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An interstate analysis of vertical fiscal imbalance in India

Surya K[1] Aswathy Rachel Varughese[2]

[1] Research Scholar, Gulati Institute of Finance and Taxation, Thiruvananthapuram

[2] Assistant Professor, Gulati Institute of Finance and Taxation, Thiruvananthapuram

Abstract

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

1. Introduction

India's constitutional framework delineates powers between the Union and the States, as outlined in the seventh schedule of the Indian Constitution. This quasi-federal arrangement establishes distinct spheres of authority but also exposes an inherent imbalance in power distribution. While the central government enjoys significant revenue mobilization capacities, the states at the sub-national level, shoulder substantial spending responsibilities, albeit hindered by limited tax collection capabilities. Rao (2005) underscored the fiscal incongruity arising from this constitutional setup. Despite states shouldering nearly 58 percent of expenditures in the 2000–01 fiscal year, their share of overall revenues stood at a mere 38 percent. Consequently, states faced the daunting task of covering nearly half of their expenses, relying heavily on transfers, which accounted for approximately 57 percent of their total spending. The prevalent mismatch between revenue inflows and expenditure obligations has given rise to the concept of Vertical Fiscal Imbalance (VFI). This term encapsulates the challenges states grapple with insufficient resources to meet their expenditure needs, thus fuelling ongoing discourse on fiscal reform and equitable resource allocation. Intergovernmental transfers address the problem of fiscal imbalances in the country. The states' reliance on fiscal transfers, measured by the ratio of transfers to their expenditure moderated recently (RBI, Study of State Finances, 2023). Although the states' share in the divisible pool of central taxes increased over time, the actual tax devolution to the states has lagged the recommended share due to the exclusivity of cess and surcharges. Against this backdrop, the present study examines the trends in VFI across Indian states during (1990-2022). The study also analyses the inter-state variations in VFI and delves into the factors responsible for VFI across the states. Given central transfers are tailor-made to plug in the gap, the study also examines how far the central transfers aided states in reducing the imbalance.

Vertical fiscal imbalance: Definition and calculation

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

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

Or, VFI= transfer dependency+ Sub national govt deficit

Where,

Transfer dependency= Net transfers/[1] SNG own spending

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

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

Thus, the vertical imbalance needs to be corrected and this is done through the distribution of central tax devolution and grants, by the recommendations of the Finance Commission as outlined in Article 280(3)(a), established to allocate the proceeds of specific taxes fairly and

