal NSDP is measured using NSDP at current prices with 2011-12 base divided by state-wise population. Health-specific central grants are proxied by central releases under National Health Mission (NHM) to the States. Per capita health expenditure by the States was obtained after subtracting the central contribution (per capita release under NHM) from the total per capita public expenditure (PHE) in a State. We also calculate PHE by the States after excluding their contribution to NHM, using the matching share of 60:40 (75:25 before 2016-17) and 90:10 under NHM for the States as the case may be. States in India are quite heterogenous, which therefore demands that they should be analysed separately, especially Special Category states vis-à-vis other states. However, this process faced statistical challenges. Testing separate models resulted in unit roots and high multicollinearity. Owing to the short time period of the study, it was not feasible to address unit roots in the variables of interest, as it would have resulted in a significant loss of information. The severe problem of multicollinearity among the variables tends to decrease the reliability of the results as it inflates the standard error of the estimated coefficients. Thus, we proceeded with the analysis for all States together.

The States' own total revenue comprises both their tax and non-tax revenue. Unconditional transfers were arrived at by deducting grants under the CSSs by the Centre to States from the sum of tax devolutions and central grants. The proportion of female and urban population was represented by the ratio of the number of females and urban population to the total population in a state. All the data series are sourced from the 'Handbook of Statistics on Indian States and State Finances: A Study of Budgets' by the Reserve

Bank of India, except for NHM releases by the Centre, which were obtained from the Lok Sabha's unstarred questions.[14] There are some differences in the data as presented in the state budgets and those in the RBI study of state finances. However, a validation exercise conducted on health expenditure in the two sources for the period from 2014-15 to 2019-20 showed that the two series were not significantly different (Avani *et al.* 2024). Therefore, the data based on the RBI state finances were used for the purpose of our analyses. The state-wise data on population were taken from the 'Population Projection of India and States' report of the technical group on population projection in 2020. All the data sets collected are on an annual basis and state-wise.

Since the presence of unit root in the data series can lead to spurious results, we have tested all the variables for unit roots using Levin-Lin-Chu test, the results of which are presented in Table A1 in Appendix IV. All the data series were found to be stationary at levels (*i.e.,* no unit roots), except proportion of female and urban population, which were stationary in the first difference. Thus, we used the first difference form of these variables and level form of other variables.

The following model was used for the purpose of our analysis:

$$\log (st\_hlth)_{it} = + b * \log (pc_{nsdp})_{it}$$
$$+ c^* \log(hlth_{trans})_{it}$$
$$+ d^* \log(st\_rev)_{it}$$
$$+ e^* \log(un_{grant})_{it}$$
$$+ f^*(\Delta female)_{it}$$
$$+ g^*(\Delta urban)_{it}$$
$$+ z_i + u_{it}$$

where;

st_hlth is per capita health expenditure by states,

pc_nsdp is per capita NSDP,

$hlth\_trans$ is per capita health-specific central transfer,

st_rev is per capita States' own revenue,

un_grant is per capita unconditional transfers from the centre,

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14 Sourced from Indiastat

femal and is proportion of female and urban population, respectively.

We tested the above model with two forms of per capita health expenditure by States as the dependent variable—one including the States' contribution to NHM, and the other excluding it. The underlying idea to exclude States' contribution to NHM was to test the substitutability, *i.e.,* whether the States reduce their non-NHM health expenditure to finance NHM. This is because the States are required to make matching contributions to NHM. Therefore, as the Centre's health-specific transfers increase, the States are also required to contribute more to NHM. Therefore, the States may be tempted to substitute their non-NHM health expenditure with that of NHM expenditure.

The subscripts 'i' and 't' denotes i^{th} state and t^{th} time period, respectively, z_i is the unobserved time invariant characteristics; and is the idiosyncratic error term. 'Δ' represents the first difference form.

We expect coefficients of the States' own revenue (d) and unconditional transfer (e) to have positive signs. A negative sign of per capita health-specific central transfer (c) would indicate that the States substitute their non-NHM health spending with NHM spending.

In order to ensure that the chosen model is appropriate, we conducted the Breusch-Pagan Lagrange Multiplier test to check whether the state-specific characteristics were random and whether a panel effect existed. The test results[15] confirmed that the state-specific characteristics were random. Hence, a panel data analysis was found appropriate. In addition, to choose between a fixed effect and a random effect model, Hausman test (1978) was employed. The results[16] showed that the fixed effect model was more appropriate. Furthermore, the Ramsey Reset test[17] confirmed that the model had no omitted variable bias.

Econometric exercises were conducted for (i) all states; (ii) economically well-off states (based on per capita NSDP); and (iii) economically weaker states. Equations were also tested separately with States' NHM contribution included in their per capita health spending and after excluding NHM contribution. The results were tested for 2005-14 period and 2005-19 period to separate the effects of FC-XIV. The results obtained are discussed in the following section.

6.3 Results and Discussion

Health Spending by States including NHM - All States

We first analyse results with States' contributions to the NHM included in their health spending. Both States' own revenue and unconditional transfers were found to be statistically significant. The elasticity of per capita state's health expenditure in relation to per capita unconditional health transfers (0.21) was greater than that of per capita state's own revenue (0.14). This means that an increase in total unconditional transfers translated into greater per capita state health expenditure than an increase in the States' own revenue. Specifically, one per cent increase in per capita unconditional transfers raises per capita state health expenditure by States by 0.21 per cent, while one per cent increase in States' own revenue increases per capita state health expenditure by 0.14 per cent. Interestingly, the impact of States' own revenue was greater than that of unconditional transfers during the pre- FC-XIV period.

The coefficient of the Centre's health-specific transfers was not found to be statistically significant, suggesting that the States did not substitute or complement their own health spending with that of the Centre's health transfers. Substitution needs to be interpreted in a broad sense that the States do not spend on health as much as they should have had they not been receiving health transfers from the Centre. Likewise, complementarity means that States spend more on health with an increase in health-specific transfers than otherwise. The coefficient for the Centre's health-specific transfer was also not found significant, possibly for the reason that some states, especially economically weaker states, may not be able to meet the matching contributions, required under the NHM. Apart from variables of interest, income (NSDP) and female proportion in population were also found to be important determinants of health spending by all States.

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[15] $\chi2(1) = 868.97$, p = 0.0001 and $\chi2(1) = 744.28$, p = 0.0001, it rejects the null hypothesis there is no random effect.

[16] $\chi2(6) = 172.18$, p = 0.00 and $\chi2(6) = 193.51$, p = 0.0001; it rejects the null hypothesis that difference in coefficients is not systematic.

[17] F(3, 354) = 2.43, p = 0.065 and F (3, 354) = 2.53, p = 0.059; it does not reject the null hypothesis at 5per cent significance level that model has no omitted variables.

Table 1: Regression Results: All States

Dependent variable: *Per capita state health spending*

(Including NHM Contribution)

Variable	2005-19	2005-14
Per capita NSDP	0.682***	0.726***
Per capita centre's health-specific transfer	0.005	0.008
Per capita State's own revenue	0.144**	0.156**
Per capita Unconditional transfers	0.211***	0.128*
Δ Female Prop	0.051	0.049*
Δ Urban prop	0.001	0.001
Constant	-4.177***	-4.083***
R^2	0.93	0.88

Source: Authors' calculations.

*Note: * denotes 10 per cent significance level, **5 per cent significance level and *** 1 per cent significance level.*

Health Spending by States including NHM - Economically Well-off and Economically Weaker States

Results for economically well-off states were similar to those obtained for all States, with one notable difference: in the case of economically well-off states, their own revenue was found to be more important in explaining their health spending than unconditional transfers. The elasticity coefficient of economically well-off states' own revenue was 0.20, compared with 0.17 for unconditional transfers (Table 2). However, it is significant to note that the impact of States' own revenue weakened after the award period of FC-XIV, while the impact of unconditional transfers increased.

Table 2: Regression Results: Economically Well-off States

Dependent variable: *Per capita state health spending*

(Including NHM Contribution)

Variable	2005-19	2005-14
Per capita NSDP	0.706***	0.680***
Per capita centre's health-specific transfer	-0.001	0.002
State's own revenue	0.204**	0.293***
Unconditional transfers	0.169**	0.126**

Variable	2005-19	2005-14
Δ Female Prop	0.051	0.033
Δ Urban prop	-0.001	0.001
Constant	-4.669***	-11.693***
R^2	0.95	0.92

Source: Authors' calculations.

*Note: *denotes 10 per cent significance level, **5 per cent significance level and *** 1 per cent significance level.*

In the case of economically weaker states, it was unconditional transfers, rather than their own revenue, that influenced their health spending, as the coefficient of latter variable was statistically insignificant. The elasticity coefficient of unconditional transfers was 0.28, implying every one per cent increase in unconditional transfers to economically weaker states leads to 0.28 per cent increase in their per capita health spending. Also, like economically well-off states, economically weaker states did not substitute or complement their health spending with health-specific transfers from the Centre (Table 3).

Table 3: Regression Results: Economically Weaker States

Dependent variable: *Per capita state health spending*

(Including NHM Contribution)

Variable	2005-19
Per capita NSDP	0.585***
Per capita centre's health-specific transfer	0.017
State's own revenue	0.130
Unconditional transfers	0.285**
Δ Female Prop	0.103
Δ Urban prop	0.001
Constant	-3.689***
R^2	0.90

Source: Authors' calculations.

*Note: *denotes 10 per cent significance level, ** denotes 5 per cent significance level and *** denotes 1 per cent significance level.*

Health Spending by States excluding NHM - All States

We now analyse results with per capita health spending by the States, excluding the States' contribution to NHM. In this case, the dependent variable represents States' spending on non-NHM health, excluding expenditures related to NHM.

The findings, as presented in Tables 1-3, indicated that health-specific transfers had no impact on a State's overall health expenditure. However, these transfers may still influence intra-health spending by reallocating expenditure from one health component to another. This is due to the fact that health-specific grants that States receive are intended for centrally sponsored schemes, specifically the National Health Mission (NHM), which follows a funding pattern of 60:40 matching contribution. Therefore, to receive more central funds, states need to increase their spending on NHM, which could lead to a substitution or reallocation of financial resources between NHM and non-NHM health spending.

The results obtained (Tables 4 to 6) excluded the States' NHM contribution in their health spending, with one notable exception. The Centre's health-specific transfers have a statistically significant and negative impact on non-NHM health spending by States. This implies that as the Centre's health-specific transfers increase, the States reduce their non-NHM health spending. This finding and the earlier results from Tables 1-3, which show that health-specific transfers don't lead to a decline in States' health expenditure, clearly suggest that the substitution is taking place within the health expenditure components. Specifically, States reduce their non-NHM health expenditure to make matching contributions to NHM. Quantitatively, one percentage increase in NHM contribution by the States leads to substitution of 0.09 per cent of their per capita non-NHM spending (Table 4).

