



Hope in the time of desperation

The Budget is built on expectation that people will spend more, drive growth

The Union Budget 2025-26 seeks to address specific issues plaguing the Indian economy — flagging domestic demand, sluggish private investment and tepid wage growth leading to a slowdown in meaningful GDP growth. A closer look at the priorities and allocations would reveal that the approach is cautious, without the assurance that they would indeed address the underlying problems. The government has seized upon a double-edged sword — substantial tax breaks — to boost consumption and to drive growth, leaving it with little room to expand public spending on capital expenditure, which could have been another useful lever to achieve the same end. While putting more money in the hands of the middle class seems the right thing to do in a time of unrelenting inflation, the focus continues to be on fiscal consolidation with a targeted fiscal deficit of 4.4% of GDP in FY26, coming down from 4.8% in FY25. It has sought to project augmented direct tax receipts despite providing tax rebate incentives for a large segment of the salaried direct tax-payers. The expectation is that there would be better compliance with a greater use of technology, which was useful in increasing the direct tax revenue from a budgeted estimate of ₹11,87,000 crore to ₹12,57,000 crore (revised estimates) in FY25. The highlight of the Budget remains the move to ensure that taxpayers earning up to ₹12 lakh (excluding special rate income such as capital gains) have no tax liability due to the rebate provided. This is meant to boost demand among the salaried middle and lower middle-class sections, who get substantial benefits in the form of tax savings and could be expected to spend more. The Economic Survey had pointed to mixed trends in urban demand unlike sustained consumption growth in rural areas through this year, and this move clearly targets the problem. Also, there has been a clamour for relief from among direct tax-paying middle-class sections, who have had to cope with both rising inflation and indirect goods and service tax payments that squeezed their incomes; the Budget addresses this issue in good measure with tax incentives. In a way, this is also a response to resentment among the government's own sympathisers, and can be read as a way to mitigate any loss of political support.

While the salaried middle-class sections would indeed benefit and welcome the move, it is not clear if this measure alone will stimulate demand to the extent of creating a strong virtuous economic growth cycle. This is because private investment in the economy has been stagnant, with the corporate sector showing an inclination to step it up. The Budget continues the trend of incentivising the corporate sector to do so — revenues from corporate tax as a share of gross tax collections are estimated to fall slightly from 25.4% in FY25 to 25.3% in FY26. But considering that corporates have shown little inclination to increase investment despite low corporate tax rates and increased profitability, the government should have adopted an alternative approach, perhaps gradually phasing out the tax incentives.

The Budget continues the trend of a high allocation on capex — albeit with a reduced share compared to the previous Budgets since the COVID-19 pandemic. Allocations in road transport (the Ministry) and telecom fell from 5.95% and 2.64% in RE for FY25 to 5.67% and 1.6% in BE26. Budgetary support for the Railways has also remained stagnant compared to FY25 RE. This is curious considering that the Railways have suffered a series of accidents in recent years and require a strong infrastructural boost. However, the government has done well to emphasise support for MSMEs with enhanced credit (guarantee cover increased from ₹5 crore to ₹10 crore) and start-ups (from ₹10 crore to ₹20 crore) besides schemes for the footwear and leather industry, toy sector and food processing MSMEs. The attention devoted to expanding clean energy generation is evident in the incentives provided to the electric vehicle and battery technology sectors in the form of duty exemptions on capital goods among others. In terms of allocations, expenditure is budgeted to increase by 0.24 points from 1.36% in FY25 to 1.6% in FY26 in the energy sector. This is indeed welcome, considering the strategic importance of this sector as the country transitions to a climate-friendly economy. While allocations for rural development increased from 4.08% in FY25 RE to 5.24% in FY26 BE, those for major schemes such as MGNREGS fell — from 1.82% in FY25 RE to 1.7% in FY26 BE. Allocations have been increased in other schemes such as the PM Awas Yojana and the National Rural Livelihoods Mission. The MGNREGS is tested as a scheme that enhances rural incomes and allows the rural poor to spend more on consumer goods, and any effort to stifle it would be counter-productive to the goal of stimulating demand. With employment remaining a major issue in the economy, the Budget's emphasis on social security for gig workers by arranging for identity cards for them and registration in the e-Shram portal, besides health care under the PM Jan Arogya Yojana, is welcome. While the Budget speech focused on skilling initiatives that would aid in youth gaining employment in an industrial world that is increasingly relying upon automation, the Employment Linked Incentive scheme, ambitiously launched last year, curiously did not find any mention in the Budget.

While the Budget has come up with measures that address the needs of the economy, there is too much left to hope built on imponderables, and too little riding on pragmatism.

Viksit Bharat and the Budget's play with numbers

The background to Budget 2025-26, as presented even by the official Economic Survey 2024-25, has posed a challenge to the Narendra Modi government that is settling into its third term. Growth is decelerating because of dampened consumption demand and slowing public capital expenditure, and private investment has not been making up for the slack. Meanwhile, global growth and policy trends, pre- and post-Trump, make it clear that external trade is not likely to be of much help. Any effort to reverse the slump in growth and ensure that the Viksit Bharat 2047 slogan, or "the ambition to take India to a developed country status", is not all but empty, requires a revival of domestic demand.

Points to income disparity

The principal source of the problem seems to be the inadequate growth in mass consumption demand domestically, following the weakening of an unsustainable spell of credit-fuelled expansion. In a rather candid section on earnings trends, the Economic Survey notes that "underlying subdued demand is a trend of rising income disparity. Stable growth, the Survey concludes, requires a fair distribution of income between capital and labour. But in a business-friendly new India, corporate profitability rose to a 15-year peak in 2023-24, with the biggest firms being disproportionate beneficiaries, while employment growth in the corporate sector was tepid and wage growth moderate.

The dampening of consumption demand driven by these trends was not neutralised by proactive government spending in the form of increased capital expenditure. In nominal terms, even the expansively defined "effective capital expenditure" through the central Budget (which includes grants in aid to the States for creation of capital assets) rose by 5%, which implies a fall in real terms. Budget 2024-25 had projected effective capital expenditure to rise from ₹12.5 lakh crore to ₹15 lakh crore, or by 20%. So, relative to plans, the revised figure reflects a sharp fall. This transpired despite the Centre's access to exceptional receipts such as revenues from cesses that are not shared with the States, receipts from sale of spectrum, special dividends



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Implicit in the Budget is the hope that tax concessions will result in spending and also reviving GDP growth, and 'incentivising' the corporate sector will revive private investment

from cash-rich public enterprises, and transfers of large "surpluses" from the Reserve Bank of India to the government. In practice, deficient revenues from taxes and fiscal conservatism kept government spending down and impacted capital expenditures adversely.

Depressed demand has meant that better profitability notwithstanding, private investment too has been deficient, aggravating the growth deceleration. The principal ask of the Finance Minister, therefore, was to lift the level of government expenditure relative to GDP, with a focus on a hike in the capital expenditures of the central government, and measures to boost employment and lower- and middle-income earnings in the medium term.

The vote bank has been kept in mind

Raising expenditures requires mobilising additional resources. That, however, does not seem to be the emphasis in the Budget. Reticent to tax friendly corporates and bent on consolidating a middle-class vote bank mobilised by using a majoritarian agenda, tax forbearance and concessions seem to be the current objective of fiscal policy. Part B of the Budget speech 2025-26 reserved its punch for the end, providing significant direct tax benefits for the middle-income earners. The tax-free income level has risen from ₹7 lakh to ₹12.75 lakh and revised rates in different tax slabs give substantial benefits to those required to pay income taxes. A consequence, according to the Minister, is a loss of potential direct tax revenues of around ₹1 lakh crore.

In addition, as part of the commitment to keep the central government's borrowing relative to GDP constant, the Finance Minister has promised to reduce the fiscal deficit from 4.8% of GDP in 2024-25 to 4.4% in 2025-26. As a result of the sacrifice of revenues and the self-imposed restraint on the borrowing, the Budget for 2025-26 projects an increase in total nominal expenditure of just 7%.

However, the Budget promises to hike capital expenditure by 17% relative to revised estimates for 2024-25. That arithmetic works because of a willingness to record curtailed spending on social welfare. The food subsidy bill for an enhanced safety net under the National Food Security Act,

having fallen from ₹27.3 lakh crore in 2022-23 to ₹19.7 lakh crore in 2024-25, is projected at just ₹20.3 lakh crore in 2025-26. Similarly, the outlay for the National Rural Employment Guarantee Scheme, having fallen from ₹90.8 thousand crore in 2022-23 to ₹86 thousand crore in 2024-25, is expected to stay at the same level. These are in any case not final figures and are likely to be even lower.

Despite the play with numbers, the government is clearly not convinced that all its claims will materialise. So, there are two bets implicit in the Budget. The first is that the tax concessions to the middle class will unleash a spending spree that would revive consumption demand and GDP growth. The other is that, even though booming corporate profits and stagnant worker earnings are, according to the Economic Survey, bad for demand, "incentivising" the corporate sector will help revive private investment.

So, domestically, the emphasis is on regulatory reform for the non-financial sector that will improve the "ease of doing business". The contradictory position involving the recognition that income disparity (driven by freedom for business) dampens demand and limits private investment, on the one hand, and the belief that freedom to corporates used to garnering larger profits even while capacity is underutilised would spur investment, on the other, was stark in the Economic Survey. It appears in the Budget as well.

The 'foreign angle'

Similar incentives are being extended to foreign investors as well. The ceiling on foreign ownership in the insurance sector has been held to 100% from 74%, despite the evidence that such firms can be ruthless with clients when pursuing profits. The government has also promised to dilute India's "model" bilateral investment treaty template and make it more investor friendly. Investment treaties are the means by which firms and sovereigns in less developed countries are held to ransom by transnational conglomerates. Giving them the freedom to do that in a grim world economic environment on the grounds that it can help deliver Viksit Bharat is not just an illusion, but a dangerous one.

A Union Budget that ticks most of the boxes

The Union Budget for FY26 has been presented in the backdrop of a challenging domestic and global macroeconomic environment. The state of the economy appears to be in a cyclical slowdown led by weakening urban consumption, lacklustre job growth and an investment cycle by the private sector that is yet to turn broad-based. Further, the global geopolitical and geoeconomic environment has become extremely uncertain, with serious risks of disruption to global trade.

Nevertheless, India's macroeconomic strength remains uncompromised. GVA growth is expected to bounce-back in H2 FY25, core inflation appears to be benign, and the current account deficit has been lower than its long-term trend with structural support from a rising and buoyant services export. Last, but not least, India, unlike many other countries especially in Europe and Latin America, enjoys political and economic stability.

Against this somewhat half-glass full/half-glass empty macroeconomic backdrop, the Finance Minister rightly chose to retain a focus on macroeconomic stability with a display of prudent fiscal management.

At the outset, the Finance Minister not only sprung a positive surprise by revising the current year's fiscal deficit target lower by 10 bps to 4.8% of GDP, but also delivered on her promise of incremental consolidation and lowered the fiscal deficit target further by 40 bps to 4.4% of GDP in FY26. We note that, FY20 (which was partially impacted by the COVID-19 pandemic) had seen a higher fiscal deficit of 4.6% of GDP. Hence, it can now be inferred that a bulk of the post-pandemic fiscal stimulus has now been unwound. This will help India in preserving fiscal policy space, curb longer term inflationary pressures and take one step further towards a potential upgrade to its sovereign rating. International investors would welcome this tremendously at a time when fiscal policy could come under pressures in many

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countries, including the United States.

One distinguishing feature of recent fiscal compression has been the tight leash on revenue deficit, which in FY25 and FY26 is estimated and projected at 1.9% and 1.5% of GDP, respectively — both lower than the pre-COVID level of 2.4% seen in FY19. While a structural improvement in revenue receipts has helped in this journey, reduction in revenue deficit in FY26 is going to be achieved by the curbing of discretionary revenue expenditure — revenue spending, excluding interest, salary, pension, and subsidies, is budgeted to grow by just 3.2% in FY26, lower than the expected rate of inflation.

This appears to be a balancing act since the focal point of consumption stimulus in the FY26 Union Budget is the reduction in the personal income tax burden, which as per the Budget estimates would amount to ₹1 trillion of potential revenue forgone. We believe the actual support to consumption (predominantly urban) would be more than the accounting loss on account of the multiplier impact.

Focus on personal tax and implications

In fact when seen through the lens of optimism, the reduction in personal income tax burden when juxtaposed with the upping of tax claim benefits for individuals for self-occupied houses (from one earlier to two from FY26 onwards) could trigger a much larger growth multiplier by channelling household savings to the real estate sector, which in turn is known to have a rich backward and forward linkage with the rest of the economy.

While there was some disappointment among market watchers with respect to the perceived cut in capex allocation, we are not perturbed. The capex allocation for FY25 was revised lower from 3.4% of GDP to 3.1%. However, the entire cut got front loaded due to the administrative exercise of the general election 2024 and government formation thereafter. We can now say that the lacklustre momentum in capex disbursements is behind us — notably, the central

government disbursed ₹1.72 trillion in capex in December 2024, the highest monthly disbursement ever. For FY26, the capex budget has been maintained at 3.1% of GDP, giving a sense of continuity.

Notably, the capex-to-rev ratio, one of the key markers to judge quality of fiscal spending, is budgeted to increase to 28.4%, the highest in over two decades.

From an industry perspective, enhancement of classification thresholds for micro, small and medium enterprises, creation of national manufacturing and export promotion missions, establishing an investment friendliness index for States, and a focus on labour intensive sectors such as agriculture, leather, toys, and tourism and hospitality etc. would provide a fillip to sentiment.

The Economic Survey's influence

Further, a holistic feature of FY26 Budget lies beyond the numbers it projects. Intangible gains could be reaped, which if implemented and executed well, would boost productivity levels in the economy in the longer run. A focus on next generation ease of doing business measures, a simplification of the tax architecture (including various decriminalisation measures), and migration towards a light-touch regulatory framework in the non-financial sector are some of the steps that appear to have been imbibed from the Economic Survey.

While the Union Budget ticks most of the boxes, the long-term fiscal policy strategy remains less articulated. The central government is expected to switch to a debt targeting framework from FY27. As per the Budget documents, the endeavour would be to keep fiscal deficit in each year from FY27 such that the central government debt is on a declining path towards 49%-51% of GDP range by FY31 versus 56.1% projected for FY26. While this approach would impart operational flexibility in the conduct of fiscal policy, it could also infuse some volatility in market reaction function.

