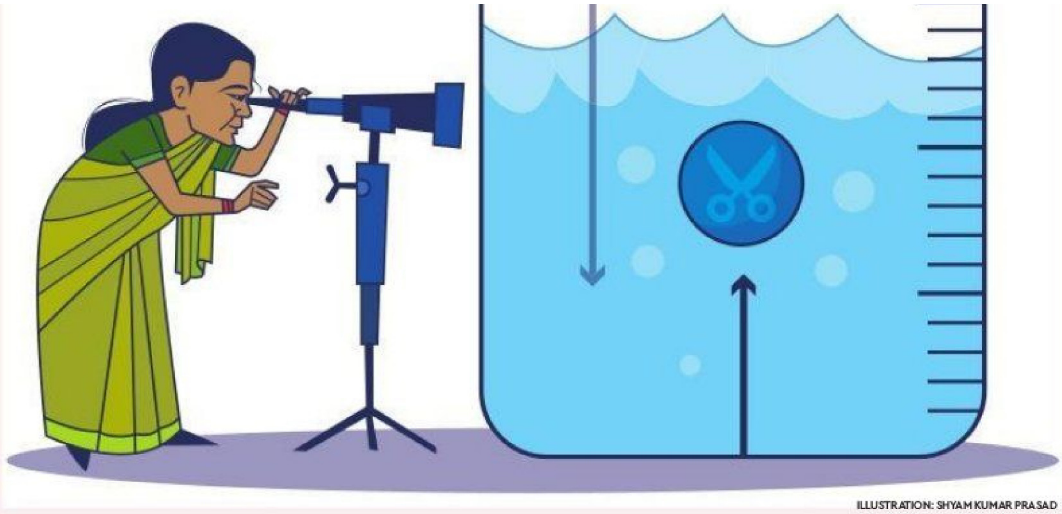

ILLUSTRATION: SHYAM KUMAR PRASAD

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Paying attention to tax buoyancy

The packages announced by the finance minister so far mostly target the supply side. It will take a while to yield results by way of turning around growth

Buoyancy of total own-tax revenue by states and the gross tax revenue of the Union

State	Long-run buoyancy <1	Long-run buoyancy 1	Long-run buoyancy >1	Short-run buoyancy <1	Short-run buoyancy 1	Short-run buoyancy >1	Speed of adjustment
Andhra Pradesh			1.17***		1.12***		-0.88**
Bihar			1.28***	0.29			-
Chhattisgarh			1.09***		0.94***		-0.92***
Goa		0.95***		0.08			-0.26*
Gujarat		1.09***			2.4***		-0.09
Haryana		0.85***		0.04			-0.34*
Himachal Pradesh			1.17***		1.3**		-0.98***
Jammu & Kashmir			1.28***		1.1*		-0.51*
Jharkhand			1.24***	0.54***			-0.93***
Karnataka		1.04***			1.28***		-0.5*
Kerala			1.06***		1.59***		-
Madhya Pradesh		1.15***			0.5		-0.58*
Maharashtra		0.99***			0.97***		-0.52*
Odisha		1.08***		0.29			-0.43**
Punjab		1.03***			-0.63		-0.59*
Rajasthan		0.99***			0.52***		-0.33**
Tamil Nadu		0.94***			1.19***		-0.46**
Uttar Pradesh			1.17***		1.75***		-0.88***
West Bengal		1.12***			0.66		-0.52**
Arunachal Pradesh			1.39***		0.77*		-0.51**
Assam		1.07***			1.24**		-0.42***

OFTEN, FISCAL STIMULUS is launched through the tax side than expenditure side, assuming that the buoyancy of the former will ensure minimum fiscal slippage, while shoving the economy out of a glut. The general idea is that a reduction in rates will increase the tax base and compliance. This, along with its positive impact on growth, would lead to higher tax buoyancy. The fiscal stimulus programme announced by finance minister Nirmala Sitharaman is also premised on a similar idea. An IMF working paper titled '*How Buoyant is the Tax System? New Evidence from a Large Heterogeneous Panel*' by Paolo Dudine and Joao Tovar Jalles, published in 2017, finds that tax buoyancies are generally equal to unity or greater for developed as well as for less developed economies.