Table 4: Regression Results: All States - Excluding NHM contribution

Dependent variable: *Per capita state health spending (Excluding NHM contribution)*

Variable	2005-19	2005-14
Per capita NSDP	0.739***	0.787***
Per capita centre's health-specific transfer	-0.091***	-0.08**
State's own revenue	0.189**	0.201***
Unconditional transfers	0.235***	0.134*
Δ Female Prop	0.061*	0.054**
Δ Urban prop	-0.001	-0.001
Constant	-5.057***	4.851***
R^2	0.92	0.86

Source: Authors' calculations.

Note: *denotes 10 per cent significance level, **5 per cent significance level and *** denotes 1 per cent significance level.

Health Spending by States excluding NHM - Economically Well-off and Economically Weaker States

As observed earlier, the own revenue of economically well-off states played a more important role in explaining their health spending compared to unconditional transfers from the Centre. It is also significant to mention that economically well-off states were found to be substituting their non-NHM health spending with that of NHM spending (Table 5).

Table 5: Regression Results: Economically Well-off States - Excluding NHM contribution

Dependent variable: *Per capita state health spending (Excluding NHM Contribution)*

Variable	2005-19	2005-14
Per capita NSDP	0.757***	0.809***
Per capita centre's health-specific transfer	-0.066*	-0.069*
State's own revenue	0.222**	0.265***
Unconditional transfers	0.185**	0.106*
Δ Female Prop	0.047	0.037
Δ Urban prop	-0.003	-0.002
Constant	-5.334***	-5.625***
R^2	0.94	0.90

Source: Authors' calculations.

Note: *denotes 10 per cent significance level, **5 per cent significance level and *** 1 per cent significance level.

Economically weaker states were also found to be substituting their non- NHM health spending with NHM spending (Table 6). Notably, the substitution effect in respect of economically weaker states was more than twice that of economically-well off states. One possible explanation for this could be that economically weaker states may struggle to make matching contributions to NHM grants. Although the Union government estimates the resource envelope for each state under NHM, actual disbursal only occurs after the State fulfils the Centre's conditions, such as providing utilisation certificate and making matching contributions.

We also tested the model for the period from 2005-2014 to separate the effects of FC-XIV. However, this model did not fit well.

Table 6: Regression Results: Economically Weaker States - Excluding NHM contribution

Dependent variable: *Per capita state health spending (Excluding NHM Contribution)*

Variable	2005-19
Per capita NSDP	0.687***
Per capita centre's health-specific transfer	-0.136***
State's own revenue	0.174
Unconditional transfers	0.328**
Δ Female Prop	0.131
Δ Urban prop	-0.001
Constant	-4.891***
R^2	0.89

Source: Authors' calculations.

*Note: *denotes 10 per cent significance level, **5 per cent significance level and ***1 per cent significance level.*

The following points emerge from the above analysis,

- First, in respect to all States, own revenue and unconditional transfers by the Centre influenced the health spending by all States. However, the economic impact of unconditional transfers was greater than that of the States' own revenue. In the pre-FC-XIV period, however, the impact of the States' own revenue was more important than that of unconditional transfers.

- Second, some significant differences were observed when the States were split into economically well-off and economically weaker States. Own revenue turned out to be more important than unconditional transfers for economically well-off States, though its impact weakened post the award period of FC-XIV. Unconditional transfer was found to be the only determinant of health spending for economically weaker States, with no role of their own revenue.

- Third, both economically well-off States and economically weaker States were found to be substituting their non-NHM health spending with their spending on NHM. However, the substitution effect in respect to economically weaker states was much stronger than that of economically well-off States. It is also significant that even economically well-off States substituted their non-NHM health spending with that of NHM spending before the award period of the FC-XIV.

The above results are quite consistent in that economically well-off States depend more on their own sources for health spending. They are, therefore, in a position to make matching contributions to NHM. However, economically weaker States depend entirely on general purpose transfers from the Centre for financing their health-related spending. Therefore, given the limited financial resources, economically weaker states are tempted to reduce their non-NHM health spending when they are required to make increased matching contribution to NHM.

7. Horizontal Inequalities in Health Spending

In this section, we examine the question whether horizontal inequalities in health spending have declined post-NHM. One of the key features of the NHM has been the categorisation of States into high focus states (with low health indicators) and non-high focus States for allocation purposes. The Union government has consistently allocated more resources, on a per capita basis, to high focus states *vis-a-vis* non-high focus States. Of the total allocations under NRHM/NHM, about 60 per cent are transferred to 18 high focus states (Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Himachal, Jharkhand, erstwhile Jammu and Kashmir, Manipur, Mizoram, Meghalaya, Madhya Pradesh, Nagaland, Odisha, Rajasthan, Sikkim, Tripura, Uttarakhand, Uttar Pradesh) and 40 per cent to non-high focus states. Reflecting this, per capita allocation under the NHM has been consistently higher in high-focus states vis-à-vis non-high focus states. On a per capita basis, Arunachal Pradesh receives the highest health transfers from the Centre under the NHM, while Maharashtra the lowest (Figure 12).

Figure 12: Central Transfers to States Under NHM (2019-20)
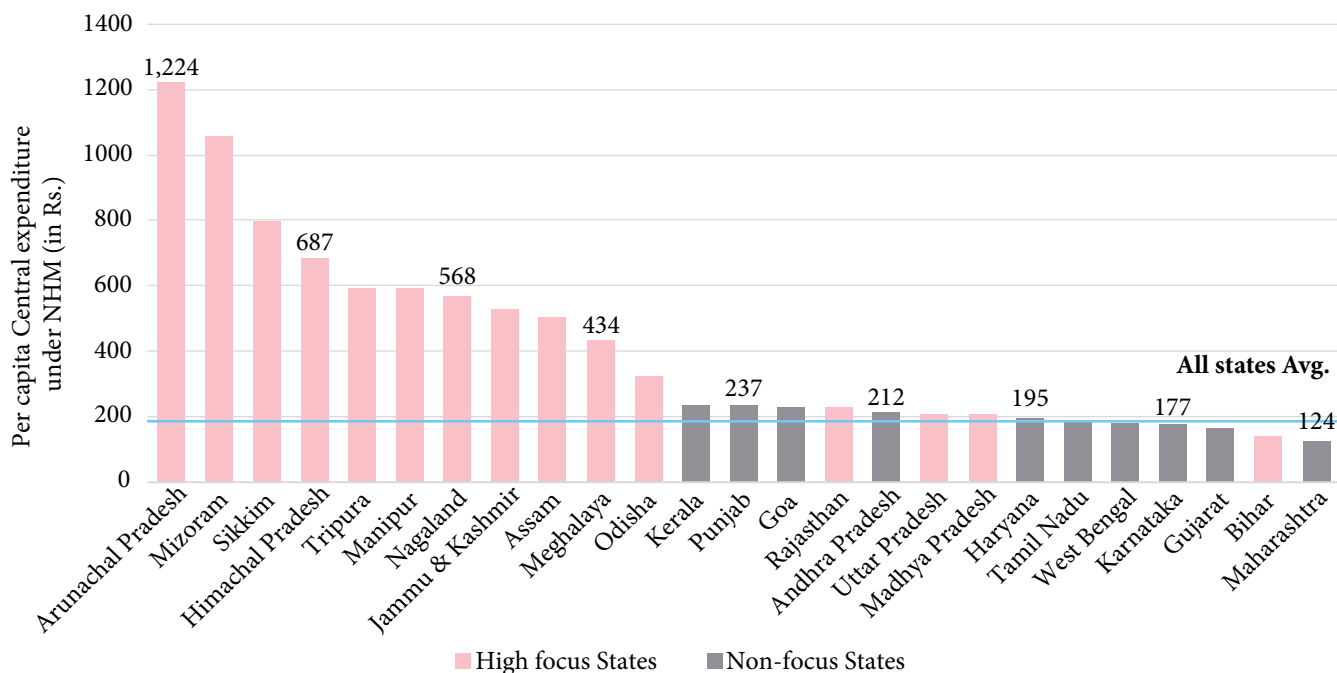
Source: Union Budget documents and Indiastat.

Reduction in inequalities also means convergence in per capita spending on health amongst States. Two types of convergence, *viz.,* sigma (σ) or absolute beta (β) convergence have been tested in this section. While σ convergence tells us whether dispersion or inequalities have narrowed down over a period of time, β convergence tells us whether States with initial low per capita health spending are catching up with States with initial high per capita health spending. Both these terms are related. β convergence will result in σ convergence until the point when a low health spending state has caught up with initial high health spending state. σ convergence may begin to widen again if after catching up, the state with initial low health spending continues to outperform leaving behind the state with initial high health spending.

We study convergence for two periods, *viz.,* 1991-2004 (pre-NHM) and 2005-2019 (post-NHM) for 25 States and one union territory (UT) based on per capita public health spending (PHE), both in nominal terms and real terms; the real per capita state health expenditure based on 2015 prices. Convergence is also examined across all States and also separately for high focus states.

Sigma (σ) Convergence or variability

The Coefficient of Variation (CV) based on per capita income in nominal terms of all States as well as high focus States increased over the years [Figure 10 (a) (b)]. In real terms, CV broadly mirrored the CV in nominal terms for all States as well as high focus States [Figure 13 (c) and (d)]. These suggest that inequalities in health spending both in nominal and real terms have widened over the years.

Figure 13: Per capita Real and Nominal Per Capita Health Spending

(a) CV for all states (Nominal Terms)

(b) CV for high focus states (Nominal Terms)

(c) CV for all States (Real Terms)