The Finance Minister has rightly chosen to retain a focus on macroeconomic stability with a display of prudent fiscal management

LETTERS TO THE EDITOR

Real relief?

The Union Budget 2025 has offered some relief to the middle class by easing the tax burden on savings. However, the reality remains unchanged — the middle class continues to shoulder a significant share of direct and indirect taxes. In return, they expect more than just token benefits: they seek well-maintained roads; they seek quality education, and, most importantly, they seek accessible and efficient health care. The question is will the government prioritise these essential services?
Anush D' Cunha S.,
Thiruvananthapuram

The Economic Survey

The Economic Survey's recommendations on coal plants would be good-sent news for the country's beleaguered thermal sector. The return of Donald Trump to the White House offers hope for the sector. We all now be inferred that a bulk of the post-pandemic fiscal stimulus has now been unwound. This will help India in preserving fiscal policy space, curb longer term inflationary pressures and take one step further towards a potential upgrade to its sovereign rating. International investors would welcome this tremendously at a time when fiscal policy could come under pressures in many

its supremacy in India's energy mix. However, the responsibility that rests on our policymakers is all the more valid now. There has to be impetus to research clean coal technologies. All thermal power utilities should be monitored closely for their adherence to emission standards. The deadline for installation of flue gas desulfurisers should be viewed in all seriousness.
S. Vasudevan,
Srirangam, Tamil Nadu

The Economic Survey has, among other things, highlighted mental issues that arise from long hours of work and the stress involved. Studies have, time

and again, proven beyond doubt that long hours of work cause stress and result in anxiety and depression. The IT and banking sectors in India are two main areas where employees put in close to 50 to 70 hours per week. This not only affects their physical and mental health but also deprives them of regular family time. It is no exaggeration to say that many brilliant youngsters in India do look at options overseas also keeping in mind the balance between work and personal time.
P.G. Mathew,
Kochi, Kerala

Unlike previous years, the

Survey this time appears to be comprehensive and sounds positive. It has made some path-breaking suggestions such as de-regulation for ease of doing business especially in the MSME sector, and even covers the mental well-being of employed youth. What could have been included is widespread corruption prevalent in all walks of life encountered by the common man.
A.V. Narayanan,
Chennai

There is absolutely no denying that firms need to earn profits to ensure that the wheels of business flow

smoothly ("Higher profit share, stagnant wage growth, slowing economy: Survey", February 1). That said, entrepreneurs should give labourers reasonable wages to help them lead a decent life. Needless to say, the propensity to consume (ratio of consumption to income) is high in the case of labourers which is important for boosting consumption demand, private investment, employment and output in the economy.
S. Ramakrishnasayee,
Chennai

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The social sector is again the target of spending cuts

Budgets for most of the schemes and departments, such as education, health, social security pensions, and mid-day meals, are either stagnant or have increased only nominally



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The Budget speech mentions six principles of 'Viksit Bharat': zero-poverty, quality education, comprehensive healthcare, meaningful employment, inclusion of women in economic activities, and farmers' well-being. This is followed by 10 broad areas that the proposed development measures span. However, Budget figures show that these measures are not sufficiently backed by allocations. This is disappointing given that there is widespread acceptance of not only the economic slowdown, but also the slump in consumption demand. Academics, industry, and civil society have all been recommending demand-side measures to increase the disposable incomes of the poor, lower classes, and the middle class.

Reduced allocations
While agriculture is identified as an engine of growth, there is hardly any increase in allocation for the Department of Agriculture and Farmers' Welfare — from ₹1.22 lakh crore in 2024-25 (BE) to ₹1.27 lakh crore in 2025-26 (BE). In fact, the current year's allocation is even less than the RE for 2024-25 (₹1.31

crore). The national mission on oilseeds does not find a mention in the Agriculture budget figures and a meagre ₹1,000 crore has been allocated for the mission for pulses. The allocation for food subsidy is also more or less the same as last year (₹2 lakh crore) indicating that there is no hope of pulses and oils being included in the public distribution system. This could have offered stable and affordable prices for consumers, allowing them to spend their incomes on other items. Even the budget for MGNREGS remains stagnant at ₹66,000 crore despite demands from workers' unions and also the corporate sector for an increase in wages under this scheme.

The Prime Minister's Package for Employment and Skill Training announced last year also does not seem to have really taken off. The allocation for the PM Internship Scheme in 2024-25 was ₹2,000 crore, but reduced to ₹380 crore (RE). However, this year's allocation is significantly higher at ₹10,780 crore, which would be sufficient to cover about 18 lakh people. The number of registrations so far is only 1,25,000. The aim is to provide one crore internships in



Students eat their mid-day meal at a school in Visakhapatnam, V. RAJU

five years. Even if the targets are achieved, these internships only pay ₹5,000 per month and there is no guarantee of a job.

It is interesting that the first issue that gets mention in 'investment' is 'investing in people' and within this, the announcement that the cost norms for the Saksham Anganwadi and Poshan 2.0 'will be enhanced appropriately'. Yet, there is hardly any increase for the Saksham Anganwadi — from ₹21,200 crore 2024-25 (BE) to

₹21,960 crore 2025-26 (BE). The actual expenditure for 2023-24, two years ago, was already ₹21,810 crore. These cost norms have not been updated since 2018 and just indexing them to inflation would require higher budgets. If the honorariums of Anganwadi workers and helpers are also increased, as they should be, even higher allocations would be needed.

The 'investing in the economy' part focusses mostly on infrastructure projects with an emphasis on

public-private partnership mode. This has been tried, but does not seem to have contributed to either recovery in demand or in employment generation.

Reviving demand

While there is excitement over the tax-related announcements for the middle class, it is important to remember that a very small proportion of Indians pay personal income tax and this initiative might be nowhere enough to revive rural and urban demand. Given stagnant rural wages over the last decade and the recent concerns related to urban consumption demand, along with the reverse structural change being observed in the labour market where employment in agriculture is rising, it is clear that much larger amounts of resources need to be pumped into rural areas and towards the lower income classes. There is no point bemoaning the fact that private investment is not forthcoming even though profits have been rising, as the Economic Survey does, while doing nothing to increase incomes of the masses and demand. Investment will only come when there are prospects of added revenue,

which clearly the industry is not very buoyant about currently.

What one would therefore have expected from this Budget if it was to make a difference to growth and equity is big spending towards schemes such as MGNREGA along with newer schemes for small and labour-intensive projects, supported by enhanced spending on the social sector. However, budgets for most of these schemes and departments (education, health, social security pensions, mid-day meals) are either stagnant or have increased nominally. The overall Budget figures are also telling: while what the economic situation asks for is an expansionary Budget, we see projected fiscal deficit being lower at 4.4% for 2025-26 from 4.8% for 2024-25 even after taking into account the estimated revenue forgone of ₹1 lakh crore because of the income tax reforms. The total expenditure as a proportion of GDP has also gone down from 14.6% in 2024-25 to 14.2% in 2025-26 with the share of capital expenditure in total expenditure increasing from 27.9% to 30.6%. Obviously, spending has been cut. Once again the target of these cuts is the social sector.

Agriculture is fiscally neglected in the Budget

Schemes and programmes are starved of resources, and the real issues that confront the farmers and the sector remain sidelined



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A Budget is the response of a government to the challenges in the economy. The effort in the Economic Survey 2024-25 was to spin a positive narrative on the state of Indian agriculture. It claimed that Indian agriculture remained remarkably resilient owing to a rise in productivity, an expansion of crop diversification, and an increase in farmers' income. These claims were either suspect or highly exaggerated.

To begin with, there is no significant jump in crop productivity. A simple analysis based on index numbers shows that growth rates of yield between 2014-15 and 2022-23 were marginally lower in food grain crops and non-food grain crops than between 2004-05 and 2013-14. Second, there is no major evidence of crop diversification in India, other than marginal shifts in a few States in favour of pulses. If at all diversification is real, it took place outside the farmers' agitation in the spheres of livestock and fisheries. But the share of households involved in the livestock and fisheries sectors is dwarfed by the corresponding share of households in the crop sector. Third, while the government continues

to claim a rise in farmers' income, data show the opposite — there is either a stagnation or fall in farmers' real incomes in recent years.

The "resilience" of Indian agriculture, as the Economic Survey, was not policy-induced but owing to a set of fortuitous factors, including the hardening of international prices and favourable weather conditions in the post-Covid years. At the same time, the more deep-seated problems, as evidenced by low productivity, slow growth of prices, shrinkage of profitability, falling real incomes and rural real wages, have continued to create conditions that militate against any growth stimulus emerging from agriculture.

Reduced allocations
From the commentaries prior to the Budget, one expected that the government would reverse its past fiscal neglect of agriculture, which was in large part seen as a penal action for the farmers' agitation after 2020. The rude shock that the rural electorate delivered to the BJP in June 2024 was also cited as a motivation for course correction. But the Budget belies these optimistic expectations. The fiscal neglect of agriculture continues.



A farmer with his beetroot crop on the outskirts of Amritsar, Punjab, AN

Let us begin with agricultural research, which must be the centre of investment for efforts to raise crop yields alongside the development of climate resilience. The overall increase in spending on agricultural research and education between 2023-24 and 2025-26 is just ₹21 crore. Compare this with the pseudoscientific National Mission on Natural Farming, for which allocation was ₹30 crore in 2023-24 but is ₹616 crore for 2025-26. This is not just a reflection of inverted priorities, but also a shocking embrace of irrationality.

If we consider crop husbandry, which is an umbrella category for expenditures on schemes and installations in agriculture, the allocation has fallen by ₹5,195 crore between 2023-24 and 2025-26. There has also been a drastic reduction in allocation by ₹3,622 crore for the Pradhan Mantri Fasal Bima Yojana, from which many States have withdrawn due to design failures, between 2024-25 and 2025-26. The allocations for most other central sector schemes are also either stagnant or have fallen. Much was said in the Budget

speech on the new crop-based missions, but the allocations for these are paltry. The allocation for the Cotton Technology Mission is ₹500 crore, the Mission for Pulses is ₹1,000 crore, the Mission for Vegetables and Fruits is ₹500 crore, and the National Mission on Hybrid Seeds is ₹100 crore. A new Makhana Board, with an allocation of ₹100 crore, has been announced for Bihar. But the already existing commodity boards are cash strapped. For example, between 2024-25 and 2025-26, allocation for the Coffee Board has remained unchanged, the Rubber Board's allocation has risen by just ₹40 crore, and allocation for the Spices Board has risen by just ₹24 crore. Allocation for the Coconut Development Board has been cut from ₹39 crore in 2023-24 to ₹35 crore in 2025-26.

Fiscally ignored sectors
Despite the claims in the Economic Survey on diversification into livestock and fisheries, these sectors also remain fiscally ignored. The total expenditure on fisheries would rise by just ₹87 crore between 2024-25 and 2025-26, the expenditure on animal husbandry is

set to fall by ₹407 crore while that on dairy is set to rise by just ₹321 crore. Considered together, the overall expenditure on all budget items in animal husbandry and dairy are to rise by a paltry ₹319 crore between 2024-25 and 2025-26. The Budget portrays these sectors as growth engines, but fiscally squeezes them.

A new scheme called Prime Minister Dhan-Dhaanya Krishi Yojana has been announced. This aims to target 100 districts with low productivity, moderate crop intensity, and below-average credit parameters — much in the model of the Aspirational Districts Programme. But agriculture is a State subject. While the Budget speech mentioned "partnership with States" in the description of this Yojana, it remains to be seen if its governance would be designed to be centralised, of a one-size-fits-all variety, and one that ends up fiscally burdening the States.

While the Budget speech mentioned agriculture several times, these were hardly matched by financial allocations. The schemes and programmes are starved of resources, and the real issues that confront the farmers and the sector remain sidelined.

Reviving demand for industrial growth

The Budget attempts to revive growth by stimulating aggregate demand in the economy, with a crucial role assigned to the industrial sector



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Assuming a conservative GDP growth rate of 10.1% for FY26, the Budget accords priority for fiscal consolidation. The 'cautious' GDP forecast appears to be realistic for tax revenue projections, given the uncertainties in the global economy and growth slowdown in the domestic economy.

Importantly, even with these moderate growth expectations, the government has shown resolution in lowering the fiscal deficit. There are two implications of this. First, there exists a possibility of pegging the fiscal deficit to below 4% in the medium term; and second, there is no room for concerns on liquidity in the financial system as an expanded borrowing programme would have caused disturbances in the market.

Given this fiscal path, the gross borrowings would be ₹14.8 trillion against ₹14 trillion in FY25. As the liquidity is under pressure currently, a higher level of borrowing could have caused disruptions in the market impacting investments. Given this macro fiscal stance, the Budget attempts to revive growth by stimulating aggregate demand in the economy, with a crucial role assigned to the in-

dustrial sector.

There are three aspects to note about the industrial sector. First, industrial growth, especially that of manufacturing, exhibits frequent fluctuations with sectoral and spatial growth differences often dampening employment creation and GDP growth. Second, despite numerous incentives, export growth has been sluggish, with low productivity growth, competitiveness, and research and development activity. Third, private investments are not keeping pace with governments efforts to encourage them through incentives and concessions.

Boosting industrial growth

Two broad sets of measures can be deployed to boost industrial growth: (a) economy-wide measures to tackle supply bottlenecks and bolster demand and (b) sector-specific policies to enhance output and exports. In the first set, there has been a continued focus on capital expenditure (capex), which is targeted to be ₹11.2 lakh crore, higher than the revised numbers for FY25. The focus remains on roads, railways, and defence, which is expected to generate multiplier effects in the



Women work at a garment unit in Madurai, Tamil Nadu. G. MOORTHY

economy. Further, to step up investments, various measures have been announced across ministries focusing on fostering public-private partnership deals along with States. There is also an emphasis on investment in urban infrastructure with funding supported by issuance of bonds.

In terms of stimulating demand, the government has attempted to tackle consumption through changes in income tax rates and has given major conces-

sions for individuals. Complementing this is the focus on social welfare and development through programmes such as PM KISAN, MGNREGA, and PM Awas Yojana. A combination of tax relief and welfare provisioning along with continued capex is expected to generate higher demand and fuel industrial growth.