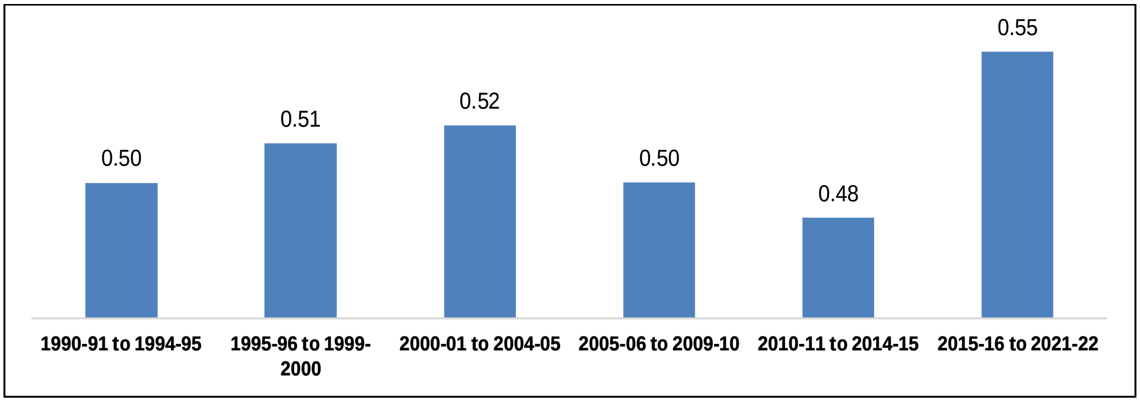
[1] SNF=Sub National Government

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

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

This section presents a comprehensive interstate examination of VFI spanning the decade from 1990-91 to 2021-22 (Figure 1), with particular emphasis on the post-liberalization epoch. The VFI is evaluated utilizing the formula advanced by Luc Eyraud and Lusine Lusinyan (2013), as mentioned earlier. Despite observable fluctuations, the VFI has manifested an overall upward trajectory across nearly all states. The national average fiscal imbalance escalated from 0.50 in the period 1990-1995 to an average of 0.55 in the span from 2015-2022. Notably, the post-demonetization era witnessed a pronounced upswing in the fiscal imbalance during 2016-17. A marked surge in VFI is evident from 0.48 in 2010-15 to 0.55 in 2015-22, attaining its zenith in 2020-21 at 0.60. This notable escalation aligns with the advent of the COVID-19 pandemic, supported by empirical evidence indicating a 5 percent augmentation in expenditure obligations concomitant with a 9.24 percent contraction in own revenue sources. Despite the average increase, the actual value reflects a subsequent downturn in the post-pandemic period, regressing from 0.60 to 0.55 in 2021-22.

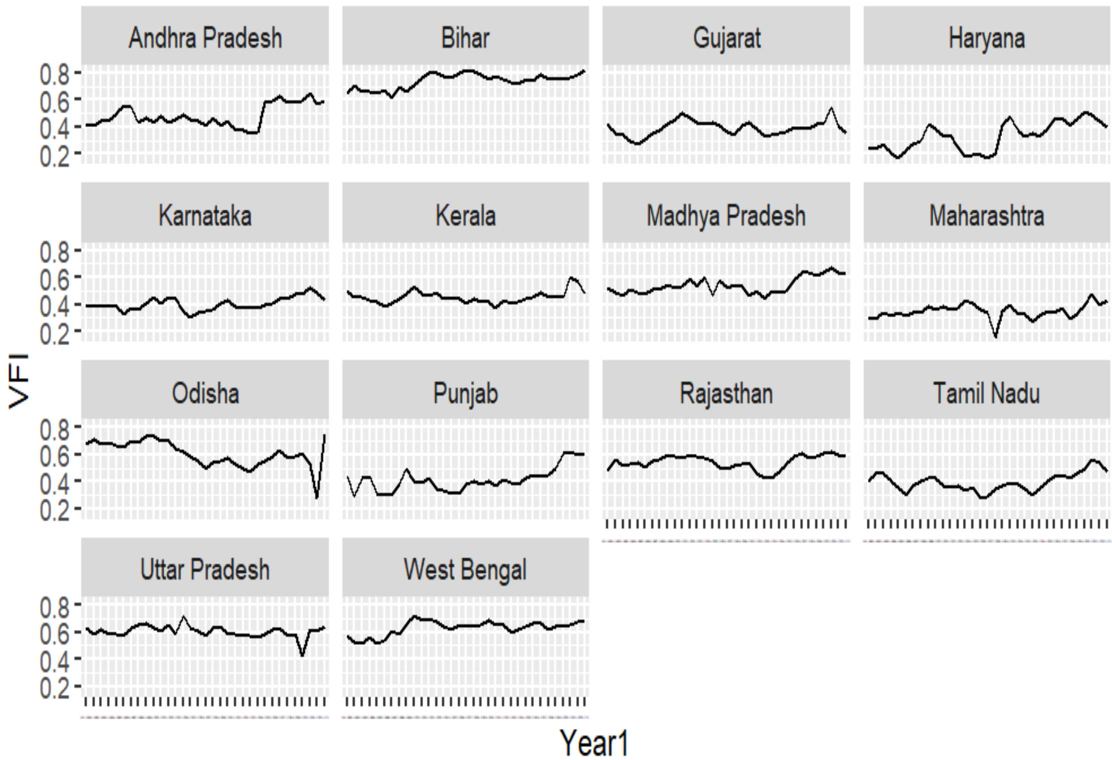
Figure: 1 Trends in average VFI of Indian states