(d) CV for high focus states
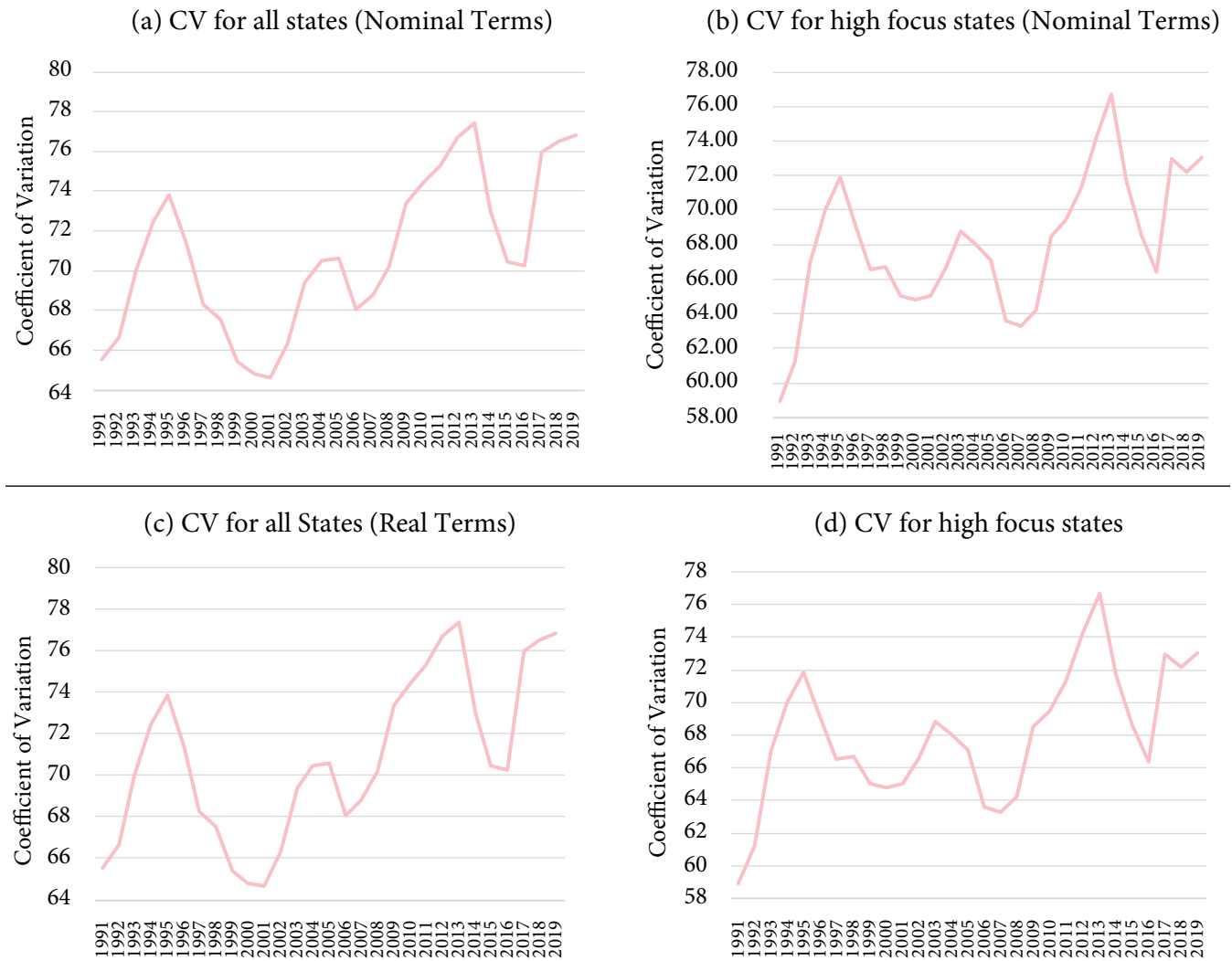
Source: State Finances, A Study of Budgets, RBI.

Sigma (σ) convergence for per capita PHE (in real terms) has also been tested econometrically using the following model:

$$CV = a + bt + ut$$

Where a is the intercept term, b is the slope or the rate of change of Coefficient of Variation (CV) over time and u_t is random error term. For σ convergence to hold should be negative.

Absolute β Convergence

Absolute β convergence can be tested with the following equation:

$$log\ (h_{it}/hi_{it-1}) = a + b\ log\ (h_{it-1}) + u_{it}$$

Where h_{it} is per capita real health expenditure of state i, in time period t, while the subscript $t - 1$

indicates lagged value. The left-hand side of the equation is the growth rate of real per capita health expenditure, which is a function of level of per capita real PHE in time $t - 1$, which is used in place of initial level. The intercept and slope coefficient are a and b, respectively, and u_{it} is the random disturbance term. The slope coefficient (b) should be negative for absolute β convergence to hold.

7.1 Results and Discussion

Absolute or (β) convergence

Results for absolute (β) convergence for both the periods—pre-NHM and post-NHM—are set out in Table 7. Lagged co-efficient of per capita real PHE (slope coefficient) for all States was statistically insignificant for both the periods, *i.e.,* pre-NHM and post-NHM, suggesting no evidence of convergence or divergence.

Table 7: Absolute (β) Convergence: Results – All States

Variable	1991-2004 (Pre-NHM)	2005-2019 (Post-NHM)
Constant	-0.015	0.104***
L1. Per capita real PHE	0.005	-0.006

Source: Authors' calculations.

*Note: *** denotes 1 per cent level of significance and ** denotes 5per cent level of significance.*

However, for **high focus** states, the co-efficient of lagged per capita PHE (the slope co-efficient) was statistically significant for the pre-NHM period, but with a wrong sign, suggesting divergence in the pre-NHM period. However, the slope co-efficient was statistically insignificant for the post-NHM period. This suggests that β divergence in health spending that was occurring in the pre-NHM period, ceased to exist in the post-NHM period (Table 8).

Table 8: Absolute (β) Convergence: Results – High Focus States

Variable	1991-2004 (Pre-NHM)	2005-2019 (Post-NHM)
Constant	-0.040*	0.109***
L1. Per capita real PHE	0.008**	-0.007

Source: Authors' calculations.

*Note: *** denotes 1 per cent level of significance, ** denotes 5per cent level of significance and * denotes 10 per cent level of significance.*

Thus, while there was absolute divergence of high focus states in the pre-NHM period, there was no such evidence for the post-NHM periods. Overall, there was no evidence of any absolute convergence or divergence in the post-NHM period.

Sigma convergence/divergence

The slope coefficient (σ) of per capita PHE for **all States** was statistically insignificant for the pre-NHM period. Though the coefficient was statistically significant for the post-NHM period, but it had the wrong sign, suggesting increased inequalities in health spending in the post-NHM period (Table 9). This finding is consistent with the finding based on graphic representation of per capita health spending.

Table 9. Sigma Convergence: Results (All States)

Variable	1991-2004 (pre-NHM)	2005-2019 (post-NHM)
Constant	319.035	-795.129**
Slope coefficient	-0.125	0.431**

Source: Authors' calculations.

*Note: *** denotes 1 per cent level of significance, ** denotes 5per cent level of significance and * denotes 10 per cent level of significance.*

Similar results were also found for high focus states (Table 10).

Table 10. Sigma Convergence: Results (High Focus states)

Variable	1991-2004 (pre-NHM)	2005-2019 (post-NHM)
Constant (a)	-441.075	-1078.925**
Slope coefficient (b)	0.254	0.571**

Source: Authors' calculations.

*Note: *** denotes 1 per cent level of significance, ** denotes 5 per cent level of significance and * denotes 10 per cent level of significance.*

To sum up, there is no evidence of states with initially low health spending catching up with those with high health spending post-NRHM. Overall, however, horizontal inequalities in health spending widened in the post-NHM period in the case of all States as well as high focus states.

8. Summing Up and Policy Implications

This study examined holistically the impact of fiscal federalism on health spending by States in India. The study sought to answer the five key questions. First, how have overall finances of States—States' own revenue and fiscal transfers from the Centre—evolved in recent years? Second, how did States prioritise their health spending, given their financial resources, including transfers from the Centre? Third, how far did States' own revenue, untied transfers and health-specific transfers from the Union influence health spending by States? Fourth, whether States substituted their non-NHM health spending with that of their NHM contribution? Fifth, how did horizontal inequalities in health spending evolve post-NHM? There were two reference periods of the study. One, 2004-05, *i.e.,* when the NHM was introduced and second 2015-16 onwards, *i.e.,* the first year of the

award period of the FC-XIV. The study also took a longer-term view, wherever relevant.

The study provides some important insights. First, finances of state governments have undergone significant changes over the years. The share of tax devolutions (in States' revenue receipts) increased in the first four years of the award period of the FC-XIV, but declined from 2019-20 onwards, *i.e.,* even before the Covid-induced economic slowdown set in. By 2020-21, the share of tax devolutions declined almost to the pre-award period of FC-XIV. Second, the relative significance of States' own revenue in their revenue receipts declined sharply from 2014-15 due to a surge in fiscal transfers from the Centre so much so that the share of States' own revenue in their revenue receipts (52.2 per cent) and fiscal transfers (48.3 per cent) almost converged in 2020-21. As percentage of GDP, States' own revenue remained flat from 2004-05 onwards. Within fiscal transfers, while the share of tax devolutions in revenue receipts of States remained broadly unchanged between 2014-15 and 2020-21, that of tied transfers (CSS and others) increased sharply, which the FC-XIV tried to reduce. As a result, the gap between the share of tax devolutions in States' revenue receipts and CSS transfers significantly narrowed down. Though CSS transfers increased sharply, the share of health transfers in CSSs declined, suggesting that health transfers did not keep pace with the overall CSS transfers.

How did these changes in state finances impact health spending? Health spending both by the Centre and the States increased post-NHM, but it slowed down post FC-XIV. Most of the increase in health spending as percentage of GDP post-NHM was contributed by the States (0.23 percentage points of GDP), though over the 30-year period, health spending by States remained broadly unchanged. Overall, health remains a low priority in state budgets, with health spending constituting just 5 per cent of States' total expenditure, with large inter-state variations. Some significant changes were observed in the relative position of some States when health spending was measured based on States' discretionary capacity (revenue receipts adjusted for committed liabilities) rather than total expenditure.

The relationship between income and health spending showed diverse patterns, with some low-income states spending more on health (relative to their income) such as Meghalaya, while some economically well-off states spending less on health (relatively to their income) such as Punjab and Maharashtra. The Union

has expanded its footprints in health in recent years. However, the nature of intervention in health by the Union changed over the years. While in the first five years after the roll out of NRHM, health spending by the Union increased sharply through CSSs, thereafter it increased largely through central sector schemes.

After having analysed the data on fiscal transfers and health spending by States, we sought to answer the following three questions: (i) How far has States' own revenue, unconditional transfers, and health-specific transfers from the Centre influenced their health spending? (ii) Whether States substituted their non-NHM health spending with NHM spending? (iii) How far health transfers by the Centre were able to reduce horizontal inequalities in health spending post-NHM?

Some important findings emerge from the study. One, States' own revenue and unconditional transfers were found to be impacting health spending positively. The impact of unconditional transfers for all the States, however, was greater than that of their own revenue in explaining health spending, unlike the period prior to award period of FC-XIV, when own revenue was more important than unconditional transfers. Results were strikingly different when States were split into economically well-off and economically weaker states (based on average per capita income). In the case of economically well-off states, their own revenue was more important than unconditional transfers in explaining their health spending, though the impact of their own revenue weakened post the award period of FC-XIV, while that of unconditional transfers increased. In the case of economically weaker states, only unconditional transfers were found to be contributing positively to health spending, with no impact of their own revenue.

Both economically well-off and economically weaker states substituted their non-NHM health spending with NHM spending, though the extent of substitution was much larger in the case of latter. In other words, they did not spend on non-NHM healthcare as much as they would have in the absence of NHM. Also, even economically well-off states substituted their non-NHM health spending with their matching contribution to NHM before the award period of FC-XIV.

Horizontal inequalities in health spending generally widened for all States and high focus states post-NHM, despite greater allocations to high focus states. This should not be surprising when we see this

finding in conjunction with the earlier finding that economically weaker states substituted their non-NHM health spending with NHM spending.

The results suggest that economically well-off states behave differently from economically weaker states insofar as health spending is concerned. Economically well-off states depend more on their own sources for health spending, unlike economically weaker states, which depend entirely on general purpose transfers from the Centre for financing their health-related spending. It should, therefore, not be surprising that horizontal inequalities in healthcare widened over the years.