Regarding targeted measures for the manufacturing sector, the emphasis has been on three areas: employment and skills, MSMEs,

and export promotion. The focus on manufacturing of electronics, toys, and footwear is important, as these are one of the biggest export baskets of China to the U.S. With the U.S. imposing more tariffs on China, it is prudent to focus on domestic production. The emphasis on leather products and production of toys by developing clusters and a manufacturing ecosystem is expected to generate employment in the industrial sector. Four initiatives have been announced for export promotion: an export promotion mission to be driven jointly by the Ministries of Commerce, MSME, and Finance; the BharatTradeNet a digital public infrastructure; a national framework to be formulated as guidelines for promoting Global Capability Centres in emerging Tier 2 cities; and warehousing facility for air cargo to facilitate the upgradation of infrastructure. For MSMEs, the loan limit under the Modified Interest Subvention Scheme will be increased from ₹3 lakh to ₹5 lakh. Further, a new scheme will be launched for five lakh women entrepreneurs — from Scheduled Castes and Scheduled Tribes.

Two aspects of the strategy to push industrial growth need careful examination. First, the emphasis on exports might not deliver in an era of global uncertainties and tariff wars. The old mantra of 'export-led growth' needs re-examination. Second, earlier models of skilling have not delivered enough. Given the rapid technological changes and changing needs of industry, a new template needs to be evolved. The PLI scheme also requires stocktaking.

Two challenges

The Economic Survey and the Budget say 'get out of the way', 'trust people', and speak of the need of having a "light touch regulatory framework based on principles and trust". The intent is to unleash the market for productivity and employment in the manufacturing sector. However, this throws open two challenges: for the government to implement promises and for corporates to utilise the space left by the government getting out. Getting out then has to be in phases, recalibrating the nudges provided through incentives. This requires corporates to assume a larger role by stepping up investments, for which the economy has been waiting.

SCIENCE

Urine-based test detects aggressive prostate cancer

The Hindu Bureau

Traditional approaches to prostate cancer screening involve blood tests, MRIs, and biopsies. However, in addition to being uncomfortable, some of these procedures result in over-diagnosis of low-grade cancers. In a new study, researchers at the University of Michigan Health Rogel Cancer Center have clinically validated a previously

developed urine test, which can potentially bypass these invasive procedures among men who are unlikely to benefit. Prostate cancers are categorized based on their Gleason Grade or Grade Group. Those with Gleason 3+4=7, or Grade Group 2, or higher are more likely to grow and cause harm in comparison with Gleason 6 or Grade Group 1 prostate cancers, which are

considered non-aggressive. The urine test, called MyProstateScore 2.0, or MPS2, looks at 18 different genes linked to high-grade prostate cancer. The researchers had previously demonstrated that the test was effective in identifying G2 or higher cancers, helping patients avoid unnecessary biopsies. However, in that study, urine samples were obtained after a digital rec-

tal examination.

Mathematical models
In the study, the team modified the urine collection approach so that the MPS2 test could detect markers for prostate cancer, without requiring a prior rectal exam. Using urine samples from a cohort of 266 men who did not undergo a rectal exam, they found that the test could detect 94% of G2 or

higher cancers and was more sensitive than blood tests. Further, the team used mathematical models to demonstrate that the use of MPS2 would have avoided up to 53% of unnecessary biopsies. "These results show that MPS2 has promise as an at-home test," Ganesh S. Palapattu from the University of Michigan and a co-author of the paper said in a release. "Its primary benefit

is that the test can accurately predict your probability of developing aggressive prostate cancer, putting both the patient and physician at ease." MPS2 can also help patients save on healthcare costs since it is significantly cheaper than an MRI. The researchers are hoping to study the test's performance in men as a surveillance screen for low-risk prostate cancer.

SNAPSHOTS



Moon is not as 'geologically dead' as previously thought

Researchers suspected that the moon's near side has remained dormant for billions of years. But a study reveals that what lies beneath the lunar surface may be more dynamic than previously believed. They discovered that small ridges located on the moon's far side were younger than previously studied ridges on the near side. They found 266 previously unknown small ridges on the far side that likely formed 3.2 to 3.6 billion years ago in narrow areas where there may be underlying weaknesses in the moon's surface.



Study reveals how microbes help detoxify our atmosphere

Researchers have discovered how microbes consume huge amounts of carbon monoxide and help reduce levels of this deadly gas. The study reveals that at an atomic level how microbes consume carbon monoxide present in the atmosphere. They use a special enzyme, called the carbon monoxide dehydrogenase, to extract energy from this universally present but highly toxic gas. The study showed for the first time how this enzyme extracted atmospheric carbon monoxide and powered cells.



Hydrogen may have fostered ancient Mars humid climate

Researchers think they have a good explanation for a warmer, wetter ancient Mars. Building on prior theories describing the Mars of yore as a hot again, cold again place, researchers have determined the chemical mechanisms by which ancient Mars was able to sustain enough warmth to host water, and possibly life. Those periods were driven by crustal hydration, or water being lost to the ground, which supplied hydrogen to build up in the atmosphere over years.

Dengue warning system predicts risk two months in advance

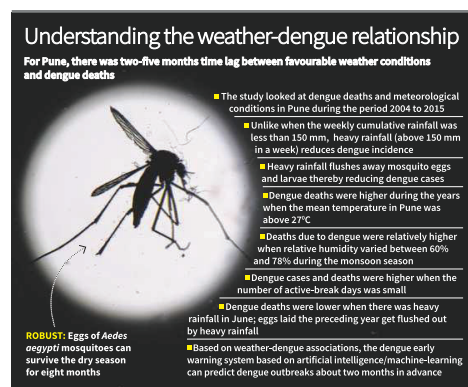
Moderate rainfall spread over the entire duration of the summer monsoon season led to increased dengue deaths in Pune compared with heavy or extreme rainfall

R. Prasad

A study that looked at dengue deaths and meteorological conditions in Pune during the period 2004 to 2015 using both statistical tools and machine learning methods found that temperature, rainfall, and relative humidity were associated with increased dengue deaths due to increased cases of dengue. Importantly, the study showed that Pune had a time lag of two to five months between favourable weather conditions and dengue deaths, thus providing sufficient lead time to curb dengue outbreaks and thereby deaths. Results of the study led by researchers from Pune's Indian Institute of Tropical Meteorology were published in the journal *Scientific Reports*.

The study found that moderate rainfall spread over the entire duration of the summer monsoon season was associated with increased dengue deaths in Pune compared with heavy or extreme rainfall. Unlike when the weekly cumulative rainfall was less than 150 mm, heavy or extreme rainfall above 150 mm in a week reduces dengue incidence. This is because heavy rainfall washes away or flushes out the mosquito eggs and larvae. The association between rainfall intensity and dengue incidence is consistent with observational data.

Similarly, in the case of mean temperature, the study found that dengue deaths were higher during the years when the mean temperature in Pune was



above 27 degrees C, says Dr. Roxy Mathew Koll from IITM, Pune, and the corresponding author of the paper. At this mean temperature, dengue transmission in Pune was optimal as it positively affected the longevity of mosquitoes, the number of eggs deposited by each female mosquito, the number of times a mosquito laid eggs, and the time between a blood meal and laying eggs. "We find a statistically significant positive correlation between the annual dengue mortality and the number of days with optimal temperatures (above 27 degrees C) during the summer monsoon season (June to September) in Pune. This temperature window is specific to Pune and may be different for other regions," he says.

Likewise, the humidity va-

ried between 60% and 78% during the monsoon season were when dengue deaths were relatively higher, the study found. Relative humidity impacts the hatching, survival rate, and biting frequency of adult dengue mosquitoes. According to the authors, a minimum of 60% relative humidity is required for *Aedes aegypti* mosquitoes to survive as low humidity kills the mosquitoes due to water evaporating from their bodies.

They also found there was an association between increased dengue cases and deaths and active-break phases of the monsoon. When the summer monsoon during a particular year has fewer active-break days, the number of dengue cases and deaths was higher compared with those years when the number of ac-

tive-break days was higher. Dr. Koll explains that it is the pattern of rainfall – moderate rainfall during the monsoon season with fewer active-break days that influences dengue transmission. "Increased number of active-break days suggests greater variability or fluctuation in rainfall, including the number of extreme rainfall events, during low dengue years," says Sophia Yacob from IITM, Pune, and the first author of the paper. "In contrast, evenly distributed rains with fewer active-break days result in increased dengue cases."

"We found that dengue deaths were lower during the years when rainfall during June – the first month of active-break days – was heavy," Dr. Koll says. This is because mosquito eggs are capable of surviving the

dry season for up to eight months. So eggs laid after the preceding monsoon season can hatch into mosquitoes when the monsoon season begins in June. Heavy rainfall during June therefore tends to wash off the eggs laid the preceding year, thereby reducing the mosquito population and dengue-related deaths at the beginning of the monsoon season.

'Clear pathway'
Based on weather-dengue associations, the authors developed a dengue early warning system based on artificial intelligence/machine-learning to predict potential dengue outbreaks about two months in advance. The model used observed mean temperature, cumulative rainfall, and relative humidity patterns. About 41% of the model's prediction skill is determined by mean temperature, 29% by cumulative rainfall, and 20% by relative humidity. The dengue model was also used for future projections of dengue mortality over Pune by utilising climate projections from selected models suited for the Indian monsoon region.

"In response to climatic changes, dengue mortalities over Pune are projected to increase by 12-112% in the future (2021-2100) under low-to-high emission pathways," the authors write. "The findings of this study have significant implications for policymakers, as they provide insights into the potential impacts of climate change on dengue mortality in Pune and provide a clear pathway to extend the model to any other region."

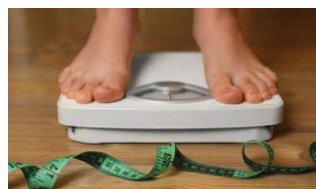
'Obesity rare in rural children despite genetic susceptibility'

The Hindu Bureau

A genetic study of childhood obesity in about 6,400 school-going children aged 9-18 years has found that socioeconomic status significantly modulates the inherent genetic susceptibility to obesity. Unlike in the case of adult obesity, genetic studies to understand obesity in children and adolescents are limited, particularly in non-Caucasian populations. Besides identifying the genetic variants associated with childhood obesity in the Indian population, a study undertaken by a clutch of Indian institutions led by researchers from the School of Biotechnology in JNU, Delhi has studied how socioeconomic status modifies the genetic susceptibility to obesity. The study has been accepted for publication in the journal *Obesity*.

The researchers per-

formed a two-staged Genome-wide Association Study (GWAS) on 5,673 children and an independent Exome-wide Association Study (ExWAS) on 4,963 children to identify the genetic variants associated with childhood obesity. "While GWAS examines the entire genome for common genetic variants linked to a trait, often focusing on the non-coding regions, the EWAS focuses specifically on rare variants in the protein-coding regions (exome)," explains Janaki M. Nair from JNU and the first author of the paper. "Combining the two approaches offers a more comprehensive understanding of the genetic basis of obesity." The GWAS was performed in two stages – the discovery phase on 1,510 children and the replication phase on 4,555 children. "The discovery phase involves a genome-wide scan to iden-



Prevalence of underweight children was higher in rural schools, while obese children were from urban schools. GETTY IMAGES

tify variants associated with obesity, while the replication phase validates the lead associations in the discovery phase in an independent sample set," she says. Besides two genes known to be associated with obesity, the GWAS helped identify six novel associations in genes. Potential functional roles of the identified novel genes were evaluated using gene-expression profiles in dif-

ferent human tissues, and gene-regulatory data from publicly available databases. "Most of the identified genes showed the highest expression in adipose tissue," Ms. Nair says. Besides validating the association of known genes involved in obesity in the Indian population, the exome-wide association study identified four novel missense variants for BMI, body weight and waist-to-hip ratio. "The in-

volvement of these identified genes in key obesity-associated pathways further strengthens the significance of our findings, highlighting their potential role in obesity and related metabolic disorders," she says. "Since genetic factors alone do not fully explain the development of childhood obesity, we studied the role of socioeconomic status in shaping obesity. Our study revealed significant associations between school types – students from urban private schools, urban government schools and rural government schools – which is an indicator of socioeconomic status and BMI in children," says Dr. Dwai-payan Bhardwaj from JNU and one of the corresponding authors. "As expected, the study found that children from lower socioeconomic status showed a higher prevalence of un-

derweight, while those from higher socioeconomic status faced a higher prevalence of obesity."

The study found that socioeconomic status greatly influenced genetic susceptibility to obesity. For each genetic variant significantly linked to obesity in the study population, children were grouped by genotype and their BMI (adjusted for age and sex) compared across rural, urban government, and urban private schools. "Despite the frequency of risk genotypes and the variant effects being consistent across three categories, children from urban private schools tend to have higher BMI compared to children from urban government or rural schools," Ms. Nair says. "Even with similar genetic risks, children belonging to high SES were more likely to be obese, emphasising the powerful gene-environment interaction."



Question Corner

Fat taste receptors

What sensory system do dolphins use to get mother's milk?

Unlike land mammals, dolphins and other marine mammals have limited olfactory capabilities – their sense of smell is largely nonfunctional in aquatic environments. Researchers have therefore speculated that dolphins have ways of sensing their surroundings and detecting food. A recent study has discovered that juvenile bottlenose dolphins have specialised receptors for detecting the fatty acids in their mother's milk. They found special structures in the tongue of young Indo-Pacific bottlenose

dolphins that may help them detect fat. At the back of the tongue, a row of taste receptors specifically tuned to pick up fatty acids were found. These receptors also have enzymes that help break down the fat. The ability to detect fatty acids is part of specialised fat taste receptors in their oral cavity, thus helping dolphins assess the nutritional value of their food. Behavioural tests in captive common bottlenose dolphins showed that a juvenile can recognise the presence of milk in water.

Readers may send their questions / answers to questioncorner@thehindu.co.in

Why is there a row over border fencing?

What is the dispute between India and Bangladesh? How much of the border has been fenced?

Shiv Sahay Singh

The story so far:

In January, India and Bangladesh exchanged words over security measures at the border, including issues around fencing, with both countries summoning diplomats and sending a message about protocols and past agreements.

What is the length of the border?

India shares its longest border with Bangladesh which is 4,096 km. After the regime change in Bangladesh last August, disputes have erupted at several places over border fencing. While Bangladeshi officials allege that tensions have arisen at five places along the border because of fencing, the Government of India has reiterated its commitment to ensuring a crime-free border.