In our economy, the tax-to-GDP ratio has hovered around 14-17% for the last few decades, which is the combined figure for the Union and states. Direct and indirect taxes contribute almost equally to the total tax revenue, although the share of direct taxes is slightly higher at 52% during 2017-18. The Union collects about 10% of GDP as tax revenue and the rest is by all the states together. The finance minister's stimulus package is premised on the buoyancy of these taxes. Hence, it is imperative to look at the tax buoyancy factor both at the Union and the state level during the recent past.

Until growth revives, the high buoyancies signify a fall in revenue unless a rise in tax base and compliance compensates for it

Tax buoyancy measures the response of tax revenue to a change in national income and the tax policy. Economists generally define it as the ratio of percentage change in tax revenue to a percentage change in income. Buoyancy can be estimated for the long-term as well as for the short-term. Short-term buoyancy above unity signifies that the tax system acts as an automatic stabiliser. Here, the tax system itself would automatically leave a greater proportion of income with the taxpayers during a slowdown dampening the fall in demand. Similarly, during a boom, the system would automatically take away more income through taxes, consequently slowing down the growth of demand. Such a tax system has a built-in stabiliser. In other words, the short-run buoyancy measures the instantaneous effect of a

long-run and short-run buoyancy, along with the speed of adjustment—which tells us how fast the buoyancy converges to the long-run equilibrium value.

The estimates for the period 2001-17 show that the long-run and short-run buoyancy are 1.05 and 1.74, respectively, for total tax (the Union and states combined). The high short-run buoyancy will mean that the current slowdown would have an amplified negative impact on tax revenue in the short-run. The slowdown will have a heavy impact on the Union tax revenue, which has an overall short-run buoyancy coefficient that is very high. The very high short-run buoyancy of direct taxes will escalate the fiscal pressure emanating from the recent cut in corporation taxes. This will also have a deleterious effect on the fiscal health of states as the shareable kitty will shrink substantially. Now, with the 15th Finance Commission (FC) asked to consider the impact of the award of 14th FC on Union finances, any fall in the share of states would adversely affect state finances.

Relatively low buoyancy for states' taxes (1.04 for the long-run and 1.19 for the short-run) will mean a reduced adverse impact of the slowdown on states as a whole. But the effect on individual states will depend on their buoyancies and the extent of deceleration of the gross state domestic product of respective states. Short-run buoyancy is found to be either equal to or less than unity for all states. Bihar, Goa, Haryana, Jharkhand, Odisha and Sikkim will be the ones that would be least affected in the short-run, with a buoyancy factor less than unity. For the long-term, all states have buoyancies either equal to unity or greater than unity. Goa, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, West Bengal, Assam, Nagaland and Sikkim have long-run buoyancy equal to one, making them less vulnerable in the long-run. Interestingly, most of the richer states fall in this category.

The packages announced by the finance minister so far mostly target the supply side. It will take a while to yield results by way of turning around growth. Till growth revives, the high buoyancies signify a fall in revenue unless a rise in tax base and compliance compensates for it. However, that is doubtful.

Having seen these premises and the estimates of tax buoyancy, what policy options do we have now to arrest the slowdown, revive the economy and moderate the fiscal slippage? With the general consensus that a fall in aggregate demand is the main culprit, steps can be initiated to shore up aggregate demand. These interventions can be on both revenue and expenditure sides. On the revenue side, a reduction in taxes that will benefit the relatively poorer sections and rationalisation of GST will definitely have a high multiplier effect. Expenditure on infrastructure and upscaling programmes like MGNREGA will also have a higher multiplier effect, leading to revival of growth.

More detailed analysis of buoyancies of individual taxes including GST (where we have only a short-time series) is essential. Although we have incorporated the optimal parameterisation in the models by choosing the apt lag lengths, the estimates can be refined further by incorporating variables like inflation, structural