The above findings have several policy implications. First, fiscal union-state relations do matter for health spending. Our findings clearly suggest that unconditional transfers are extremely important from the health spending standpoint. That is, more than health-specific transfers, it is general transfers which matter more for health spending as the more resources states have at their disposal, more they will spend, including on health. It seems health-specific transfers do not hold any special appeal for States. In fact, the finding that both economically well-off and economically weaker states even substitute their non-NHM health spending with NHM spending raises the question about the effectiveness of NHM in improving the overall health spending in the country. To eliminate the effect of substitution, there is a need to change the design of NHM. We do not have a contrafactual. However, going by our results, it would not be wrong to infer that if instead of health-specific transfers, had unconditional transfers been increased, health spending outcomes by States perhaps could have been different.

Second, though the findings of this study are not encouraging about the role of NHM in improving overall health spending, it should be the endeavour to maximise its impact by harmonising the role of the Central Government and States in healthcare. States make significant matching contributions to NHM. States often complain about the 'one size fits all approach' of the NHM. The Union government, therefore, needs to give much greater flexibility to States. Furthermore, the Union needs to follow a differentiated strategy for economically richer and economically weaker states.

Policymakers in many countries, including the United States and Canada, struggle to determine the appropriate roles of federal and state governments with respect to health funding, priority setting, and the design of health care systems. Though there are no easy answers, some areas could be identified in the Indian context. (i) States, in general, appear to lack ownership of healthcare schemes designed and sponsored by the Centre. In fact, a recent study does suggest that many States feel that they are mere implementing agencies (Kapoor, *et al.*, 2024). There could also be an issue of moral hazard. The greater role of the Union government in healthcare may be making some States take a back seat when it comes to health spending. For health scheme to succeed, it is important that States own the schemes, and that they are actively involved in health schemes of the Centre at the design stage. (ii) States need greater flexibility in health schemes framed by the Centre to innovate and adapt. The Union has done well to merge various categories of flexi-pools under NHM to provide greater flexibility to states.[18] However, the Union needs to examine areas where more flexibility could be extended. (iii) There is a need to change the incentive structure, whereby States are encouraged to complement rather than substitute their health spending for every single rupee spent by the Union.

Third, while financial capacity in general does matter for health spending, it is not the only factor which influences health spending. If that was the case, then economically well-off states such as Maharashtra and Karnataka should spend much more than they have on health. It is also a question of how States prioritise health in their overall budgetary operations. A recent study has suggested that critical leadership plays a key role in determining health as a priority (Kapoor, *et al.*, 2024). Health, therefore, needs to be brought at the centre-stage by political leadership.

Fourth, the current thrust of NHM on high focus states has not served its intended purpose. It is true that NHM helped reverse the declining trend in health spending by the States. However, the thrust was not strong enough for horizontal inequalities in health spending to decline, let alone vanish. There will be a need to provide for a much greater thrust on health spending by high focus states. It is indeed puzzling that large inter-state variations exist in health spending, and this could be an important area of future research.

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[18] RCH-HSS, DCP, NCD and NUHM pools

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Appendix I

Federal Structures and Healthcare – Cross-country Experiences

United States

The U.S. Constitution does not expressly address which level of government has authority over health matters or whether such authority is shared between the federal and state governments. However, the federal government justifies its involvement in healthcare through its power to spend for the general welfare and levy taxes to raise revenues to underwrite such programs (Tarr, 2011). Medicaid, a government programme in the U.S., provides health benefits for low-income individuals, including children, pregnant women, parents of dependent children, the elderly, and individuals with disabilities. Medicaid is jointly funded by the federal government and the States. The federal payments are structured as a match of state spending, with the matching rate (which by law must be at least 50 per cent) varying based on the per capita income of the States. Medicaid plays a crucial role in state budgets, with states spending about 20 per cent of their budgets on Medicaid (Schapiro, 2020). Medicare, another health programme, is fully funded by the federal government. The Children's Health Insurance Program (CHIP) is funded through matching grants provided by the federal government to States.

Germany

In Germany, healthcare is a responsibility shared by the federal government and States. While the federal level sets the overall legal framework, the state governments are responsible for hospital planning and public health services (Health Systems Review, 2020). Health policy execution is predominantly a federal responsibility, with most fiscal transfers provided by the federal government. The responsibilities for health expenditure lie with the provinces (Field and Hagen 2007). The 16 state governments in Germany also play a significant administrative role, determining hospital capacity, financing hospital investments, and supervising public health services (Bluemel and Busse, 2020).

Canada

Canadian provincial governments have primary responsibility for financing, organising, and delivering health services and supervising providers. The federal government co-finances provinces/territorial universal health insurance programs and administers a range of services for certain populations (Allin, S. *et al.* 2020). Over 20 per cent of PT (provinces and territories) health financing is from the Canada Health Transfer, a cash transfer from the federal governments to the PTs. Since 2014, the Canada Health Transfer is provided on a purely per capita basis and does not account for differences in population needs or costs of delivering health care (Health Systems Review, 2020).

Australia

In Australia, health was originally the responsibility of the States, and the federal government's involvement was limited to matters of quarantine. In 1921, a Commonwealth department of health was established, through which the federal government started to help the States with the provision of public health services. A constitutional amendment in 1946 gave the federal government broad powers in all aspects of health policy. Thereafter, policymaking processes have been dominated by the Commonwealth (Healy *et al.* 2006*).*

The federal government provides funding and indirect support for inpatient and outpatient care. The federal government is also responsible for regulating private health insurance, pharmaceuticals, and therapeutic goods. However, it has a limited role in direct service delivery. States own and manage service delivery for public hospitals, ambulances, public dental care, community health (primary and preventive care), and mental health care. They contribute their own funding in addition to that provided by the federal government (Health in Australia, 2013).

Brazil

In Brazil, health is in the concurrent list. Health transfers in Brazil are conditional transfers by the federal government. The constitution amendment (No. 29 in the year 2000) mandates that health financing be increased in alignment with GDP growth and and requires it to be higher than the financing in previous years. The amount transferred to States is not fixed, it is determined on a per capita basis for basic health services. The other component of transfers is

based on services provided in the region. Overall, the federal government covers about 60 per cent of the health care bill. States and municipalities split the rest on a more or less equal basis. Financial cooperation in health care is assured by earmarking 12 per cent of state revenues and 15 per cent of municipality revenues for health care spending (Rezende, 2007).

Malaysia

The Malay Constitution details the distribution of legislative powers and responsibilities between the federal and State governments. The States have no control over crucial issues that have a bearing on its developmental progress. Important issues such as education and health are entirely beyond the scope of the States (Nambiar, 2007).

Public sector health services in Malaysia are centrally administered by the Ministry of Health through its central, state, and district offices. Policies and programmes are centrally formulated, funded, and administered with the Ministry of Health state offices directing service delivery by their district offices, hospitals, and centres. A health facility receives a fixed annual budget, organised under standard budget lines and linked to performance indicators and targets. The Ministry of Health's rationale is that standard programmes facilitate similar and equitable practices across the country and thus help achieve national goals (Health Systems Review, 2012).

Argentina

Provincial governments in Argentina enjoy authority over vital areas of public policy such as health and education and they have liberty to execute their own social welfare programs. This policymaking authority of provinces is complemented by the Constitution's residual power clause: provinces reserve all powers not delegated to the federal government. Theoretically, provinces have powers over health in Argentina. However, in reality federal government drives the health through funds. Sub-national governments are responsible for almost 50 per cent of the total consolidated public sector expenditures. Despite that, the national government maintains significant regulatory powers in many of these areas and directly manages many programs within these sectors (Inter-American Development Bank, 2012).

Appendix II

State Finances – How have they Evolved in the Recent Period?

Revenue receipts of States contain two components, *i.e.,* their own revenue (tax and non-tax) and transfers from the Centre, which, in turn, contain two components, *viz.,* Finance Commission transfers (tax devolutions and grants) and transfers from the administrative ministries of the Union government.

After the recommendation of the FC-XIV, the share of tax devolutions in revenue receipts of the States increased to 26.6 per cent during the award period of the FC-XIV *vis-a-vis* 22.1 per cent during the award period of the FC-XIII. With this, the share of States' own tax revenue declined more or less by the same percentage points. The shares of CSS and other non-tax transfers from the Union and other components remained broadly unchanged (Figure A1 and Table A1).

Figure A1: Revenue Receipts of the States – FC-XIV vis-à-vis FC-XIII
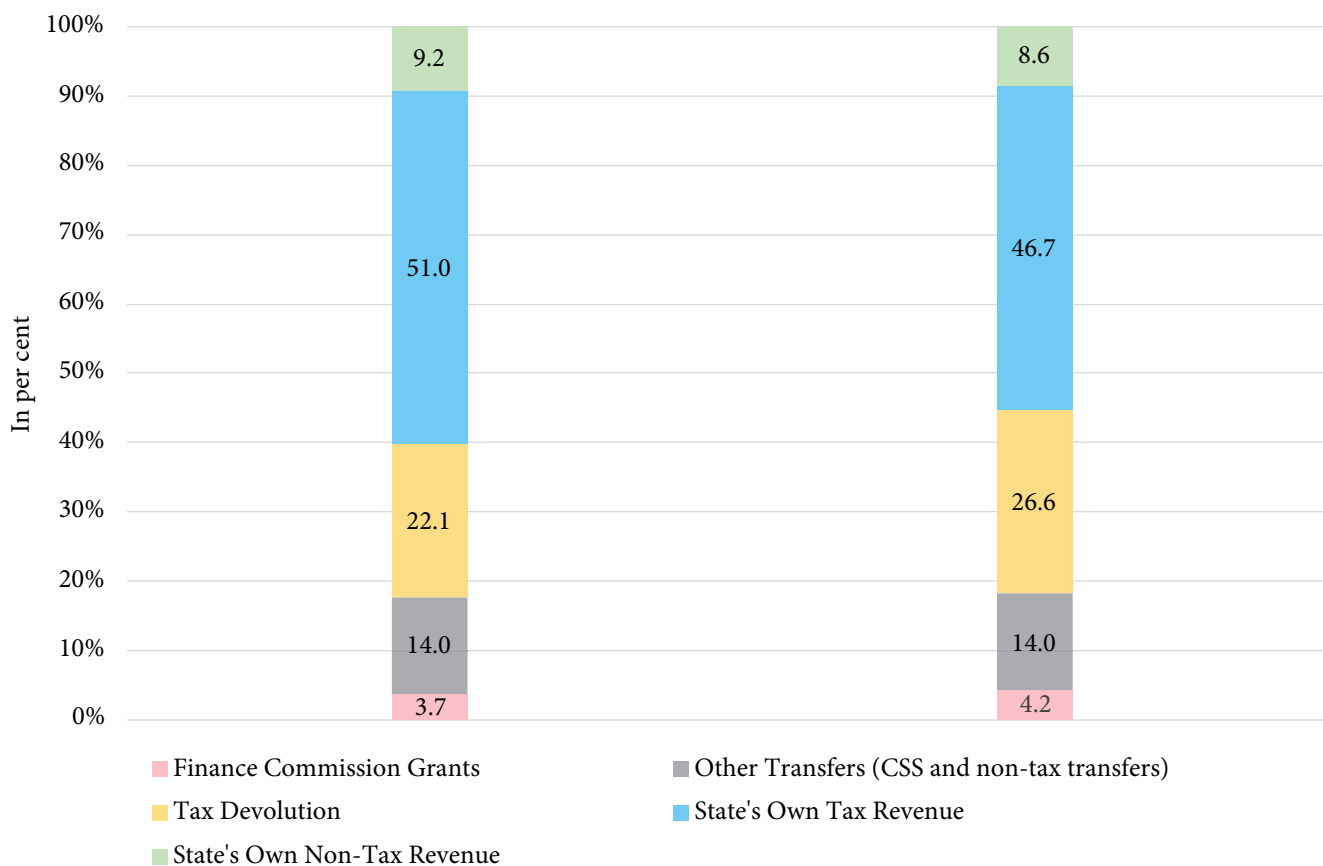
Source: *State Finances, A Study of Budgets, RBI.*