How much of the border is fenced?

The annual report of the Ministry of Home Affairs for the year 2023-24 points out that of the total length of the India-Bangladesh border of 4096.7 km, about 78% or 3196.705 km, has been fenced. India's border with Bangladesh passes through five States – Assam, Meghalaya, Mizoram, Tripura and West Bengal – and is guarded by six frontiers of the Border Security Force (BSF): Assam Frontier, Meghalaya

Frontier, Mizoram and Cachar Frontier, Tripura Frontier, North Bengal Frontier and South Bengal Frontier. While in some frontiers over 80% of the border is fenced, in certain other areas the fencing has not even crossed 50%. For instance, in the Meghalaya Frontier, out of 443 km, 367 km (82.8%) has been fenced whereas in the South Bengal Frontier which guards about 913 km from Sundarbans to Malda (in West Bengal) only about 405 km (44%) has been covered by fencing. The disparities in border fencing is because of the challenging terrain and habitations too close to the international border. For instance, 364 km of the 913 km of the border guarded by the South Bengal Frontier is riverine, with Ichamati and Padma serving as the international border between the two countries.

The Ministry of Home Affairs report notes that there have been some problems in the construction of fencing in certain stretches on this border. While the river and the chars (silt lands formed in and along the river) pose geographical challenges to erecting fences, sometimes the border population resists fencing as it can create obstacles in accessing their land close to the international border. While in some frontiers over 80% of the border is fenced, in certain other areas the fencing has not even crossed 50%. For instance, in the Meghalaya Frontier, out of 443 km, 367 km (82.8%) has been fenced whereas in the South Bengal Frontier which guards about 913 km from Sundarbans to Malda (in West Bengal) only about 405 km (44%) has been covered by fencing. The disparities in border fencing is because of the challenging terrain and habitations too close to the international border. For instance, 364 km of the 913 km of the border guarded by the South Bengal Frontier is riverine, with Ichamati and Padma serving as the international border between the two countries.

What is the protocol for border fencing?

The 1975 Joint India-Bangladesh Guidelines for Border Authorities states that after the identifiable boundary line, whether 'real' or 'working' has been fixed, neither side will have any permanent or temporary border security forces or any other armed personnel within 150 yards on either side of this line. "No permanent post will be constructed till the final demarcation has been done and the problem is resolved," the agreement states.

In places where the border population is settled close to the international border and fencing is required within 150 yards, both countries have to mutually agree on it. Recently, disputes have emerged in such areas where the BSF authorities claim that their counterparts – Border Guard Bangladesh (BGB) – had agreed on erecting fences but are not honouring the agreements made before August 2024.

Director General of BSF Daljit Singh Chaudhary said even if certain areas are unfenced along the border, it does not necessarily mean that infiltration or other cross-border activities are going on. He pointed out that wherever there are such gaps, technological solutions are used, like flood lights, cameras and drones.

What lies ahead?

There is a push from the Government of India to complete fencing on the remaining stretches. While the political rhetoric of accusing the BSF for lapses in border management by the ruling Trinamool Congress continues in West Bengal, at a policy level the State government agrees that there is a need for the border to be fenced. In January 2025, the West Bengal Cabinet approved the allocation of around 0.9 acres of land in Karimpur to the BSF for setting up fences.

Despite disputes emerging in the Malda Rajshahi and Cooch Behar Lalmonirhat border, border guards of both the countries have exercised restraint and held talks to ease the situation. "Since August 5, 2024, after the unrest in Bangladesh, BSF carried out many SCPS (simultaneous-coordinating patrolling) to keep vigil and held 643 border meetings with BGB," a press statement by the BSF stated on December 1, 2024. The issue of border fencing is also likely to dominate the Director General-level talks between the BSF and BGB, scheduled to be held from February 16 to 20.

Has China achieved a breakthrough in AI?

When was DeepSeek launched? What does it claim to do better than existing players? How does it compare with OpenAI? Why was the earlier Chinese AI chatbot, the Ernie bot, not as successful as DeepSeek? Why has it shaken up the AI world? What lies ahead?

John Xavier

The story so far:

In April 2023, a Chinese hedge fund, High-Flyer, that used Artificial Intelligence (AI) for trading, set up its own AI lab, DeepSeek, to build Large Language Models (LLMs). In less than a year, the AI spin-off developed DeepSeek-v2 that performed well on several benchmarks. And when DeepSeek-v3 was launched in December, it stunned AI companies as it performed far better than its predecessor and at a significantly lower cost than other Chinese LLMs. Subsequently, the start-up launched DeepSeek-R1, High-Flyer's most advanced reasoning AI model that was on par with OpenAI's of model on several metrics. R1's leading performance, at a much reduced cost for users, jolted the U.S. tech giants and spooked investors as they fretted that its emergence would threaten the dominance of current AI leaders like Nvidia.

Is this China's first foray into AI?

For over two years, San Francisco-based OpenAI dominated AI with its Generative Pre-Trained (GPT) models. The startup's chatbot penned poems, wrote long-format stories, found bugs in code, and helped search the Internet (albeit with a cut off date). In March 2023, Baidu received the government's approval to launch its AI chatbot, Ernie bot. Ernie was touted as China's answer to ChatGPT after the bot received over 30 million user sign-ups within a day of its launch. But the initial euphoria around Ernie gradually ebbed as the bot fumbled and dodged questions about China's President Xi Jinping, the Tiananmen Square crackdown and alleged human rights violations against Uyghur Muslims.



New rival: The logos of DeepSeek and OpenAI's ChatGPT on display. AP

DeepSeek claims its models lower costs and speed up performance, making it accessible to a wide range of users

In response to questions on these topics, the bot replied: "Let's talk about something else."

As the hype around Ernie met the reality of Chinese censorship, several experts pointed out the difficulty of building LLMs in the country. Google's former CEO and chairman, Eric Schmidt, in a talk in October 2023, said: "They [China] were late to the party. They didn't get to this [LLM] AI space early enough."

Then how did DeepSeek enter AI?

As Chinese tech giants trailed, the U.S. tech titans marched ahead with their advances in LLMs. Microsoft-backed OpenAI cultivated a new crop of reasoning bots with its 'O' series that were better than ChatGPT. These AI models were the first to introduce inference-time scaling – how an AI model handles increasing amounts of data when it is giving answers.

However, the Chinese quant fund High-Flyer's DeepSeek shook the tech world with its Mixture-of-Experts (MoE) model, DeepSeek-v3, that was pre-trained on 14.8 trillion tokens with 671 billion parameters of which 37 billion are activated for each token. A MoE model uses different "experts" or sub-models that specialise in different aspects of language or tasks. Each expert is activated when it's relevant to a particular task. This makes the model more efficient, saves resources and speeds up processing. According to the technical paper released on December 26, 2024, DeepSeek-v3 was trained for 2.78 million GPU hours using Nvidia's H800 GPUs. Compared to Meta's Llama 3.1 training, which used Nvidia's H100 chips, DeepSeek-v3 took 30.8 million GPU hours less.

What advantage does DeepSeek's R1 have?

After seeing early success in DeepSeek-v3, High-Flyer built its most advanced reasoning models – DeepSeek-R1-Zero and DeepSeek-R1 – that have potentially disrupted the AI industry by becoming one of the most cost-efficient models in the market. Compared to OpenAI's, DeepSeek's R1 slashes costs by a staggering 93% per API call. This is a huge advantage for businesses and developers looking to integrate AI without breaking the bank.

The savings don't stop there. Unlike older models, R1 can run on high-end local computers – so, there's no need for costly cloud services or dealing with pesky rate limits. This gives users the freedom to run AI tasks faster and cheaper without relying on third-party infrastructure. Plus, R1 is designed to be memory efficient as it requires only a portion of RAM to operate, which is low for an AI of its calibre. Separately, by batching the processing of multiple tasks at once, and leveraging the cloud, this model

further lowers costs and speeds up performance, making it even more accessible for a wide range of users.

How do the two models compare?

While DeepSeek's R1 may not be quite as advanced as OpenAI's o3, it is almost on par with it on several metrics. According to benchmark data on both models on LiveBench, when it comes to overall performance, the o3 edges out R1 with a global average score of 75.67 compared to the Chinese model's 71.38. OpenAI's o1 continues to perform well on reasoning tasks with a nearly nine-point lead against its competitor, making it a go-to choice for complex problem-solving, critical thinking and language-related tasks.

When it comes to coding, mathematics and data analysis, the competition is tighter. Specifically, in data analysis, R1 proves to be better in analysing large datasets. One important area where R1 fails miserably is on topics censored in China. These elicit the same response as the Ernie Bot.

Unlike Ernie, this time around, despite the reality of Chinese censorship, DeepSeek's R1 has soared in popularity globally. It has already surpassed major competitors like ChatGPT, Gemini, and Claude to become the number one downloaded app in the U.S. (In India, DeepSeek is at the third spot under productivity, followed by Gmail and ChatGPT apps).

Will this see a rise in smaller models?

While OpenAI's o1 continues to be the state-of-the-art AI model in the market, it is only a matter of time before other models could take the lead in building super intelligence.

DeepSeek, through its distillation process, shows that it can effectively transfer the reasoning patterns of larger models onto smaller models. This means, instead of training smaller models from scratch using Reinforcement Learning (RL), which can be expensive, the knowledge and reasoning abilities acquired by a larger model can be transferred to smaller models, resulting in better performance.

What's the future of the AI race?

While distillation could be a powerful method for enabling smaller models to achieve high performance, it has its limits. For instance, a distilled model, tied to the "teacher" model, will face the same limitations of the larger model. Also, distilled models may not be able to replicate the full range of capabilities or nuances of the larger model. While distillation is an effective tool for transferring existing knowledge, it may not be the path to a major paradigm shift in AI. That means, the need for GPUs will increase as companies build more powerful, intelligent models.

From here, more compute power will be needed for training, running experiments, and exploring advanced methods for creating agents.

What citizenship laws do countries follow?

Why is Donald Trump trying to overturn more than a century of precedent on birthright citizenship? How will it affect Indian immigrants? What are the two principles followed around the world for granting citizenship? What is the law in India, and in the neighbourhood?

Priscilla Lebaraj

The story so far:

In the wake of executive orders announced after Donald Trump assumed office for a second term, the President issued one diluting birthright citizenship, which has been written into the U.S. Constitution since 1866. The order has been challenged in court in more than 20 States and a federal judge has temporarily blocked it. If implemented, it will mean that children born to illegal immigrants – as well as those legally in the U.S. on temporary visas for study, work or tourism purposes – will not be eligible for automatic U.S. citizenship. At least one parent must now be a U.S. citizen or legal permanent resident, the order says.

What is the history of birthright citizenship?

The 14th amendment to the U.S. Constitution, which granted citizenship to "all persons born or naturalized in the United States, and subject to the jurisdiction thereof" was enacted in 1866, against the backdrop of the Civil War which had just ended, and was an effort to guarantee equal civil and legal rights to Black citizens. It was meant to overturn the infamous U.S. Supreme Court ruling of 1857 in *Dred Scott vs Sandford*, which held that enslaved people brought to the

U.S. and their descendants could not be citizens of the country.

The principle was challenged in the 1890s, a time of rising anti-immigrant sentiment, when Wong Kim Ark, born in the U.S. as the son of Chinese nationals, went to visit relatives in China and was denied re-entry into the U.S. on the grounds that he was not an American citizen. In 1898, the Supreme Court upheld his citizenship, establishing that "every citizen or subject of another country, while domiciled here, is within the allegiance and the protection, and consequently subject to the jurisdiction, of the United States". Over a century later, Mr. Trump is seeking to contest the court's interpretation of "jurisdiction", arguing in his executive order that the children of those "unlawfully present", or whose residence in the U.S. is "lawful but temporary", are not subject to U.S. jurisdiction. His supporters rail against the practice of birth tourism, or anchor babies, where foreign nationals seek to give birth in the U.S., in the hope that those babies will be able to help their families migrate to the country as well.

How do citizenship laws vary elsewhere?

The U.S. follows the principle of jus soli (the right of soil), based on geography regardless of parental citizenship, as opposed to jus sanguinis (the right of blood), which gives citizenship based on the nationality of the child's parents. According to the CIA's World Factbook, there are only 37 countries which currently enforce the jus soli principle, of which 29 are in the Americas. Of the other eight, two are in India's neighbourhood: Nepal and Pakistan, though the latter introduced a bill seeking to end this.

Jus soli historically allowed colonisers to quickly outnumber native populations as citizens. "Countries that have traditionally built their national character through diverse immigrant populations have used jus soli as a way of integrating diversity into the common stream of nationhood," says Amitabh Mattoo, dean of the School of International Studies at Jawaharlal Nehru University, adding that countries protective of the culture and identity have generally followed the principle of jus sanguinis. Jus soli derives from English common

law and, until anti-migrant backlash a few decades ago, was implemented in the U.K. and most of its former colonies, including India.

India offered automatic citizenship to all those born on Indian soil before 1987. Introducing the Citizenship Bill in Parliament in 1955, then-Home Minister Govind Ballabh Pant said, "The mere fact of birth in India invests with it the right of citizenship in India...we have taken a cosmopolitan view and it is in accordance with the spirit of the times, with the temper and atmosphere which we wish to promote in the civilised world." Three decades later, sentiments had changed, in the wake of unrest in Assam due to increasing migration from Bangladesh as well as the influx of refugees from Sri Lanka, following the civil war there. "The time has come to tighten up our citizenship laws...We cannot be generous at the cost of our own people, at the cost of our own development," said P. Chidambaram, Union Minister of State for Home Affairs, while introducing the Citizenship (Amendment) Bill in the Lok Sabha in 1986.

Will the order affect Indian immigrants?

"America once considered itself a melting pot, welcoming immigrants to become citizens, but has lately abandoned that metaphor for the salad bowl of distinct ethnicities. The rise of identity politics as well as political Islam has led to this desire to redefine citizenship," says Professor Mattoo. "It will certainly result in reduced immigration, both legal and illegal."