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

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

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



Source: Authors' computation from RBI, 2023

Notes: Years from 1990-91 to 2022-23

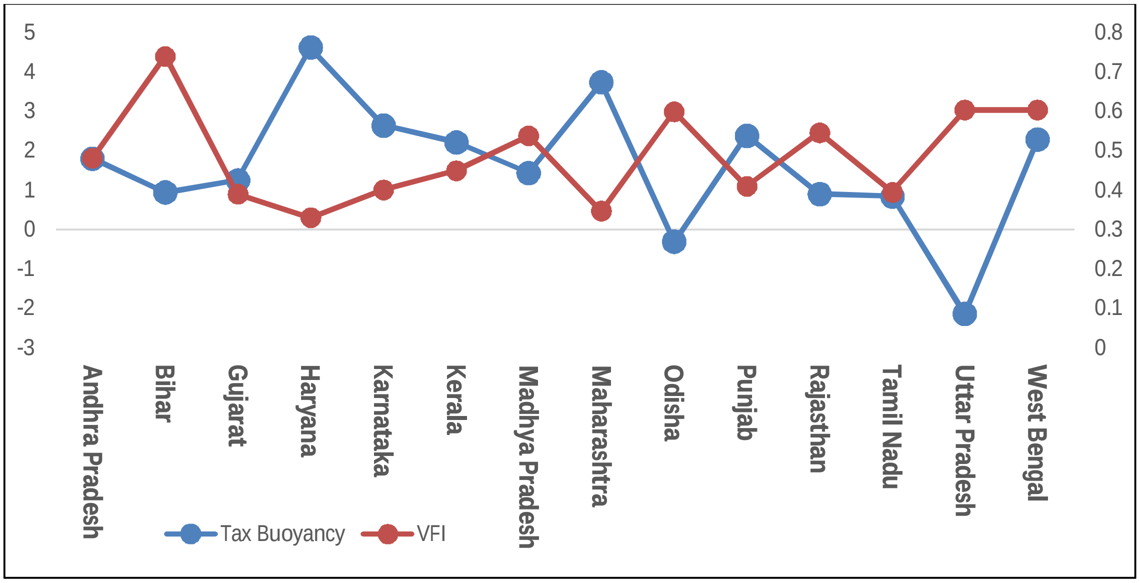
3. Key factors influencing vertical fiscal imbalance:

The inter-state analysis shows the VFI for some states is above the national average. Therefore, it is worth pondering that why do some states have persistent imbalance in their fiscal space? What are the plausible factors contributing to their tenacious imbalance? The following section discusses the key factors influencing VFI across the states.

Tax buoyancy

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

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



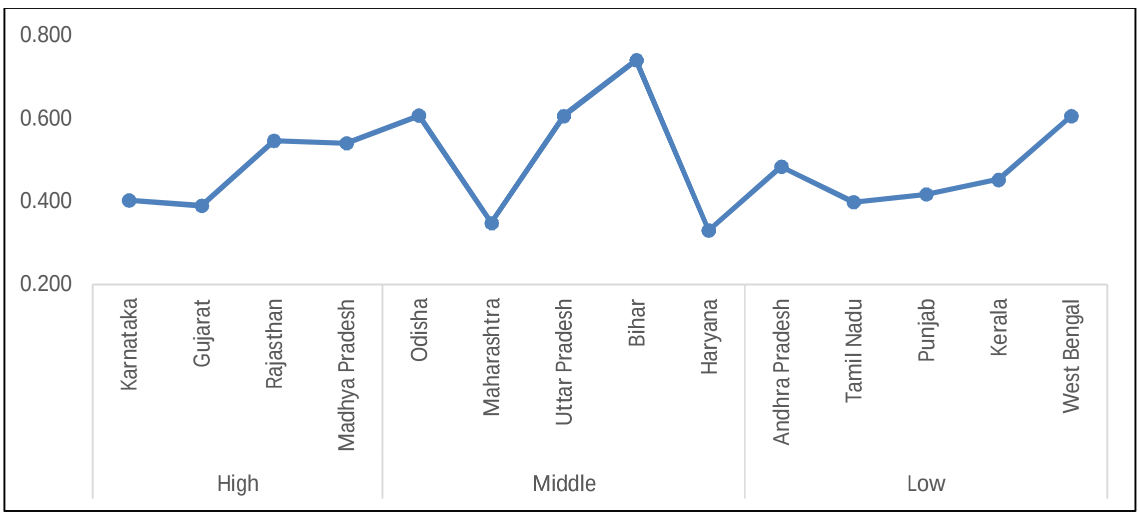
Source: Author's computation from state finances: a Study of State Finance (RBI), MOSPI, 2023