Note: *Back-to-back loans by the Union are reflected in other transfers. Transfers under FC-XIV includes GST revenues.*

Table A1: Revenue Receipts of the States – FC-XIV vis-à-vis FC-XIII

	Finance Commission grants	Other Transfers (CSS and non-tax transfers)	Tax Devolution	State's Own Tax Revenue	State's Own Non-Tax Revenue
2010-11 to 2014-15	3.7%	13.9%	22.1%	51.0%	9.2%
2015-16 to 2019-20	4.2%	13.9%	26.6%	46.7%	8.6%

Source: *CAG Report, 2023.*

However, some disturbing developments were observed from 2019-20 (the last year of the award period of the FC-XIV). The share of tax devolutions in 2019-20 and 2020-21 (the first year of the award period of the FC-XV) declined sharply.[19] The compensation cess collections were sufficient for the Union to cover the shortfall in GST collections of State governments in 2017-18 and 2018-19. GST compensation for the financial years 2017-18, 2018-

19, and 2019-20 was paid to the States even as there was a shortfall in cess collection in 2019-20 due to the slowdown in economic activity. However, for 2020-21, the Union gave GST compensation cess to States in two forms: (i) grants of Rs. 0.91 lakh crore under revenue receipts as in previous years; and (ii) as back-to-back loans of Rs. 1.10 lakh crore. For 2021-22, the Union released Rs. 1.59 lakh crore to States/UTs. Besides, the Union also paid compensation cess of

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[19] FC-XV reduced the States' share in tax devolutions from 42 per cent to 41 per cent.

Rs. 60,000 crore for 2021-22 (RBI, 2022). For 2022-23, the Central Government provided Rs.1 lakh crore toward interest free loans to States. The Central Government also released compensation of Rs. 1.16 lakh crore. The total cess collection till October 2022 was only Rs. 72,147 crore and the balance of Rs. 43,515 crore was released by the Central Government from its own sources.

The need for back-to-back loans rose for two reasons. One, GST collections declined due to the pandemic, warranting higher compensation. Second, GST compensation cess collections also declined, widening the gap with the requirement for compensation. The GST Council decided to extend the levy of compensation cess until March 2026 to enable the Union to repay loans taken for compensating States for the GST collection shortfall. However, the accounting treatment of loans raised can have an impact on the gross fiscal deficit (GFD) and liabilities of States (RBI, 2022).

The provision of revenue compensation in GST helped the States to cope with a shortfall in GST collection and sustain public spending on health, among other social sectors. While the GST Council decided to extend the levy of compensation cess until March 2026 to enable the Union government to repay loans taken to compensate States for the GST collection shortfall, the question remains: What will happen if the GST revenue shortfall of States continues beyond the transition period?

One of the reasons for a decline in general purpose transfers has been the increased reliance of the Union government on cesses and surcharges. The Union Government in the last few years has collected a large amount of revenues through cesses/surcharges, which are not shared with the States. In the face of a shortfall in GST collection and a decline in oil prices, the Union government raised "non-shareable taxes" and "cesses on commodities" on excisable goods under the Union Excise Duty (UED)—petroleum products, tobacco etc. (Mukherjee, 2022). Cesses and surcharges (other than GST compensation cess) increased from about 12 per cent of centre's total revenue receipts in 2012-13 to around 29 per cent in 2020-21 (Figure A2). Increasing recourse to cess and surcharge by the Union government, which are not shareable with the states, has become a permanent instrument of resource mobilisation. Denying the share of the States in cess and surcharge is against the spirit of federalism (Chakraborty and Gupta, 2016). This development has also reduced the impact of an increased percentage of sharable taxes with the States as recommended by the FC-XIV.

Figure A2: Share of Cesses and Surcharges in Revenue Receipts of the Central Government
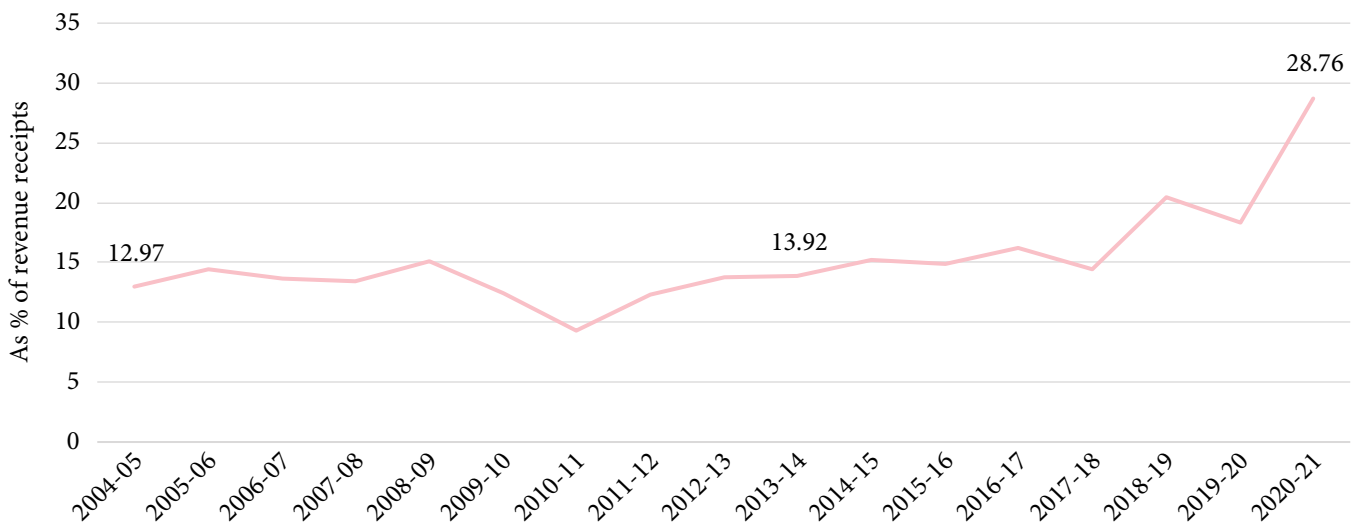
Source: Union Budget. Note: Excluding GST compensation cess.

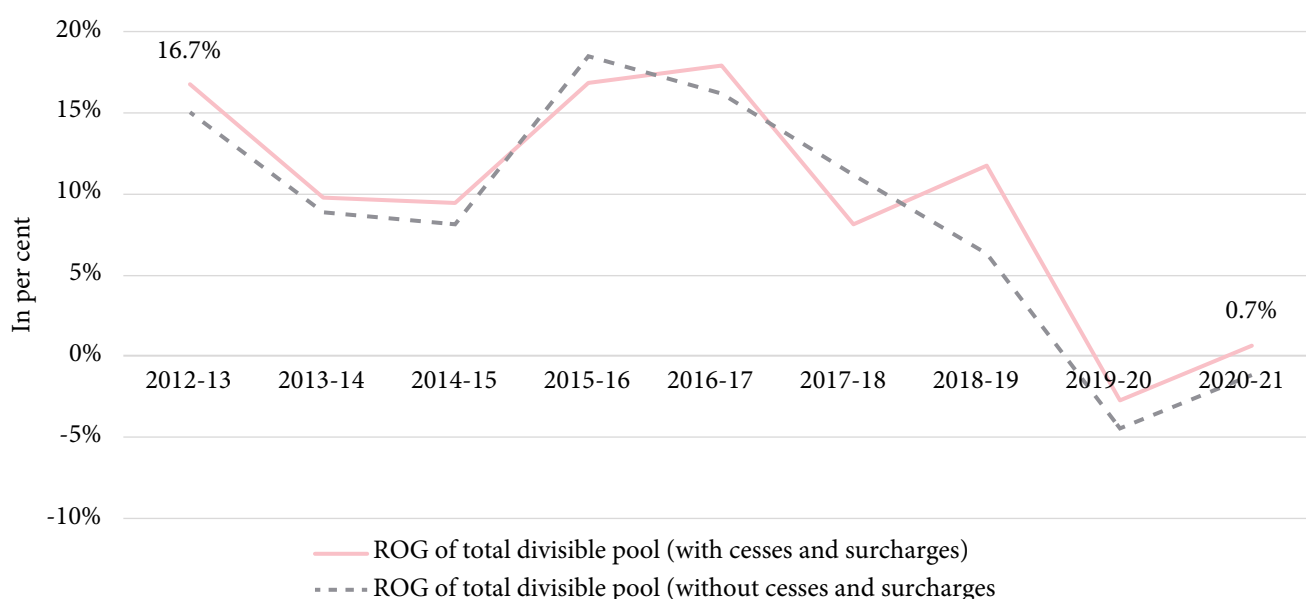**Figure A3: Cess and Surcharges and CSS Expenditure by the Union Government**
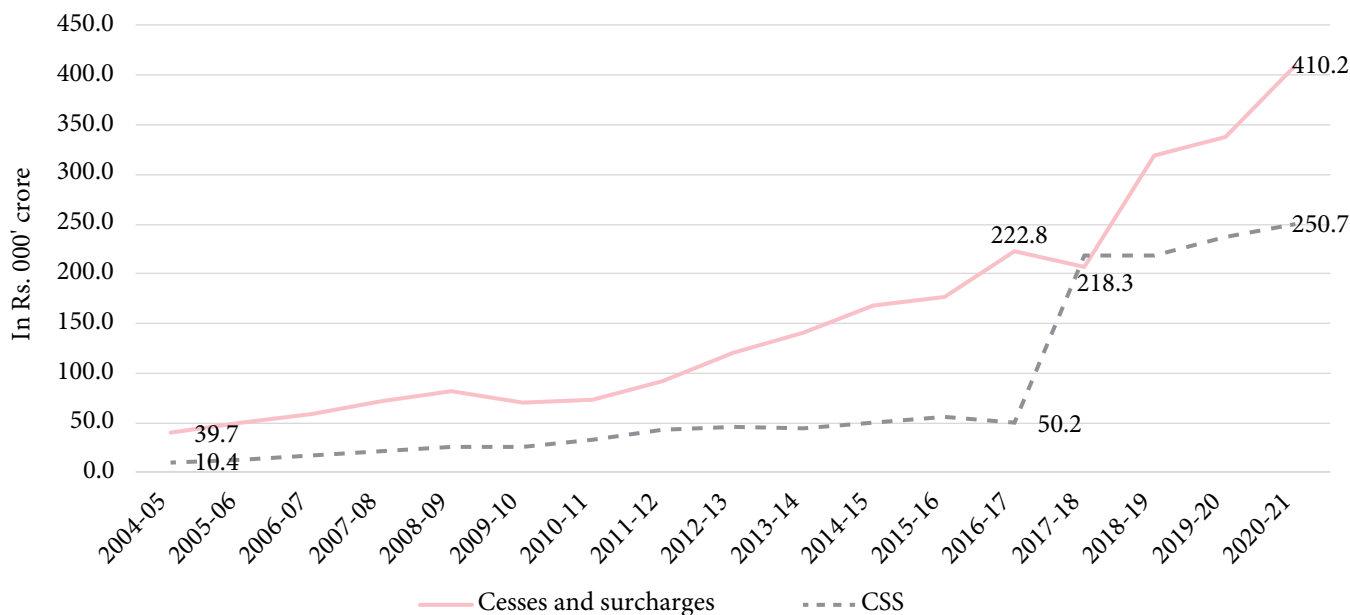
Thus, while the States faced revenue shortfalls due to a decline in tax devolutions, the Union government was able to protect itself to a large extent through cesses and surcharges. An increased collections by way of cess and surcharges enabled the Central Government to expand its footprints through centrally sponsored schemes (Figure A3).