Of the 47.8 million immigrants living in the U.S. in 2023, 2.8 million were born in India, the second-largest group after those born in Mexico, according to data analysed by the Pew Research Center. About 1,45,000 people born in India are estimated to have arrived in the U.S. in 2022, legally and illegals. There are estimated to be 7,25,000 illegal immigrants from India living in the U.S. Every year, more than 70% of H1B visas – a temporary work visa that is often seen as a pathway to permanent residency – are issued to Indian citizens. There are more than 3,30,000 Indians in the U.S. on student visas, many of whom hope to apply for permanent residency. Over a million Indians, including dependents, are also waiting for employment-based green cards. For many of them, Mr. Trump's order comes as a blow. Reports have emerged of dozens of pregnant women on temporary visas seeking to give birth prematurely before the order comes into effect, so their children can be born as U.S. citizens.



Massive shift: U.S. President Donald Trump issues executive orders in the Oval Office at the White House in Washington, U.S., on January 20. REUTERS

PROFILES

Rise of a Black Swan

Liang Wenfeng

The Chinese entrepreneur, who established a quantitative hedge fund in 2015 and led it to a massive success, has shaken up the global Artificial Intelligence landscape with his language and reasoning model, DeepSeek-R1

ILLUSTRATION: R. RAJESH

John Xavier

Statistical mathematician Nassim Taleb, in his seminal work, *The Black Swan*, defines "Black Swan moments" as highly improbable events with significant impact that are often rationalised with hindsight. In 2008, the global financial meltdown, a Black Swan event that began in the U.S., wiped out trillions of dollars, causing traders to scramble to fulfil margin call requests. Algorithmic trading, particularly high-frequency trading, was identified as a contributing factor to market volatility during the crisis.

As the effects of the financial crisis hit global markets, far away across the Pacific Ocean, 23-year-old Liang Wenfeng, along with his classmates, was gathering data on financial markets and macroeconomic indicators with a goal of exploring the full potential of algorithmic trading.

Finance wasn't the first industry that piqued Mr. Liang's interest in testing emerging technology and algorithmic frameworks, but it became his domain at that point in time. Despite challenges and setbacks, Mr. Liang remained steadfast in his belief that machine learning (ML) and artificial intelligence (AI) had the potential to revolutionise the world fundamentally. He was proved right when an AI language model launched by his startup DeepSeek disrupted the global AI landscape and triggered a meltdown of chip stocks worldwide last week.

Mr. Liang pursued his master's in information and communications engineering at Zhejiang University before relocating to the southwestern Chinese city of Chengdu. Instead of securing a job at prominent tech firms like his peers, he ventured into an uncharted territory, determined to leverage ML and AI in the rapidly evolving finance landscape. With a few Zhejiang University alumni by his side, Mr. Liang founded High-Flyer, a quantitative hedge fund, in 2015.

High-Flyer quickly gained recognition, amassing 20 billion yuan (\$2.8 billion) in assets under management (AUM) within a few years. The fund's success can be attributed to its adoption of

sophisticated algorithms to enhance trading strategies. By harnessing large datasets and optimising decision-making processes, High-Flyer achieved remarkable returns.

Technology remained at the heart of the firm's operations. Under Mr. Liang's leadership, High-Flyer invested in high-performance computing resources and assembled a dedicated team of engineers and data scientists. This strategic focus on technology, coupled with the firm's local expertise, proved pivotal in a market where understanding local dynamics was paramount. While foreign hedge funds also possessed superior technology, High-Flyer's localised knowledge enabled it to outperform its competitors in the Chinese market.

Unorthodox hiring

Mr. Liang's success isn't solely attributed to his firm's sophisticated algorithms and deep knowledge of the local market. He also set himself apart from other local funds in his approach to talent acquisition.

He challenged traditional hiring practices by prioritising creativity, passion, and basic skills over work experience. He actively recruited younger workers, believing less experienced employees are more likely to innovate and think critically about solving problems.

Mr. Liang viewed experienced professionals as rigid in their approach, quickly recommending established methods, while inexperienced workers to be more willing to explore multiple solutions and adapt to current challenges. This philosophy extended to his hiring strategy of bringing diverse backgrounds, particularly those from literary fields, into engineering teams.

Unlike most founding teams of Chinese quant-investing funds, who have backgrounds in Europe or the U.S., Mr. Liang's team at High-Flyer is entirely driven by local talent. His fund was founded by a team of local professionals who grew independently.

Within six years of its establishment, High-Flyer achieved remarkable success, becoming one of the top four quant-investing funds in China with an AUM of 100 billion yuan



(\$13.9 billion). This achievement was particularly noteworthy considering Mr. Liang's outsider status in the hedge fund world.

The success can be attributed to his ability to thrive in challenging circumstances. From the financial crisis of 2008, he demonstrated resilience and continued to grow his business. On August 24, 2015, during the launch of High-Flyer, the Shanghai Composite Index experienced a significant decline of 8.5%, marking its worst single day drop in eight years. This event was dubbed "Black Monday" by the Communist Party of China's mouthpiece, *People's Daily*.

During the terms of both Donald Trump (2017-21) and Joe Biden, Chinese firms, including High-Flyer, faced restrictions on exports due to export controls. These policies

curtailed access to crucial semiconductors, particularly Nvidia GPUs, for Chinese companies.

Despite these challenges, Mr. Liang's expertise in quant-investing and his sophisticated technology enabled him to build a billion-dollar empire. However, in 2023, the \$200 billion hedge fund industry came in the crosshairs of the Chinese finance regulators. As Beijing sought to restore retail investor confidence and mitigate a substantial \$4 trillion sell-off in stocks, fast-growing quant funds, such as High-Flyer, became targets of regulatory attention.

These developments prompted Mr. Liang to pivot his focus towards AI. In the same year, he launched DeepSeek, the AI lab focused on building large language and reasoning models. The company's DeepSeek-R1 model has

emerged as a rival to U.S.-based OpenAI's advanced reasoning model, o1.

Long journey

Although DeepSeek was officially established in 2023, Mr. Liang's preparation for this journey began long ago. He has been making AI investments for over seven years, from around the time the transformer architecture inspired OpenAI to build their generative pre-trained (GPT) models.

As far back as 2017, the DeepSeek founder began expanding the scope of research in AI algorithm and software. His team solved the single-machine training failure problem with a large-scale computing power solution and won the Golden Bull Award for it in Malaysia the following year. Subsequently, in 2021, his fund spent 1 billion yuan (\$139 million) to build an AI supercomputer, Fire-Flyer 2, to handle complex AI tasks. The system was built with super-fast accelerator cards and a network connection that could transfer data at 200 gigabits per second.

Under Mr. Liang's leadership, the quant fund had already amassed an impressive collection of computational resources, including 10,000 Nvidia A100 GPUs, positioning it as a dominant force in the AI field.

According to some reports, High-Flyer is the only hedge fund among the five Chinese companies with more than 10,000 GPUs. The other four are all Internet giants. Mr. Liang's impact on AI research is profound and multifaceted. DeepSeek has injected fresh energy and perspectives into the field, challenging prevailing paradigms and opening new avenues for breakthroughs in understanding human cognition through AI.

In his book, Mr. Taleb notes, "We tend to 'tunnel' while looking into the future, making it business as usual, Black Swan-free, when in fact there is nothing usual about the future." Mr. Liang, to those viewing the future through a tunnel, is a Black Swan formed through adversity that happens to have opened the door to an unexpected, new chapter in AI research, possibly in quant-investing.

THE GIST

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Man of the party

Pushkar Singh Dhami

Under the two-time BJP Chief Minister, Uttarakhand has become the first Indian State to roll out the Uniform Civil Code

Ishita Mishra

ILLUSTRATION: SREEJITH R. KUMAR



It was a sultry day on July 3, 2021, and the political temperature in the hill State of Uttarakhand was equally hot as the ruling Bharatiya Janata Party (BJP) was set to announce a new Chief Minister, third one in the past four months. Names of bigwigs were making rounds in the political corridors and channel rooms as it was being anticipated that the saffron party would choose a popular figure for a stable government in the politically unstable State. But the party high command in Delhi followed its precedent of throwing surprises and chose the then 45-year-old Khairatpur MLA, Pushkar Singh Dhami, for the top job.

Equally surprised by the announcement like others, Mr. Dhami termed himself *mukhya sevak* (chief servant) as he expressed gratitude to the party leadership for nurturing him as a politician and electing "a two-time MLA as the youngest CM of the State. Ever since, his rise has been steady.

Last week, under Mr. Dhami's leadership, Uttarakhand became the first Indian State to roll out the controversial uniform civil code, almost a year after the State assembly passed the Uttarakhand Uniform Civil Code (UCC) Bill, 2024.

Born on September 15, 1975 in a remote village in Pithoragarh district of the undivided Uttar Pradesh, Mr. Dhami became the first in the family to complete post-graduation. He finished a law degree in Lucknow University, followed by a PG in human resource management and a PG diploma in public administration. He started going to the Shakhya of the Rashtriya Swamsewak Sangh (RSS) while being a student at the university.

In Lucknow, Mr. Dhami met Bhagat Singh Koshiyari, the second Chief Minister of Uttarakhand, who had joined the Akhil Bharatiya Vidyarthi Parishad (ABVP), the student wing of the RSS) in the early

1990s. BJP insiders call Mr. Koshiyari the political guru of Mr. Dhami, but the former CM humbly denies the same.

Path to power

Between 2002 and 2012, Mr. Dhami worked for the party in the back-end, and patiently waited for the right opportunity to come to the forefront. BJP leaders who are in the current Cabinet of Mr. Dhami had denied him a ticket in 2007, says a party insider. The party, however, made him president of the Bharatiya Janata Yuva Morcha (BJYM), the youth wing of the BJP, for two terms from 2002 to 2008.

It was in 2012 that Mr. Dhami became an MLA for the first time, from the Khatima constituency. Ever since, he has remained one of the 70 lawmakers in the Uttarakhand Assembly.

After he was chosen as the Chief Minister, Mr. Dhami knew that the journey ahead would not be

smooth as his predecessors failed to finish their tenures for various reasons, including the resentment of the party cadre and legislators. Known for adapting to the 'good qualities' of the seniors, Mr. Dhami became another N.D. Tiwari (the third CM of Uttarakhand) who was famous for "meeting and greeting" both the party and opposition leaders, says a BJP functionary.

His people-friendly approach earned him admirers and supporters and strengthened his position in Delhi. In the 2022 elections, even after Mr. Dhami lost his own constituency, he kept the Chief Minister's post, becoming the first leader in the history of the hill State to get two consecutive terms. Later, he contested and won from Champawat.

In his tenure of over three-and-a-half years, he brought stringent laws such as anti-cheating law, Uttarakhand Public and Private Property Damage Recovery (Ordinance) Act and now the much talked-about Uniform Civil Code. Mr. Dhami says its just a start and he will continue walking down the path shown by the party, which has "fulfilled" its promises of Ram temple construction in Ayodhya, revocation of the special status for Jammu and Kashmir, among others.

Culture warrior

Pete Hegseth

Trump's Defense Secretary says reclamation of the warrior culture is at the core of his strategy to rebuilding the U.S. military and re-establishing deterrence

Varghese K. George

ILLUSTRATION: SREEJITH R. KUMAR



Pete Hegseth said during his confirmation hearing before a U.S. Senate committee that his profile did not match any of those who preceded him as Secretary of Defense in the past 30 years. That he is a rank outsider is a claim that his supporters and his detractors exaggerate to underscore his qualification and disqualification, as the case may be. Generals, academicians and former executives of defence companies usually made the cut, but he was unique for he has had his boots dirty in the war fields of Iraq and Afghanistan, he told the committee.

A grenade that landed in his vehicle in Iraq did not explode, giving him a second chance at life in which the Princeton graduate has risen to lead the U.S. Defense Department. He now leads three million personnel and oversees a budget of \$849 billion. Mr. Hegseth promises to restore warrior ethos in the U.S. military. Mr. Hegseth thinks "a more empathetic and effeminate military" could also be "a more inefficient one". Reclamation of the warrior culture is at the core of his strategy to rebuilding the U.S. military and re-establishing deterrence.

Mr. Hegseth is also

equally a culture warrior with spirals, not exactly the warrior variety, but has reportedly promised Senators to stay off the bottle in the new job. A woman accused him of rape, which Mr. Hegseth says was a consensual encounter. A police investigation seemed to agree with Mr. Hegseth who agreed to paying the woman to not tell the tale. "All glory belongs to our Lord and Saviour Jesus Christ. May His will be done," he said. As for all his transgressions, "I have failed in things in my life, and thankfully I'm redeemed by my lord and saviour Jesus."

has a strong entanglement with his Christian identity, literally, on his sleeve. He sports tattoos of Jerusalem cross and *Deus Vult*, which means "God wills it" in Latin. Soon after he was nominated by President Donald Trump, Mr. Hegseth had critics questioning his eligibility - his tattoos were cited as a sign of his Christian extremism, while his rather footloose sexual adventurism did not count as mitigating un-Christian credentials. Democratic Senators questioned him on his tattoos.

The U.S. military, incidentally, allows its personnel to wear religious symbols - crosses, turbans, beard and hijab. Mr. Hegseth was removed from the contingent to provide protection of the presidential inauguration of Joe Biden in 2021, allegedly for his extremism.

Thrice married, Mr. Hegseth reportedly fathered a child with his first wife while still being married to the second. He also

that Mr. Hegseth is not the chosen one for the job. It took Vice President J.D. Vance's tie-breaking vote for Mr. Hegseth to win confirmation. But it is President Trump who is the lord and master for Mr. Hegseth.

Their association goes far back as Mr. Trump's first presidential campaign in 2016. Both believe that threats to American security from the inside are serious. Mr. Hegseth has in the past referred to trans-friendly U.S. policies as "trans-lunacy" and argued for masculine characteristics for the military. He thinks a demographic takeover of the U.S. by Muslims is a risk that needs to be averted by war preparedness, and cultural awakening that reiterates the "Christian fabric" of the country. Diversity drives underscore differences, but what is required for the military is unity of purpose, Mr. Hegseth believes.

The new Secretary of Defense intends to focus on rapidly fielding new technologies for the military and making it easier for new entrants to enter the military industrial complex. He thinks "communism" and the Indo-Pacific should be the focus of U.S. military strategy. He is entering the Pentagon with all guns blazing, and this could be the toughest battle yet for the veteran



Sacred seeds: Small bundles of leaves with seeds are distributed to the men, who will mix them with the seeds brought by them, for a blessed and bountiful harvest.



Unity in tradition: Tribal women walking together in devotion for the Ganga Puja ceremony, honouring their ancestral traditions with unity and reverence.



Heads bowed: Gond tribal members perform the final rite of offering soil after the last rituals of the Ganga Puja ceremony to honour the departed.