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

Expenditure quality

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

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

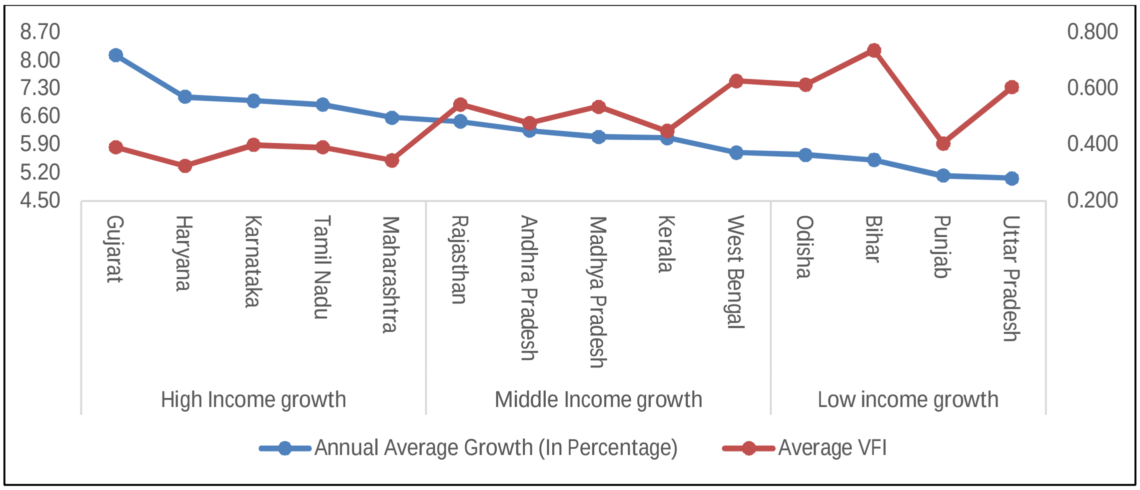


Source: Author's computation from RBI, 2023

Gross state domestic product and vertical fiscal imbalance

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

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



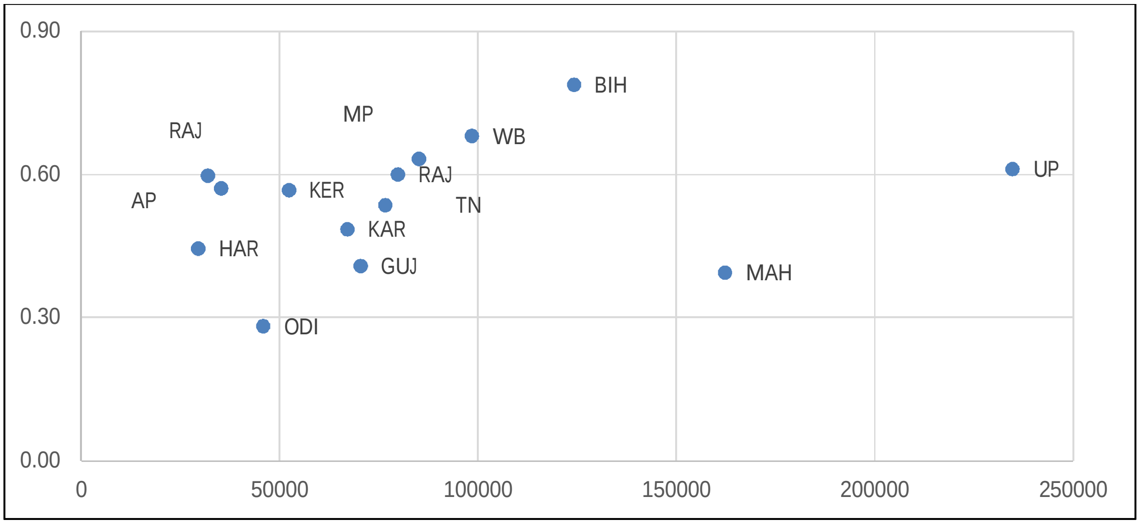
Source: Authors' computation from RBI and MOSPI