It is significant that the growth rate of the divisible pool was negative in 2019-20 and 2020-21.[20] However, adjusted for cesses/surcharges, the growth rate in the divisible pool was less negative in 2019-20 and positive in 2020-21 (Figure A4).

Figure A4: Growth Rate of the total Divisible Pool of the Central Government

(With and without cesses and surcharges)

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[20] 2020-21 was the first year of the award period of the FC-XV, which reduced the share of states from the divisible pool to 41 per cent vis-à-vis 42 per cent by the FC-XIV.

Overall, the share of fiscal transfers from the Union increased from 2014-15, while that of the States' own revenue declined such that both almost converged by 2020-21; the share of fiscal transfers was at 48.3 per cent and the States' own revenue was at 52.2 per cent in 2020-21. The gap between the States' own revenue and fiscal transfers, which was 20.0 percentage points of revenue receipts in 2013-14, narrowed down to almost 4 percentage points in 2020-21 (Figure A5 and Table A2). It is significant that this convergence had occurred largely due to the increase in tied transfers. It is also noteworthy that the States' own revenue, both in nominal and real terms, which was rising from 2004-05, turned almost flat from 2018-19 onwards (in nominal terms) and from 2017-18 onwards (in real terms).

Figure A5: States' Own Sources of Revenue and Fiscal Transfer
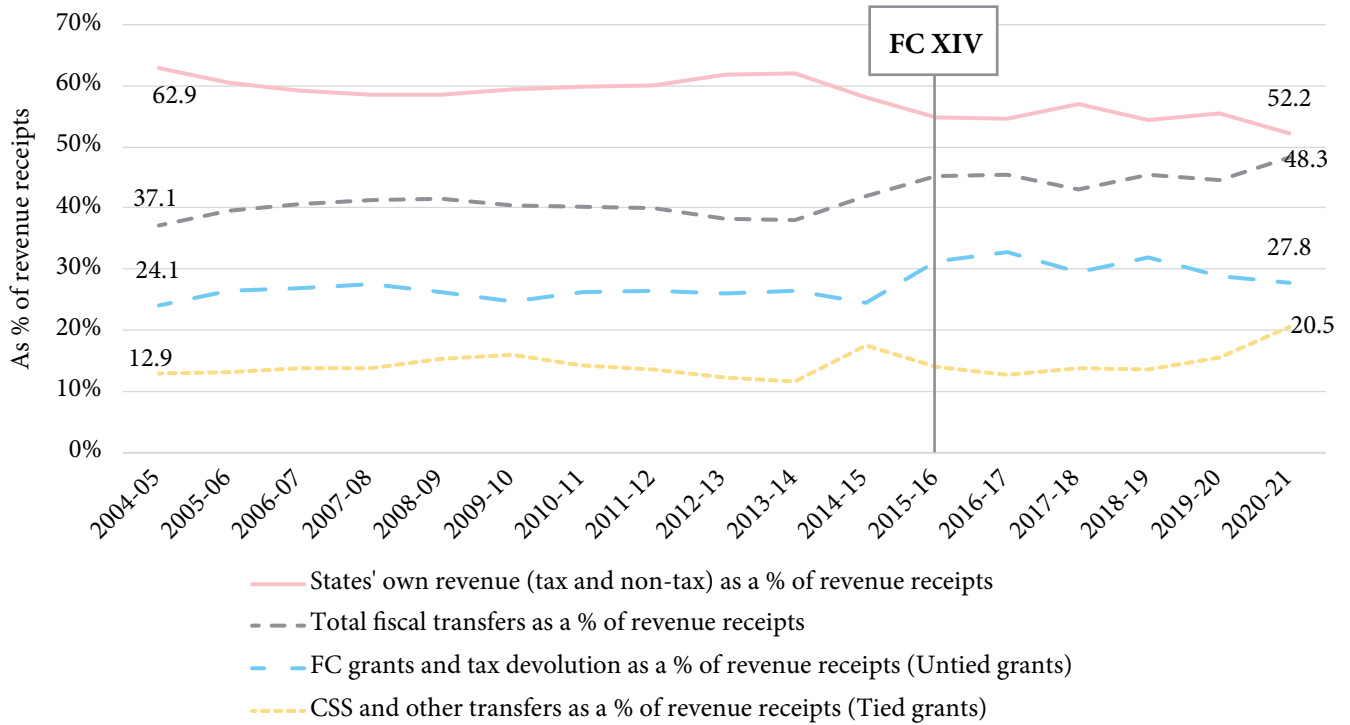
Source: State Finances, A Study of Budgets, RBI.

*Note: Some grants provided by the Finance Commission may also be tied.*

Table A2: States' Own Sources of Revenue and Fiscal Transfers

Year	States' own revenue (tax and non-tax) *as a % of revenue receipts*	Total fiscal transfers as *a % of revenue receipts*	CSS and other transfers *as a % of revenue receipts* (Tied grants)	FC grants and tax devolution *as a % of revenue receipts* (Untied grants)
2004-05	62.92%	37.08%	12.94%	24.13%
2005-06	60.43%	39.57%	13.06%	26.51%
2006-07	59.26%	40.74%	13.84%	26.89%
2007-08	58.62%	41.38%	13.75%	27.63%
2008-09	58.46%	41.54%	15.25%	26.29%
2009-10	59.48%	40.52%	15.92%	24.60%
2010-11	59.77%	40.23%	14.11%	26.11%
2011-12	59.98%	40.02%	13.52%	26.50%
2012-13	61.74%	38.26%	12.18%	26.08%
2013-14	62.08%	37.92%	11.48%	26.44%
2014-15	58.03%	41.97%	17.46%	24.52%
2015-16	54.78%	45.22%	13.95%	31.27%
2016-17	54.63%	45.37%	12.65%	32.72%
2017-18	56.91%	43.09%	13.69%	29.39%
2018-19	54.50%	45.50%	13.55%	31.96%
2019-20	55.48%	44.52%	15.58%	28.94%
2020-21	52.21%	48.30%	20.54%	27.76%

Source: Database on Indian Economy, RBI.

Interestingly, after an initial rationalisation and decrease in CSSs, the Union government continued to increase its transfers to the States through CSSs. During both the years when tax devolutions declined, the share of CSS transfers increased in revenue receipts of the States (Figure A6 and Table A3). Thus, despite the Central Government discontinuing the support of eight CSS and the change in the funding pattern of many CSSs, transfers to the States under CSS surged, which the FC-XIV had tried to address.

Figure A6: Tax Devolutions and CSSs as a Share of Revenue Receipts of States
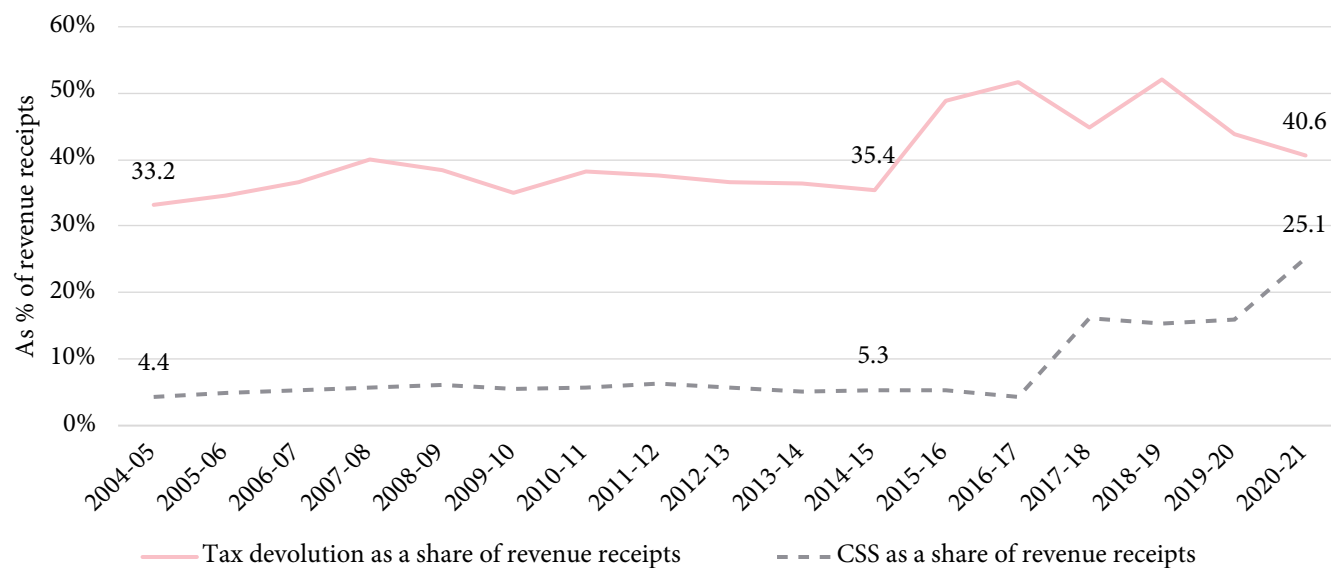
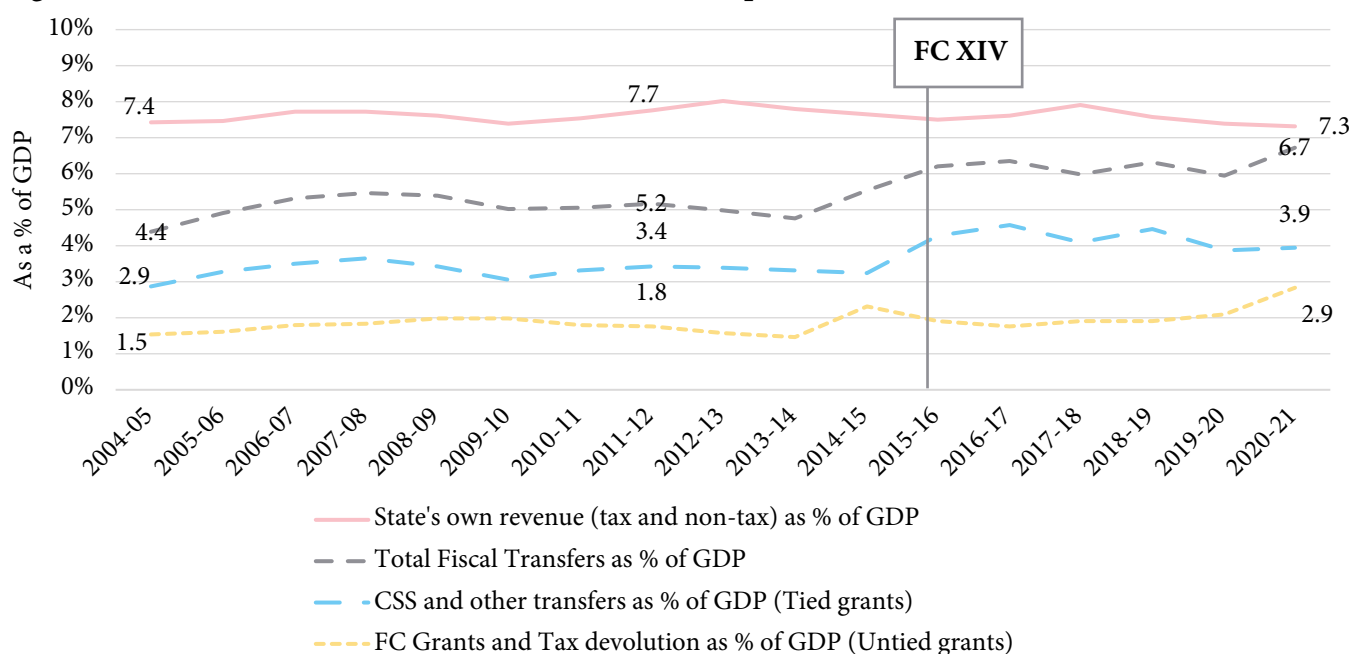*Source: State Finances, A Study of Budgets, RBI.*