Precious offerings: Women and men from the Bhariya and Gond tribal communities bring home-cooked dishes and bamboo baskets coated with clay for the Beedari Puja. The baskets hold seeds from their personal grain reserves destined to be sown in the fields.

Prayers of Patalkot

In this valley of enchanting beauty in Madhya Pradesh, tribal people worship the Ganga, deify the departed and pray for a bountiful harvest in their lands



A.M. Faruqui

Patalkot, a remote valley located near Tamiya in Chhindwara district of Madhya Pradesh, is not only an untouched paradise for nature enthusiasts but also a sacred land steeped in ancient traditions. Home to indigenous tribes, including the Bhariya, Gond, and several other tribal communities, the valley has long been a place where traditions have been passed down generations.

Among these traditions are the vital spiritual and cultural rituals practised by the Bhariya and Gond tribes, the Ganga Puja and Beedari Puja.

Ganga Puja is a ceremonial rite performed to honour and elevate deceased family members to the status of deities. After a family member passes away, a special ceremony is conducted where the villagers, alongside the *ojha* (spiritual healer) and *gunia* (traditional priest), gather to carve sacred symbols onto stones. These stones are then placed at a sacred site where prayers are offered to the Ganga.

Beedari Puja is a harvest and fertility ritual. During this ceremony, both men and women

from the community prepare traditional dishes and bring them to the village temple or designated prayer site, accompanied by bamboo baskets coated with clay.

These baskets contain various seeds from their home grain reserves – maize, millet, finger millet, and sorghum – which are essential for their agricultural practices. The seeds are blessed during the ceremony and then distributed among the villagers in small leaf bundles. Each family mixes the blessed seeds with their own, symbolising the sharing of blessings for a fruitful harvest. The belief is that this ritual ensures prosperity, good health, and a bountiful harvest, with the god's blessings ensuring the fertility of the land.

Both the Ganga Puja and the Beedari Puja serve as profound expressions of the tribes' deep respect for nature, their ancestors, and the divine forces that govern the cycles of life and nature.

These rituals not only preserve the spiritual traditions of the Bhariya and Gond tribes but also reflect their agricultural knowledge and reverence for the environment.



Paying tribute: A tribal man carves the figure of a departed person on a stone.

News in Frames



Spiritual hymn: The *ojha* (spiritual healer) and *gunia* (traditional priest) perform the sacred Ganga Pujan ceremony.



Down the generations: A tribal child offering *ahuti* (handful of sacred offerings) during the Ganga Pujan ceremony.



Solemn moment: Tribal men form a long procession as they walk together for the sacred Ganga Pujan ceremony.



Prayer for peace: *Ahuti* being performed during the Ganga Pujan ceremony.



Coming together: Tribal women gathered for the Ganga Pujan ceremony.

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The Indian EXPRESS

FOUNDED BY
RAMNATH GOENKA
BECAUSE THE TRUTH INVOLVES US ALL

The delicate balance

Budget makes encouraging starts.
Economy is waiting for a reform stimulus



SAJJID Z CHINOY

BETTING BIG ON THE MIDDLE

Budget reaches out to the taxpayer, resists fiscal adventurism — significant steps forward on the long road ahead

THE UNPRECEDENTED INCOME tax relief in Union Finance Minister Nirmala Sitharaman's seventh successive budget is a political, as well as an economic bet on regaining middle-class confidence and spurring flagging consumption growth. Sitharaman has done this while staying the course on fiscal consolidation. The Union Budget for 2025-26 has rejigged personal income tax slabs as well as rates to exempt all those earning up to Rs 12 lakh from any payment. The reliefs, which also extend to individuals in the higher income brackets, are available only under the new tax regime.

Directionally, it makes sense for the country to move towards a regime of lower tax rates with fewer slabs, exemptions and deductions. The finance minister has proposed to bring a new income-tax bill next week that she says will reaffirm the principle of "trust first, scrutinise later". This is welcome. Acknowledging the honest taxpayer and giving her relief is good politics meeting good economics. Indeed, Sitharaman underlined the Narendra Modi government's belief in the "admirable energy and ability of the middle class in nation building". That, in a way, was also an admission of the growing restiveness of a section which has seen no real salary increases and a drying up of remunerative employment opportunities in recent times. In fact, at a time when welfare schemes targeted at the lower end of the social and economic pyramid had become — for all parties — key to their political and economic discourse, the middle-class, taxpayer imperative is stronger than ever. No wonder that the word "middle-class" appears nine times in the latest budget speech, as against only three times in the last one presented just over six months ago.

THE SECOND NOTABLE feature of the budget is the continuing emphasis on fiscal prudence. Sitharaman had targeted the Centre's fiscal deficit for 2024-25 at 4.9 per cent of GDP and has managed to better it at 4.8 per cent. For the coming financial year, she has budgeted a figure of 4.4 per cent of GDP, which is a substantial correction from the 9.2, 6.7 and 6.4 per cent of GDP, 2021-22 and 2022-23 respectively. The finance minister has said that her government's endeavour would be to restrain the annual deficit so as to ensure that the Centre's outstanding debt-GDP ratio "remains on a declining path". The roadmap outlined in the budget documents envisages bringing down the ratio from 57.1 per cent in 2024-25 to 50 per cent (plus/minus 1 per cent) by March 31, 2031. Sticking to the fiscal glide path and not succumbing to pressures for slowing the pace of deficit reduction should set the stage for the Reserve Bank of India to cut interest rates in its upcoming monetary policy committee meeting. The Indian economy today needs less fiscal stimulus and more monetary and reform stimulus. Creditably, there are no new fiscally imprudent scheme announcements in the latest budget.

There is unfinished business, though. Prime Minister Narendra Modi has framed the budget as a "force multiplier" that will spur savings, investment, consumption and growth. To that effect, ensuring a higher disposable income in the hands of the taxpayer and staying away from fiscal adventurism are key but important challenges remain: Lack of investment and job creation, with knock-on effects on income and spending. The ongoing slowdown, contrary to the government's claims, predates the geo-economic fragmentation and retreat of globalisation gaining force with the return of Donald Trump and his ushering in of potential trade wars. The private sector has not been investing in building new capacities, despite the government cutting corporate tax rates back in September 2019 and companies sitting on huge cash piles. Even schemes such as production linked incentives have met with limited success. The budget hasn't quite addressed why firms aren't investing and what is holding them back. That said, it has projected a nominal growth rate of only 10.1 per cent (real growth rate of 6 per cent-plus) by keeping capital expenditure at high levels as in previous years. It has pinned hopes on the income tax cut leaving more disposable income in the hands of tax-paying households, which will relieve spurring consumption demand.

WHETHER HOUSEHOLDS CHOOSE to either spend or simply save the tax bonanza — like corporates have done — will be known only in the months that follow. In this, the first year of its third term, the Modi government could have also cashed in on its considerable political capital to signal forward movement on much-needed, though contentious, reform measures. For example, rationalising the environmentally-ruinous and inefficient subsidies on fertiliser and food (cereal) and replacing them with less market-distorting, targeted direct income support schemes. The same goes for privatisation. A big-bang disinvestment plan would have yielded large revenues to fund an ambitious capital expenditure programme.

The economy needs continuing high levels of public investment to support growth. It is unfortunate that the fiscal deficit target for this year is being met by cutting capex to the tune of Rs 92,682 crore over the budget estimate. Growth is never a low-hanging fruit. Reforms that release public resources and unleash the animal spirits of entrepreneurs are key to putting the economy on a sustainable high-growth path in the current not-so-friendly global economic environment. For now, empowering the taxpayer, being mindful of fiscal prudence, allowing 100 per cent FDI in the insurance sector, emphasis on deregulation, and digital transformation are significant steps forward on what is a long road ahead.

THE FIRST FULL budget of the government's third term faced an unenviable task because it confronted two objectives ostensibly at odds with each other.

On the one hand, the global backdrop is getting more precarious. Markets are already under the grip of US exceptionalism, which has pushed up the dollar and kept US interest rates sticky. This has tightened global financial conditions and put relentless pressure on emerging market currencies. Now, trade policy is throwing more fuel on the fire. US authorities plan to impose tariffs on Mexico, Canada and China this weekend, marking the onset of the much-feared trade war. This is expected to drive the dollar's strength and put more pressure on emerging markets. A hostile global environment would argue for the budget to hunker down and reinforce macroeconomic stability, so that India can weather the coming storm.

On the other hand, the domestic economy needs support. Growth has slowed in recent quarters and the ongoing earnings season suggests the recovery could take some time. A global trade war, and the uncertainty it unleashes, will only depress global growth prospects putting the onus squarely on domestic growth drivers. This would argue for a slower pace of fiscal consolidation to provide more elbow room for the government to spend. It was not an easy trade-off, because this would have meant temporarily veering off its fiscal consolidation path, which may have been perceived to imperil fiscal credibility.

In the event, authorities choose conservatism. This year's fiscal deficit is pegged at 4.8 per cent of GDP — lower than had been envisaged in July and much lower than had been envisaged last February — such that the Centre's deficit has not seen a large consolidation of 1.6 per cent of GDP over the last two years. On the back of those outcomes, the budget calls for further consolidation of 0.4 per cent of GDP next year to reduce the deficit to 4.4 per cent.

The good news is this is a strong affirmation of the government's commitment to macroeconomic stability. Fiscal credibility, alongside the war-chest of FX reserves, a benign current account deficit and inflation heading back to 4 per cent, should provide a cushion against external shocks. But conservatism is not costless. For

The good news is this is a strong affirmation of the government's commitment to macroeconomic stability. Fiscal credibility, alongside the war-chest of FX reserves, a benign current account deficit and inflation heading back to 4 per cent, should provide a cushion against external shocks. But conservatism is not costless. For starters, by over-delivering on this year's fiscal deficit, the room for spending in the coming months is more constrained.

starters, by over-delivering on this year's fiscal deficit, the room for spending in the coming months is more constrained. Total government spending (ex-interest) recovered nicely to grow at 23 per cent last quarter. If this year's targets are to be met, spending will have to slow to just 8 per cent this quarter. Further, a reduction of the fiscal deficit is a withdrawal of stimulus. So next year's consolidation will be a drag on growth, such that a lot of the heavy lifting will have to be done by monetary policy.

Having decided to consolidate, the question was how to do so in the least contractionary manner. In the event, policymakers decided to boost urban consumption with a tax cut costing about 0.3 per cent of GDP. This should undoubtedly help boost urban consumption, but there are trade-offs. It means the bulk of the consolidation is occurring through revenue expenditure compression. The conventional wisdom is expenditure multipliers are larger than tax multipliers, and so the preference is to consolidate through revenue augmentation rather than expenditure compression, but it remains to be seen how things play out.

Another area to watch out for will be tax buoyancy. After clocking a tax buoyancy of 14 in 2023-24, buoyancy has slowed to 11 on slowing growth. Next year, the implicit buoyancy (after adjusting for the foregone revenue of the tax cut) that is budgeted is higher at 13. If, for any reason, it does not achieve that, it will be important that policymakers let the automatic stabilisers play out. If tax targets do not materialise, it will not be prudent to cut expenditures further to achieve the fiscal deficit target. Instead the deficit should be allowed to widen to absorb some of the pressure.

Similarly, it will be important to ensure that public capex targets are hit next year. To its credit, central capex has almost doubled as a share of GDP over the last four years. That said, the budget indicates this year's original target will be missed, even as state capex is also lagging targets as states have prioritised subsidies.

Public investment has been a key growth driver and it's important we don't take our foot off the pedal prematurely. This will inevitably involve increasing state capacity to execute higher levels of public investment. All this reveals the delicate balance be-

tween preserving macro stability and supporting growth. The only way to dramatically alter this trade-off is a sustained reforms push. To appreciate why, it's important to step back and not miss the bigger picture. Government spending has been doing the heavy lifting for much of the last five years. But with each year the deficit will have to renege more and more to create space for future shocks.

The space the fiscal cedees will have to be occupied by private investment for growth to sustain. So what will it take to stoke private investment in a world clouded with uncertainty and laden with Chinese excess capacity? A sublime mix of demand visibility and animal spirits.

A big reform push is the key to re-stoking animal spirits. The budget made encouraging starts on some fronts, focusing on some labour-intensive sectors, rationalising some customs duties and trying to give small and medium enterprises a filling. But reforms are an ongoing process and will need to be consistently prioritised.

The Economic Survey makes a compelling case for a big push on deregulation and liberalisation. This will simultaneously boost animal spirits and, by lowering transactions costs and enabling more creative destruction, make India more competitive globally. This should attract more multinational companies and create some export demand.

Similarly, reforms must strive to boost employment by making growth more labour-intensive and, by lowering transactions costs and enabling more creative destruction, make India more competitive globally. This should attract more multinational companies and create some export demand.

The writing is on the wall. As this year's budget deficit, India does not have the space for a fiscal stimulus in the coming years. What we need is a reform stimulus to crowd out private investment. Only then will the recurring tension between growth and macro-stability be alleviated against a hostile global backdrop.

The writer is Head of Asia economic research, JP Morgan. Views are personal



NILESH SHAH

BUDGET'S MULTIPLIER EFFECTS

It delivers on fiscal prudence, with an eye on growth and domestic investor sentiment

THE BUDGET has delivered a Trivani Sangam of fiscal prudence by lowering the deficit to 4.8 per cent of GDP and next year to 4.4 per cent of GDP below street expectations, boosting urban consumption through income tax cuts by giving a tax cut for income up to Rs 12 lakh and enhancing allocation for capital expenditure by 10 per cent at the central level and 17 including grants.

The budget has invested in the future by allocating Rs 10,000 crore for a start-up Fund of Fund scheme; Rs 25,000 crore for ship-building through a Maritime Development Fund; and Rs 20,000 crore for small modular nuclear reactors. All these investments could have a multiplier effect on the economy.

The focus on education — the digitisation of school and college books, broad-band availability to government schools, and Atal Tinkering Labs to encourage innovation — is a step in the right direction to ensure the next generation is better educated and employable.

The budget focuses on the tourism sector and aims to develop 50 destinations, and expand medical tourism. This will require

public and private partnerships. To continue improving the ease of doing business, the pace of repealing outdated laws, through the Jan Vishwas Bill proposed in the budget, must be enhanced. These outdated laws impose a high compliance burden on our entrepreneurs. The time has come to end the Inspector Raj. The Jan Vishwas Bill must find ways to unburden entrepreneurs so that they can match up to global competition.