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

Population

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

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



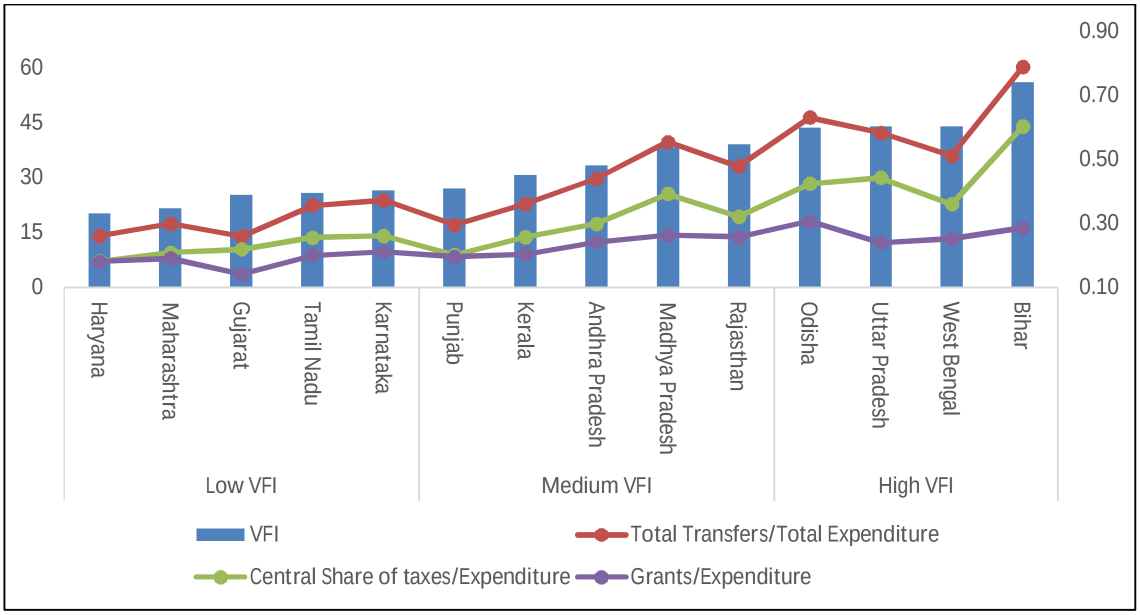
Source: Authors' computation based on Census 2011 sourced from Economic and Political Weekly Research Foundation (EPWRF)

Note: Population 2021 is the projected population from 2011 Census

Central transfers

Central transfers constituting the central share of taxes and grants – in aid are important components determining the VFI. The reliance on central transfers may be a key factor in adjusting the VFI. The reduced central transfers may spell severe challenges for the governments faced with constraints in raising own tax revenue and meeting the expenditure responsibilities. On the other hand, additional support may hamstring their efforts for raising potential revenue. Therefore, effectively devising the central transfers becomes imperative for establishing a balanced and efficient fiscal relationship across various levels of government within a federal system. The proportion of total central transfers in the overall expenditure of the states indicates the degree of dependence on central transfers. While these may not have a direct impact on their immediate fiscal matters, they potentially exert indirect consequences on their fiscal responsibilities and the emergence of subsequent vertical fiscal imbalances. In Figure 7, states are divided into low, medium and high VFI categories. Central transfers play a vital role in meeting their expenditure responsibilities. Madhya Pradesh, Odisha and Bihar are the states which are heavily dependent on central transfers.

Figure7: VFI and the reliance of states in central transfers



Source: Authors' computation from RBI,2023

4. Conclusion

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

The divisible pool, as a percentage of Gross Tax Revenue, has witnessed a decline from 88.6 percent in 2011-12 to 78.9 percent in 2021-22 (RBI, Study of State Finances, 2023). This reduction underscores the imperative for states to augment their own tax resources. Consequently, with the diminishing central tax share, there's been a recent uptick in grants from the centre, amounting to 3.2 percent of Gross Domestic Product (GDP), notably channelled through Centrally Sponsored Schemes (CSS), comprising two-thirds of the total grants. This study advocates for subnational governments and policymakers to meticulously scrutinize these contributing factors to mitigate fiscal disparities in the coming years.

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