Table A3: Tax Devolutions and CSs Share in Revenue Receipts of States

Year	Tax devolution as a share of revenue receipts	CSS as a share of revenue receipts
2004-05	33.2%	4.4%
2005-06	34.6%	4.9%
2006-07	36.6%	5.3%
2007-08	40.0%	5.8%
2008-09	38.4%	6.2%
2009-10	35.1%	5.5%
2010-11	38.2%	5.7%
2011-12	37.7%	6.4%
2012-13	36.5%	5.7%
2013-14	36.4%	5.1%
2014-15	35.4%	5.3%
2015-16	48.9%	5.4%
2016-17	51.8%	4.3%
2017-18	44.8%	16.2%
2018-19	52.1%	15.2%
2019-20	43.8%	16.0%
2020-21	40.6%	25.1%

Source: Database on Indian Economy, RBI, CAG Report, Various years.

Relative to GDP, the States' own revenue has remained flat in the last 15 years, while the share of fiscal transfers from the Union increased by more than 2 percentage point of GDP from 4.4 per cent of GDP to 6.7 per cent of GDP (more than 50 per cent increase in the share), driven both by tied and untied transfers (Figure A7 and Table A4).

Figure A7: States' Own Revenues and Fiscal Transfers (As per cent of GDP)

Source: State Finances, A Study of Budgets, RBI.

*Note: Some grants provided by the Finance Commission may also be tied.*

Table A4: States' Own Revenues and Fiscal Transfers (as % of GDP)

Year	State's own revenue (tax and non-tax) as % of GDP	Total Fiscal Transfers as % of GDP	CSS and other transfers as % of GDP (Tied grants)	FC Grants and Tax Devolution as % of GDP (Untied grants)
2004-05	7.4%	4.4%	2.8%	1.5%
2005-06	7.5%	4.9%	3.3%	1.6%
2006-07	7.7%	5.3%	3.5%	1.8%
2007-08	7.7%	5.5%	3.6%	1.8%
2008-09	7.6%	5.4%	3.4%	2.0%
2009-10	7.4%	5.0%	3.1%	2.0%
2010-11	7.5%	5.1%	3.3%	1.8%
2011-12	7.8%	5.2%	3.4%	1.8%
2012-13	8.0%	5.0%	3.4%	1.6%
2013-14	7.8%	4.8%	3.3%	1.4%
2014-15	7.6%	5.5%	3.2%	2.3%
2015-16	7.5%	6.2%	4.3%	1.9%
2016-17	7.6%	6.3%	4.6%	1.8%
2017-18	7.9%	6.0%	4.1%	1.9%
2018-19	7.6%	6.3%	4.4%	1.9%
2019-20	7.4%	5.9%	3.9%	2.1%
2020-21	7.3%	6.7%	3.9%	2.8%

Source: Database on Indian Economy, RBI.

The share of NHM transfers in total CSS transfers declined from 12.6 per cent in 2007-08 to 10 per cent in 2020-21, suggesting that NHM transfers have become relatively less significant in overall CSS transfers in recent years (Figure A8).

Figure A8: Share of NHM Transfers in CSS Transfers
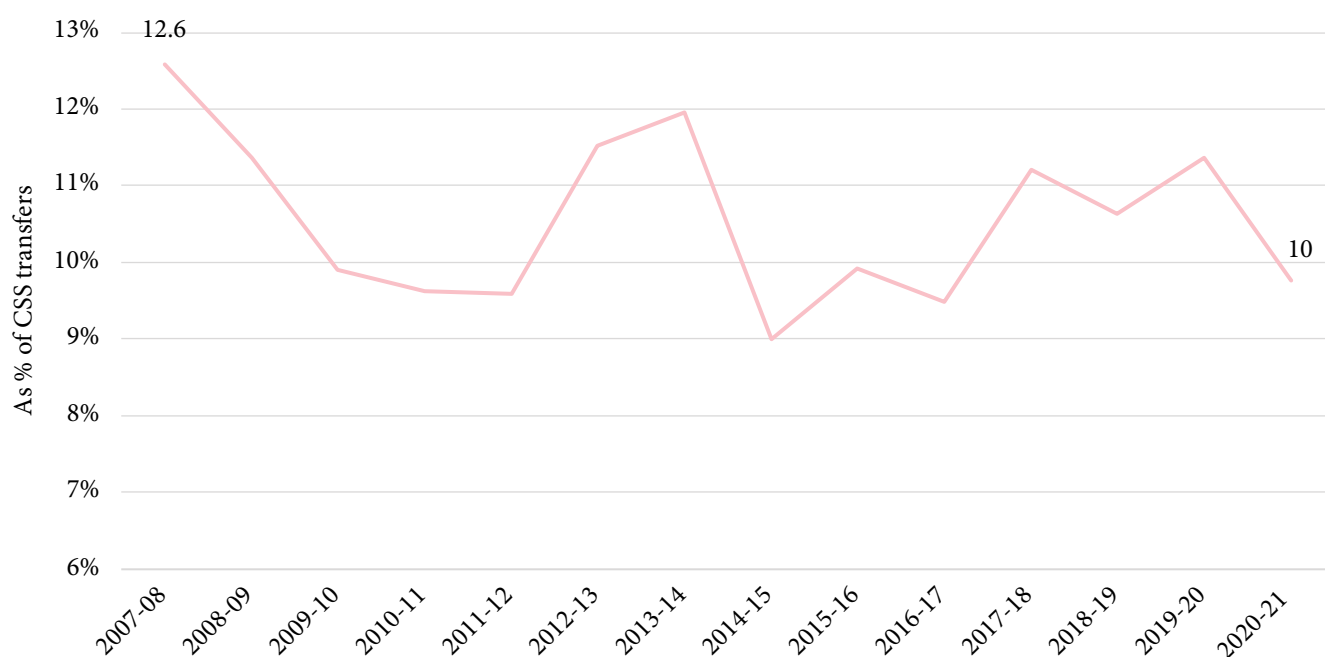
Source: Union Budget documents and India Stat.
Note: Figures between 2007-08 and 2011-12 are budgeted figures.

Appendix III

Table A5: Growth in per capita Public Health Expenditure

Year	Growth in health PC	Year	Growth in health PC
1991-92	11.1	2006-08	16.4
1991-93	9.8	2007-09	22.4
1992-94	11.2	2008-10	17.7
1993-95	15.0	2009-11	18.6
1994-96	4.7	2010-12	7.2
1995-97	9.6	2011-13	14.9
1996-98	12.8	2012-14	10.2
1997-99	18.2	2013-15	9.7
1998-00	10.9	2014-16	12.7
1999-01	6.1	2015-17	14.2
2000-02	3.8	2016-18	13.2
2001-03	2.0	2017-19	12.2
2002-04	7.1	2018-20	7.1
2003-05	6.3	2019-21	19.9
2004-06	22.4	2020-22	10.5
2005-07	15.5		

Source: Database on Indian Economy, RBI, MoSPI, CSO.

Table A6: Public Health Expenditure (as a per cent of GDP)

Year	Total health expenditure to GDP	Centre health expenditure to GDP	State health expenditure to GDP
1990-91	0.90	0.20	0.70
1991-92	0.89	0.21	0.68
1992-93	0.87	0.23	0.63
1993-94	0.86	0.24	0.62
1994-95	0.86	0.23	0.62
1995-96	0.78	0.22	0.56
1996-97	0.75	0.20	0.55
1997-98	0.78	0.20	0.58
1998-99	0.82	0.22	0.60
1999-00	0.83	0.25	0.58
2000-01	0.83	0.24	0.59
2001-02	0.81	0.25	0.56
2002-03	0.78	0.26	0.52
2003-04	0.76	0.26	0.50
2004-05	0.72	0.25	0.47
2005-06	0.78	0.26	0.52
2006-07	0.79	0.25	0.53
2007-08	0.80	0.29	0.51
2008-09	0.88	0.31	0.57
2009-10	0.91	0.32	0.59
2010-11	0.91	0.31	0.60
2011-12	0.90	0.31	0.59
2012-13	0.92	0.28	0.64
2013-14	0.91	0.27	0.64
2014-15	0.91	0.26	0.65
2015-16	0.94	0.26	0.68

Year	Total health expenditure to GDP	Centre health expenditure to GDP	State health expenditure to GDP
2016-17	0.97	0.26	0.71
2017-18	1.00	0.32	0.67
2018-19	1.02	0.31	0.71
2019-20	1.03	0.32	0.70
2020-21	1.30	0.42	0.89
2021-22	1.23	0.37	0.86

Source: Database on Indian Economy, RBI.