Raising resources through divestment could have increased money for capital expenditure. However, the government is probably constrained by its institutional capacity to spend appropriately. The budget reiterates commitments like centralised KYC and "ghar wapsi" for fund managers who want to manage money from India for global clients. The proof of the pudding will be when buying mutual funds becomes as easy as buying gold, and our corporates start visiting Citi City over Singapore to meet investors.

The best part of the budget was a commitment to lower India's debt-to-GDP ratio over the next six years. The path of fiscal prudence will ensure that our generation doesn't mortgage our kid's future for our present. The path of fiscal prudence has laid the foundation for the monetary policy committee's cut in the repo rate and for the RBI's improvement in durable liquidity. Estimates for next year's GDP growth should get a boost if fiscal and monetary policy move in tandem. Markets are driven by flows, sentiments, and fundamentals. This budget will maintain positive domestic investor sentiment, encourage domestic flows to the capital market, and improve corporate profits over time.

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Markets are driven by flows, sentiments, and fundamentals. This budget will maintain positive domestic investor sentiment, encourage domestic flows to the capital market, and improve corporate profits over time. The US equity market has done exceptionally well over the last five years while emerging markets, driven by China's massive underperformance, have lagged by a margin. Higher US interest rates have also reduced appetite for non-US investments. FPIs are sitting on large profits in India. India's impressive performance compared to other emerging market peers and liquidity in the domestic market is tempting FPIs to take some money off the table. To enhance FPIs' participation, we need to grow

our economy and corporate earnings faster than our peers through sensible fiscal and monetary policies.

There are no easy entries or exits in the market. If the side of the trade is known, the market will extract its price. FPI selling has been regular but at a price. If the selling becomes aggressive or without price limits, prices will correct further. If they're selling in within the price limit, then markets are likely to witness a firm correction, where every rise will be capped. If they turn buyers, markets will witness a sharp spike.

The investor must follow their *dharma* of asset allocation. Equity is reasonably valued. They must maintain equal portfolio weight with a bias towards large-cap stocks with reasonable valuations and use corrections to enhance allocation. Gold looks good as central bankers around the world are diversifying their reserves. With higher chances of rate cuts and improving liquidity, long-duration assets and performing credit funds look appropriate for debt allocation.

The writer is MD, Kotak Mahindra AMC

"GET OUT OF the way and trust people, we must, for we have no other choice," said the 2025 Economic Survey presented by the Finance Minister's Chief Economic Advisor. Evidently, the walls between their offices in North Block are too thick and the message did not reach the FM. The FM in her budget speech, presented the day after the CEA's survey, uttered the phrase "we will remove" (aka "get out of the way") only twice but mentioned "we will set up" (aka "get in the way") 20 times! This sums up Budget 2025.



PRAVEEN CHAKRAVARTY

ONLY TINKERING, NO VISION

Budget 2025 needed to signal a paradigm shift. It didn't

There were expectations of a paradigm shift in India's economic policy approach to the landmark reforms of 1991. Manmohan Singh would have endorsed the urgency for a radical shift in India's economic thought amid rapidly shifting geo-political and geo-economic winds. Alas, he would have been deeply disappointed in the budget, which was well-intentioned tinkering at best and insipid and vision-less at worst.

India's budget is not merely an accounting exercise but the only platform for the government to present its economic vision. Big questions of capital-labour imbalance, increasing economic nationalism across the

world, weaponisation of trade and import dependencies, GDP growth not translating into jobs and social mobility, India's spatial economic divergence and its ramifications and so on, loom. What we heard from the FM was largely campaign rhetoric for Bihar.

The nation wanted to hear the FM boldly proclaim that India would seize the opportunity to grab global market share from China and boost exports through an overhaul of import duties, flexible exchange rate, and bi-or multilateral trade agreements. Instead, we heard the FM announce that "two more types of shufflable looms will be added to the list of fully exempted textile machinery," a reduction in customs duties for "frozen fish paste" and exempt duties for "wet blue leather".

We wanted to hear the FM proclaim that India will embark on a mission to participate in the global rush for strategic minerals through a liberalised exploration and mining policy using ecologically sensitive technologies that can generate jobs. Instead, the FM announced that the government will reduce customs duties for "2 more minerals and exempt cobalt powder and lithium iron scrap".

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Last year's budget announced an

Employment Linked Incentive scheme to complement the Production Linked Incentive scheme, which signalled a structural shift in economic policy from trickle-down economics to a direct labour market incentive to corporates for formal job creation. This was needed to correct the capital-labour imbalance in India's economy. But there was no mention of it in this year's budget. Instead, the new employment idea was the creation of a Mahana Board for Bihar's mahana farmers.

The "elephant in North Block" was the lack of private investment. Gross fixed capital formation by the private sector fell from 31 per cent of nominal GDP during UPA 1 to 19.7 per cent during Modi 2.0. The lack of enthusiasm by the private sector to invest has forced the

government to spend indulgently to stimulate the economy over the last decade, which is unsustainable. Over several years, the FM swerved from wooing the corporate sector through surprise tax cuts to nudging them through production-linked incentive schemes to cajoling them through sweet-nothings to finally reminding them of being patriotic and not repaying faith in the Supreme Leader. If only the corporate sector and the economy were like a BJP worker that could be ordered to invest and grow — and expected to obey. Budget 2025 finally decided to stimulate spending, and consumption in the hope of triggering growth.

The increase in income tax exemption threshold up to Rs 12 lakh could benefit

roughly 15 million people. While this is welcome, it is unclear how much of a consumption boost this can generate.

A bolder, more reformist budget would have announced a structural shift in our taxation structure to correct the direct-indirect tax skew from 35-65 to at least 50-50 by committing to reduce and simplify the GST rate structure. While specific GST rates are decided by the GST Council and not by the Centre alone, a commitment by the FM to reduce rates would have sent a strong signal about a low-tax era. Reduction in GST rates has a far greater propensity to boost consumption but yet again, the government lacked imagination.

Overall, Budget 2025 poured cold water on the expectations for a radical and reformist budget. At a time when nations from Argentina to America have come to terms with the need for a radical overhaul in their economic approach, it's a pity that India missed an opportunity. Contrary to her CEA's advice, the FM neither got out of the way nor inspired trust and confidence.

The writer is chairman of All India Professionals' Congress



UNION BUDGET 2025

E. EXPLAINED



Illustration: Komal

Big picture: Context of historic tax cut, impact it may have on the economy

The historic income tax cut is an acceptance by Centre that its 2019 corporate tax cut has not worked. Things may have been different if the I-1 cut had come first

UDIT MISRA

WHAT IS the big picture emerging from the Union Budget presented by Finance Minister Nirmala Sitharaman on Saturday? What was the context of this Budget – the twelfth presented by the Narendra Modi government?

The context of the Budget

The Union Budget 2025-26 has been presented at a time when India's economic situation faces some formidable challenges.

Notwithstanding the structural reforms carried out over the past few years – such as the introduction of Goods and Services Tax (intended to simplify the indirect tax regime), several ease-of-doing-business measures (such as the Insolvency and Bankruptcy Code), and a historic tax cut for companies in 2019 – the Indian economy has lost momentum over the past few years.

The biggest representation of this loss of momentum has been a slowdown in personal consumption by the average Indian. That, in turn, has been a representation of the tepid job creation in the economy.

Most new jobs being created are in the shape of women joining the workforce in self-employed categories of work that barely provide subsistence-level incomes. The Economic Survey showed that real wages for self-employed persons are still below 2017-18 levels.

Low and stagnant incomes, and the poor quality of job-creation has been made worse by rising levels of indebtedness. According to the Reserve Bank of India, household debt – personal loans, agriculture loans, home loans, etc. – rose to an all-time high of 41% of GDP in FY24 from 37.9% in FY23.

The poor job creation was a consequence of the government's policy focus that concentrated too closely on capital-intensive production, with very little attention paid to employ-

ment generation. Labour-intensive sectors such as textiles and leather industries or MSMEs continued to suffer while the government heavily subsidised big companies through Production-linked incentive (PLI) schemes.

The broader economic philosophy of the government since 2014, and more so since 2019, has been to give up stake in the economy, and allow the private sector to take the lead in job-creation and economic output generation.

For its part, the government concentrated on providing more physical infrastructure, even as it attempted to give up control of public sector units via the disinvestment process.

Poor outcome of govt efforts

At one level, this strategy makes sense. However, the consumption-led slowdown that was taking a stranglehold on the economy even before Covid-19 struck, was made worse by the pandemic and the loss of jobs that it caused.

Households ate into their savings to survive, even as job creation trailed the overall GDP growth recovery. This also led to a sharp increase in inequality. The number of people employed in India's manufacturing sector halved – coming down from 51 million to 27 million between 2016 and 2020. At the same time, India started witnessing a reverse movement of people from industry to agriculture.

In 2019, the year before the pandemic hit, India's GDP grew by less than 4%. The government reacted by cutting corporate tax, the tax that companies pay on their income. The hope was that this cut would incentivise companies to make new investments with the extra money in their hands, thus creating new jobs and prosperity. To "crowd in" such investments, the government also ramped up its capital expenditure to historically high levels.

But despite the government's increased spending on building productive assets such as roads and ports, as well as the massive cor-

porate tax cut, the economy was not able to break free. India's GDP has grown at an average of less than 5% annually since 2019, and less than 6% since 2014.

Finance Minister Nirmala Sitharaman as well as the rest of the government have been exasperated that the private sector did not play along with the overall government strategy for growth. Once, the FM even asked if the private sector in India is like Lord Hanuman, unaware of its own powers (to invest).

The government has been scratching its head about what to do to incentivise the private sector. Indeed, on paper, almost everything the government thought it should do has been done.

Attempt at course-correction

Many observers have pointed out that companies were unwilling to invest in fresh capacities until they could be sure that there was enough demand in the economy for their products.

Saturday's Budget announcement of a massive income tax break is an acceptance by the government that more than anything else, the private sector investments require robust consumer demand.

Almost everything else – corporate income tax and interest rates and the condition of roads – is secondary.

With discontent among its most loyal voters rising, the government has finally bit the bullet and announced an income tax cut as a way to spur consumer spending. In effect, this is an acceptance that the corporate tax cut of 2019 has not worked.

The fact is that the 2019 move was poorly timed – and indeed offered a supply-side solution to a demand-side problem. The hope now is that consumers will spend the additional money in hand – around Rs 1 lakh crore that the government is foregoing as revenues – and that this will provide corporates with the es-

sentential reason to invest in new capacities, create jobs, and further spur economic growth.

Tax-cut impact on economy

A tax cut will have a positive effect on the overall economy, said Prof NR Bhanumurthy, head of the Madras School of Economics and author of an academic paper on "multipliers" – or how government decisions affect the overall GDP.

The multiplier for a personal income tax cut is 1.01. That is, a Re-1 cut in personal income tax grows the GDP by Rs 1.01 as people spend the money.

"Of course, that multiplier is for normal periods. Given that the consumption cycle is down, it will perhaps have an even higher effect," Bhanumurthy said.

It is quite possible though, that some of the money will not be spent. Even then, the move will have a positive impact. Here's how:

More savings will allow the financial system to bring down the cost of new loans (that is, the interest rate). Lower interest rates will incentivise more loans and economic activity.

The question then is: Will this amount be enough to trigger the virtuous cycle of economic growth?

By itself an additional Rs 1 lakh crore, or a tad more, may not be enough. India's GDP at the end of the current financial year would be Rs 324 lakh crore. The total private final consumption expenditure (or the aggregate money spent by Indians in their personal capacity) is Rs 200 lakh crore. As such, the increase of Rs 1 lakh crore would by itself be a small change in the larger scheme of things.

Nikhil Gupta, chief economist at Motilal Oswal, said people are likely to have an opinion about this based on whether they are feeling optimistic or pessimistic.

"For instance, compare this amount with all the welfare measures (cash transfers) announced by state governments in the past

one year. Reportedly, it ranges between Rs 3 lakh crore and Rs 4 lakh crore. So if until yesterday, that amount could not lead to a virtuous cycle, it is an open question how much this additional amount will achieve. That being said, there is no doubt that on the margin this move will help matters," Gupta said.

It is for this reason that Gupta believes listed companies will do well – as will the stocks of companies that sell consumption goods. "But if you say that (positive movement in stocks) will continue for the next month, forget about the next year. I have my doubts," Gupta said.

Bhanumurthy added another caveat. To the extent the money is spent, it will spur demand, and to the extent that demand can be serviced by the domestic economy, all will be fine, he said. However, if the expenditure is on goods and services that cannot be provided by domestic producers, then the additional demand can also show up as higher imports or higher domestic inflation (more money chasing the same number of goods).

Key element still lacking

However, there is a crucial element still lacking in the Budget: a comprehensive strategy for economic growth without which tax cuts will not be enough.

Gupta said that for him the biggest problem was the lack of income growth in the country. Tax cuts can provide an initial fillip – a cut in GST would have been better – but they cannot on their own sustain consumption if economic growth does not happen.

One reason why the effect of this tax cut – historic in itself – is likely to be limited is that the total number of people paying income tax itself is very small in relation to the size of India's population.

Arguably, if the government's policy intervention sequencing was reversed – income tax cut first and corporate tax cut later – the results could have been different.

Makhananomics: Budget dives to harness potential of a Bihar industry

DEEPTIMAN TIWARY & ARJUN SENGUPTA

THE FINANCE Minister has announced that a "Makhana Board" will be set up in Bihar to improve production, processing, value addition, and marketing of makhana.

The humble makhana has garnered global fame in recent years as a nutrient-dense, low-fat "superfood", an ideal "health snack". The government has tried to commercially harness its popularity, including by conferring 'Mithila Makhana' with a Geographical Indication (GI) tag in 2022. But low productivity, absence of food processing units (FPIs), and slow growth of efficient marketing chains has meant that Bihar, the largest producer of makhana in India, has been unable to take advantage of the growing demand in the domestic and international market.

Makhana & Bihar

Makhana (fox nut) is the dried edible seed of the prickly water lily (*Euryale ferox*), which grows in freshwater ponds in South and East Asia. The plant has violet and white flowers, and large, round, prickly leaves.

Bihar contributes to roughly 90% of India's makhana production. It is grown in almost 15,000 hectares in Bihar, which produces nearly 100,000 tonnes of popped makhana, according to a 2020 paper by Indian Council of Agricultural Research (ICAR).

Outside Bihar, the crop is cultivated in smaller quantities in Assam, Manipur, West Bengal, Tripura and Odisha, as well as in Nepal, Bangladesh, China, Japan, and Korea. The global makhana market was valued at \$43.56 million in 2023, according to market research firm Spherical Insights. It is expected to reach \$100 million by 2033, the research firm has said.

Challenges faced by state

Despite Bihar's near monopoly over fox nut production, Punjab (which does not even produce makhana) and Assam are the largest exporters of makhana. This is because Bihar neither has a developed food processing industry nor the required export infrastructure – not a single airport in the state has a cargo hold. "Bihar ends up selling all its fox nuts cheap as raw material to FPIs outside the state. These FPIs add value to the product through flavouring and packaging, and thus command better prices," a senior official in Bihar told *The Indian Express*.

"Since the market in Bihar is not well-developed and organised, there is a long chain of intermediaries, and the farmer gets very little compared to what makhana commands in the commercial market. Neither the farmer, nor the state (in terms of revenue) earns what they actually can," the official said.

Low productivity is another major problem. Makhana cultivation is extremely labour intensive, which pushes up the overall input cost. Seeds are sown in standing water bodies and harvesting is done manually by diving to the bottom. Subsequent processing – from cleaning and sun-drying the seeds to roasting and "popping" them – is also done manually. Attempts at mechanisation have thus far failed.

Farmers have been slow to adopt high-yield varieties of seeds developed by agricultural institutes, such as Swarna Vaidehi and Sabour Makhana-1. According to the 2020 ICAR paper, traditional farming practices have a production capacity of 1.7-1.9 tonnes per hectare, far lower than the 3-3.5 tonnes per hectare capacities boasted by HYV seeds.

Promise of Makhana Board

Sources in the Bihar government said that the state needs a robust food processing indus-

try, along with strong chains of storage facilities, an efficient market, and an export infrastructure. This is what the Makhana Board, with a budget of Rs 100 crore, is expected to provide.

According to IJU Working President Sanjay Jha, the state government expects to create the right ecosystem for food processing units through the Board and a food processing initiative that has been announced. The expansion of the Patna airport, and the completion of the Patna and Darbhanga airports with cargo holds will facilitate exports, Jha said.

Another senior Bihar official, however, said that a lot will depend on how much money the Centre and the Bihar government are willing to spend, and how much interest they take in the matter. In 2002, a National Research Centre for Makhana had been set up under ICAR in Bihar. But until July last year, the Darbhanga-based centre had only 10 employees against a sanctioned strength of 42.

There was no administrative staff, and a full-time director was never appointed.

Political significance

Months ahead of Assembly polls, the announcements will help Nitish Kumar offset some of the criticism he has faced over his failure to imagine Bihar's economic growth beyond roads and power supply.

The announcements are also a signal to the impoverished but politically significant Makhana community, who provide almost all of the labour for makhana cultivation.

Although accounting for only 2.6% of Bihar's population, Makhana is concentrated in the riverine belts of north Bihar, where they can command a vouchershare of more than 6% "Since it is a labour-intensive industry, this will also create jobs for the community," Jha said.

Some 10 lakh families in Bihar are involved in the cultivation and processing of makhana.



UNION BUDGET 2025

INTERVIEW



The new Income Tax Bill will come next week. Will that be in the corner of a draft and will you take stakeholder comments on it?

Any Bill goes to the standing committee, after which we will consult with stakeholders. It will then return to us, and if necessary, further amendments will be made before moving it forward to the House.

Is there a specific reason for increasing the income tax rebate from ₹7 lakh to ₹12 lakh? Was it because incomes and salaries were not growing as expected, prompting the government to introduce this rebate? Additionally, how will you compensate for the ₹1-trillion revenue loss? Won't this impact budget estimates? Where will the funds come from?

Income has to grow to a certain level before a discussion about that becomes relevant. Now, why increase the threshold from ₹7 lakh to ₹12 lakh? It was earlier ₹2.2 lakh, then in 2014, it became ₹2.5 lakh. In 2019, it was raised to ₹5 lakh, then to ₹7 lakh, and now to ₹12 lakh. The government feels that if someone earns ₹1 lakh per month on average, they should not have to pay tax.

We are doing this in two ways: One, we are reducing slab rates — the tax slabs are now more uniform, with a gradual progression. Two, we are expanding tax slabs — this benefits all taxpayers, as the revised slabs provide relief across income groups.

Additionally, the Finance Ministry decided that some people should receive extra benefits beyond mere slab rate reductions. Hence, an extra rebate was introduced. Slab rate reductions apply to everyone, and extra rebate for some more people. Why do this? The expectation is that the money saved by taxpayers will flow back into the economy through consumption, savings, or investment.

If you compare what we have done today with what prevailed in 2014 under the Congress government, the narrative has always been about putting money back into the hands of the people. Compared to the 2014 tax rates under Congress, someone earning ₹8 lakh now has nearly ₹1 lakh more in their pocket. In 2014, the tax was ₹1 lakh; now, it is zero. Moreover, someone earning ₹12 lakh had to pay ₹2 lakh in 2014; now, it is zero. That means ₹2 lakh more in their pocket. Moreover, rates for everyone are being brought down. As a result, someone earning ₹24 lakh, who had to pay ₹5.6 lakh in 2014; now only have to pay ₹3 lakh. That means ₹2.6 lakh more in their pocket. So, it's not just those earning up to ₹12 lakh who benefit — because they are not paying any tax at all due to the rebate — but even those earning more see benefits.

On income tax — since the process has been simplified, does this mean that future relief for taxpayers could be provided through a scheduled or executive order rather than waiting for a full-fledged income tax bill?

Any time relief is given, it will have to go through the Parliament. If we are providing fiscal relief, it requires approval. Tax simplification primarily addresses complexity of language, the circuitous way provisions were explained, and the excessive exemptions. When we introduced the new tax regime, we deliberately avoided replicating the old one, which included several exemptions. We wanted a simple, straightforward tax regime where rates could be lowered. That is exactly what we have done now. The act itself needed simplification, and that is our attempt.

Disinvestment was not mentioned in the last Budget or this one, though the target remains. Is there any renewed push toward what was previously announced, such as the privatisation of banks?

We have a value creation strategy. There is no disinvestment target. Dividend and dividends are considered together, as both involve money, and money is fungible. This strategy has five elements. First, performance of central public sector enterprises (CPSEs). Second, effective communication of that performance. Third, the capex expenditure of CPSEs, which is crucial for accelerating growth. Fourth, a consistent dividend policy. Fifth, a calibrated disinvestment strategy, where listing and disinvestment raise about ₹80,000 to ₹90,000 crore per year in a manner that benefits minority shareholders.

How many people will benefit from the rebate increase from ₹7 lakh to ₹12 lakh?

'1 crore more people will pay no tax'

With a rejig of Income Tax slabs, the expectation is that the money saved will flow back into the economy through consumption, savings or investment, Union Finance Minister **Nirmala Sitharaman** said in an interview with *Doordarshan*. She also spoke about the benefits of the New Tax Regime and the government's capex plans. *Edited excerpts:*



Illustration: Sanjiv Dey

Additionally, while the absolute capex figure has risen, many argue that the pace of spending has slowed compared to previous years. Does this indicate a limit to the government's institutional capacity for driving a capex push? Lastly, some analysts suggest that the economic multiplier effect of capex is significantly higher than that of tax cuts. How would you respond to these concerns?

One crore more people will pay no tax. On capex, two factors are at play. First, this year had the elections taking place and because of that, both central and state governments were catching up with investments only in the second and third quarters. So it showed. It's not as if there is no thirst for capital expenditure, but now it will be at a pace at which you can build on each one of the developments that you've done prior. So it will

continue. Some departments may require more funds, while others may reach a plateau, but spending will continue across sectors, ensuring investment in asset creation.

How is capex continuing despite revenue and consumption expenditure, and what is its impact on GDP?

Capex is also continuing. I've not foregone capex to give for revenue expenditure or consumption expenditure, so both continue... Even in the coming year, effective capital expenditure, including what Government of India provides states for capital expenditure, is 4.3% of GDP, one of the highest

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20% increase. It is not a capacity issue, it is new sectors coming up, for example the urban sector, their locations are increasing. There's one area that requires renewed focus.

So one is the capex that we give directly. The other is that grants that we give to state governments, for the state governments to do capex, for example, Pradhan Mantri Gram Sadak Yojana, Pradhan Mantri Awas Yojana etc. So if you also include the grants in aid for creation of capital assets, the amount, the total amount has gone up to ₹15.48 crore in the budget estimate for next year, which is more than 15% increase over the current year's RE, so that is a substantial increase. Whereas, if you consider that the overall expenditure, that is revenue plus capital, has grown by 7% in the next financial year as compared to this year's RE, so this is almost twice the aggregate growth in the expenditure. I would like to also add that on top of this ₹15 trillion capex, the CPSEs add about ₹4 trillion capex from their own resources. So that's also the capex which goes in. And that is not counted here.

The FDI limit for insurance has been increased from 74% to 100%. Have other recommendations in the Insurance Amendment Bill been rejected?

Fundamentally, whether it's 74% or 100% doesn't matter. What matters is the psychological feeling that they can own the company 100%. Along with this, we are also going to simplify certain procedures and rules that we frame, which includes key management personnel, person who can be chairman of the company, and persons who can be the CEO and board of directors, and also the repatriation of dividends. The draft Insurance Bill is the one that has been announced.

Could you provide some broader aspects of the comprehensive asset monetisation plan in detail?

Until last year, the first programme that was launched in 2021, achievements have been of the order of 90%, which is good progress. Based on that success is our next leap, almost double the amount. Newer asset classes are also coming up. For example, transmission assets, and not just of the Government of India, but also state government assets. An entire plan will be out soon.

Considering the government's measure to put in more money into the hands of the public, are you trying to mitigate the impact of a possible Trump-led tariff trade war with the US? Are you relying more on domestic production to ensure Indians have a shield from the US trade wars if they happen?

Well, I don't think we've gone that far to justify the income tax rate reduction. We've responded to the voice of the people, made our own assessments and therefore, we've given this. There was an allegation also that we didn't respond to what may come through the US administration's tariff decisions. I don't think these two are connected so no, we haven't done it with that intent.

Kisan Credit Card limit has been enhanced to ₹5 lakh. Any assessment on how this will boost rural consumption?

This is to enable those farmers who are doing commercial cropping, they require more crop loans, it will facilitate them. It is to assist the farmer, not a measure to boost rural consumption. The intent is to facilitate farmers to get crop loans.

How many taxpayers have moved to the New Income Tax regime and does this mean we are phasing out the Old Tax Regime?

75% have already moved to the New Tax Regime under the individual category. The Old Tax regime is available but we expect almost everyone to shift now, however, if we were phasing out the old scheme, I would have said so.

MGNREGA has seen stagnant allocation in the last two years, despite FY25's utilisation having peaked till December. Do you expect a mid-year revision?

MNREGA is a demand-driven programme. If as a result of an increase in demand, a state wants money, the RE shows the numbers and we increase it. But just because of that doesn't mean that the BE will have to be on the enhanced note. Every year, post the crop season, the numbers vary. As a demand-driven programme, we will certainly respond to it as and when the numbers come.

People's Budget, focuses on making citizens partners in development: PM

PRESS TRUST OF INDIA

PRIME MINISTER Narendra Modi Saturday lauded the Union Budget as a "people's budget" that fulfils the dreams of every Indian and said that it is a "force-multiplier" that will boost consumption, investment and growth.

In televised remarks after Union Finance Minister Nirmala Sitharaman presented the Budget, Modi highlighted a host of measures for different sectors and noted that Budgets generally look at the government's treasury but this one seeks to put more money in people's pockets and increase their savings.

This Budget focuses on making people a partner in India's development journey, he said, describing it as a historic and important milestone on the road to the country's progress. It lays the foundation for attaining these goals, he added.

"The Budget lays a strong foundation to

increase savings and make citizens partners in development," Modi said, adding that its welfare initiatives for gig workers underscore the government's commitment to dignity of labour.

He said the measures presented in the Budget for the manufacturing sector will allow Indian products to shine globally. The tax relief will provide big benefits to the middle class and salaried employees, he said, adding the Budget announcement that those earning up to ₹12 lakh will have to pay no income tax will present those entering the job sector with a big opportunity.

The Prime Minister praised the "historic" decision to promote the private sector in nuclear energy, saying civil nuclear energy will ensure a significant contribution to the country's development in the future.



PTI

The Budget has a 360-degree focus on manufacturing to strengthen entrepreneurs, MSMEs and small businesses, creating new jobs

NARENDRA MODI, PRIME MINISTER

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and accelerate the Atmanirbhar Bharat programme.

Including hotels in 50 tourist destinations under the infrastructure category will provide a major fillip to tourism, Modi said, noting that the hospitality industry is the largest employment sector.

He said the country was progressing with the mantra of 'Vikas bhi, Virasat bhi' (development as well as heritage).

He asserted that the announcements for farmers will lay the foundation for a revolution in the agricultural sector and the entire rural economy, as he highlighted that under the PM Dhan-Dhanya Krishi Yojana irrigation and infrastructure development will take place in 100 districts.

Increasing the limit of Kisan Credit Card from ₹3 lakh to ₹5 lakh will provide greater assistance to farmers, he added.

"The Budget has a 360-degree focus on manufacturing to strengthen entrepreneurs, MSMEs and small businesses, creating new jobs," he said, underlining that sectors like

clean tech, leather, footwear and toy industries have received special support under the National Manufacturing Mission.

He stressed that the goal is to ensure that Indian products shine in the global market.

Modi said the Budget places special emphasis on creating a vibrant and competitive investment environment in the states.

In this context, he mentioned the announcements to double the credit guarantee for MSMEs and startups besides the introduction of a scheme to provide loans up to ₹2 crore without guarantee for SCs, STs and first-time women entrepreneurs.

He said that regulatory and financial reforms, such as Jan Vishwas 2.0, will strengthen the commitment to minimum government and trust-based governance.

This Budget not only addresses the current needs of the country but also helps in preparing for the future, Modi asserted, highlighting the initiatives for startups, including the Deep Tech Fund, Geospatial Mission and Nuclear Energy Mission.