Table A7: State-wise Health Expenditure - 2019

States	Total Health Exp	GDP	THE/GDP	States	Total Health Exp	GDP	THE/GDP
Andhra Pradesh	7538.37	966099.1	0.78	Meghalaya	865.817	34770.4	2.49
Arunachal Pradesh	1003.40	30033.97	3.34	Mizoram	583.207	21128.48	2.76
Assam	5334.26	346850.7	1.54	Nagaland	667.948	29715.87	2.25
Bihar	7673.822	582516.5	1.32	NCT Delhi	5744.541	794030.1	0.72
Chhattisgarh	4671.334	344955.4	1.35	Odisha	6185.323	532432	1.16
Goa	1097.359	75032.09	1.46	Puducherry	731.9673	36723.84	1.99
Gujarat	10283.42	1617143	0.64	Punjab	3518.746	537031.1	0.66
Haryana	4982.596	762043.6	0.65	Rajasthan	12143.86	999050.4	1.22
Himachal Pradesh	2306.829	159161.7	1.45	Sikkim	425.1934	31441	1.35
Jammu and Kashmir	4244.396	164134.9	2.59	Tamil Nadu	12320.83	1743144	0.71
Jharkhand	3138.488	310305.4	1.01	Telangana	6181.878	950286.8	0.65
Karnataka	9160.488	1615457	0.57	Tripura	899.746	54151.12	1.66
Kerala	7538.815	824374.2	0.91	Uttar Pradesh	19957.28	1700273	1.17
Madhya Pradesh	9580.435	938602.1	1.02	Uttarakhand	2100.908	236987.9	0.89
Maharashtra	14692.13	2734552	0.54	West Bengal	10738.8	1207823	0.89
Manipur	662.6902	31297.02	2.12				

Source: Database on Indian Economy, RBI.

Table A8: Health Expenditure as Percentage of Total Expenditure (2019-20)

State	Share of total expenditure - 2019-20	State	Share of total expenditure - 2019-20
Andhra Pradesh	4.3	Nagaland	4.9
Arunachal Pradesh	6.1	Odisha	4.9
Assam	6.5	Punjab	3.3
Bihar	5.3	Rajasthan	5.7
Chhattisgarh	5.1	Sikkim	5.8
Goa	7.7	Tamil Nadu	4.8
Gujarat	5.6	Telangana	4.3
Haryana	4.5	Tripura	6
Himachal Pradesh	5.8	Uttar Pradesh	5.2
Jharkhand	4.4	Uttarakhand	5.2
Karnataka	4.1	West Bengal	5.3

State	Share of total expenditure - 2019-20	State	Share of total expenditure - 2019-20
Kerala	6.1	Jammu and Kashmir	6.5
Madhya Pradesh	5	NCT Delhi	11.2
Maharashtra	4	Puducherry	9.2
Manipur	5.5	All States and UTs	5.1
Meghalaya	7.9	All States and UTs (per cent to GDP)	0.9
Mizoram	5.2		

Source: Database on Indian Economy, RBI, CAG Report, Various years.

Table A9: Central Government Budget – Health Spending (As per cent of Total Budget)

Year	Central health expenditure as a share of central budget	Year	Central health expenditure as a share of central budget
1990-91	1.12	2006-07	1.88
1991-92	1.25	2007-08	2.02
1992-93	1.46	2008-09	2.00
1993-94	1.50	2009-10	2.05
1994-95	1.52	2010-11	2.04
1995-96	1.48	2011-12	2.09
1996-97	1.43	2012-13	1.98
1997-98	1.37	2013-14	1.93
1998-99	1.45	2014-15	1.93
1999-00	1.70	2015-16	1.97
2000-01	1.61	2016-17	2.05
2001-02	1.64	2017-18	2.59
2002-03	1.57	2018-19	2.54
2003-04	1.54	2019-20	2.46
2004-05	1.62	2020-21	2.36
2005-06	1.91	2021-22	2.29

Source: Database on Indian Economy, RBI.

Appendix IV

Table A10: Unit Root Test (2005-19): All States

H0: Panels contain unit roots		
Variables	**At level (Adj. t-stat)**	**At first difference (Adj t-sat)**
Log_Per capita PHE by state	-6.646***	–
Log_Per capita PHE by state (excluding NHM share)	-5.357***	–
Log_Per capita NSDP	-9.661***	–
Log_Per capita health-specific central transfer	-6.387***	–
Log_Per capita state's own revenue	-4.492***	–
Log_Per capita unconditional grant	-6.058***	–
Female proportion	-1.138	-7.553***
Urban proportion	0.269	-8.539***

Source: Authors' Calculations.

About the authors

Janak Raj leads the macroeconomic segment in the Growth, Finance, and Development vertical. His areas of interest are health, climate finance and MDB reforms. He has worked with the Reserve Bank of India, the International Monetary Fund, and Ministry of Finance. Dr. Janak Raj served as an Executive Director in the Reserve Bank of India and as a member of its Monetary Policy Committee. In the IMF, he was Senior Advisor to the Executive Director for Bangladesh, Bhutan, India and Sri Lanka. He holds a Ph.D in Economics from IIT Bombay.

Rahul Ranjan currently works at CRISIL as a Sovereign Credit Analyst. He held the position of Research Associate while serving the Growth Finance and Development vertical in CSEP. Rahul holds an MPhil degree in Economics from JNU.

Vrinda Gupta is currently working as Manager, DEPR, RBI. Prior to this, she worked as a Research Associate in the Growth, Finance & Development vertical at CSEP. She holds a Masters degree in Economics from the Delhi School of Economics and her research interests lie in the field of Macroeconomics, development economics, and policy. Her work delved into exploring the interlinkages between Economic Growth and Human Development, as well as examining healthcare financing and efficiency at the subnational level.

Aakanksha Shrawan is an Assistant Professor at the National Institute of Public Finance and Policy, New Delhi. Before joining NIPFP, she was working as a Research Associate at the Centre for Social and Economic Development Progress, New Delhi. She has a Ph.D. in Economics from the Department of Management Studies at the Indian Institute of Technology, Delhi.

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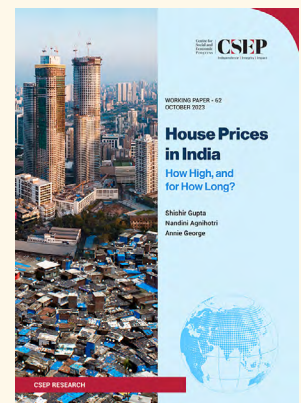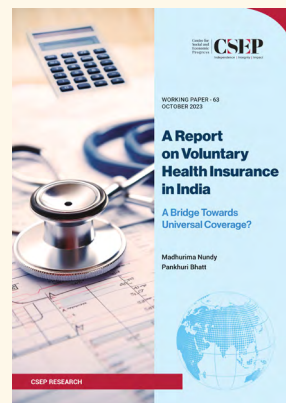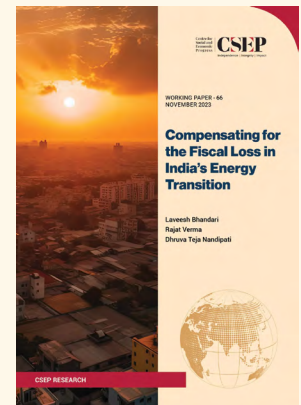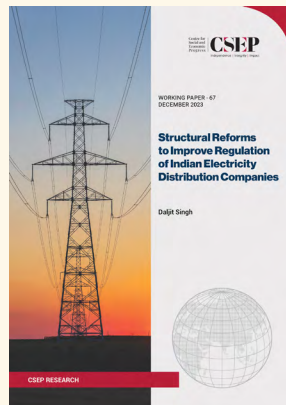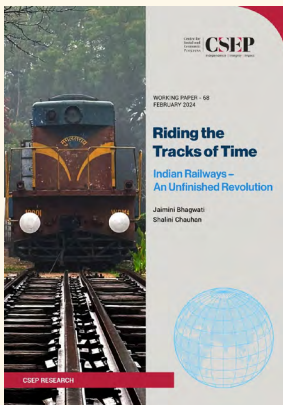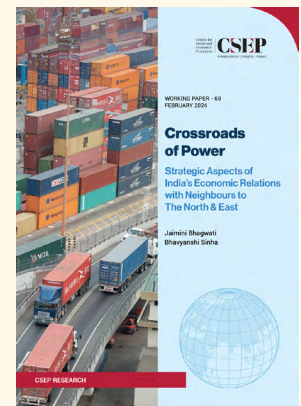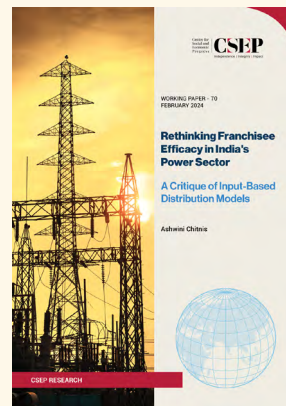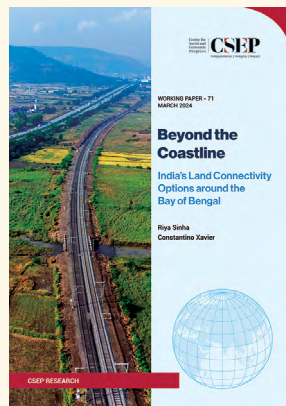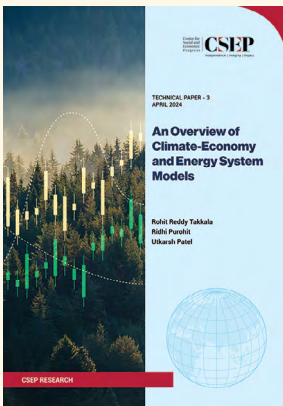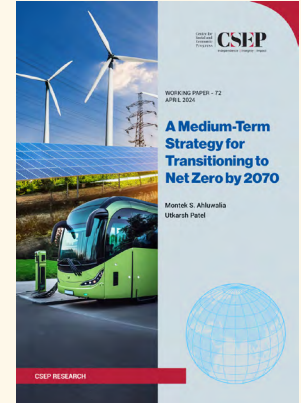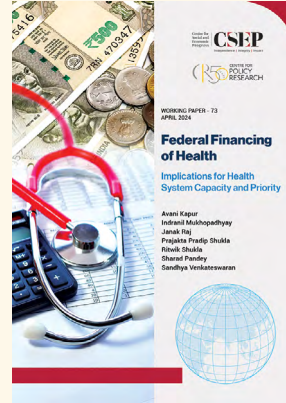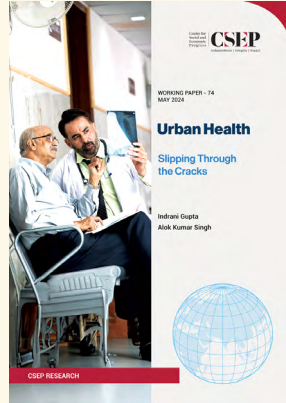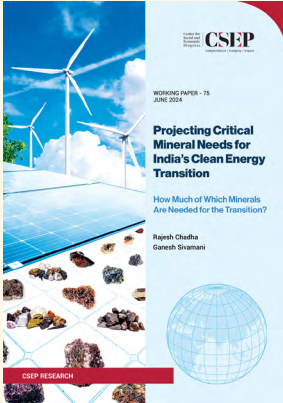
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