Opinion

TUESDAY, JANUARY 22, 2019

HARNESSING SOCIAL MEDIA

Hassan Rouhani, Iranian president

"Resisting new technologies and modern developments is an outdated approach. Filtering is not the solution. We must raise the society's digital literacy so that they can use it [social media] without being harmed by it"

Economy can't afford an interim budget

Both consumption and investment need reviving, and govt needs to move to a UBI while subsuming subsidies in this

IT IS NOT clear whether finance minister Arun Jaitley will present a full-fledged budget on February 1 or whether he will, as per convention, simply outline the government's intent in the new year and just ask Parliament for enough funds to keep various schemes going till the new government presents its budget; that is, essentially, a vote-on-account. While any attempt by Jaitley to either outline his government's intent or even come up with new proposals will be criticised as the government trying to woo voters, it is important to keep in mind how earlier finance ministers have dealt with 'interim budgets'. As *FE* reported last week, in 2004-05, Jaswant Singh extended the deadline for fiscal benefits to power projects and, amongst others, waived long-term capital gains taxes for listed entities. While the UPA's Pranab Mukherjee didn't announce any tax proposals, he had rolled out a ₹40,000 crore stimulus package just a few months before. And, after saying the economy needed interventions that "cannot wait for the regular Budget", P Chidambaram cut excise duties on various capital and consumer goods in FY15 and even accepted one-rank-one-pension for the armed forces even though the ₹500 crore allocation for it was nowhere near enough.

Though the headline numbers don't reflect it, the economy is quite fragile with consumer spending growth—the biggest growth-driver—flagging for several quarters now and private investment still not taking off. While many of the potential drivers, such as excise duty cuts, are no longer in the finance minister's control—these are now with the GST Council—there is still a lot that needs to be done. Fixing telecom levies—old telcos have, once again, renewed their demands for a moratorium on payments to the government—is an important issue and is best done through the budget since it represents a policy change; ditto for a new minerals policy that has financial implications since government levies need to be slashed if mining is to be globally competitive. The start-up tax, currently in the news, needs to be removed and while the reversal in the e-commerce policy isn't budget-related, it is going to be a big dampener when it comes to fresh FDI.

While it is not clear whether the government wants to do much about sectors like telecom, it certainly needs to move ahead on an incomes-transfer policy for farmers—a quasi Universal Basic Income (UBI)—at the earliest since it is clear the MSP plan has failed to take off with prices of most commodities at 20-30% below the MSP. The UBI, even if the amount is small, however, cannot possibly be funded out of the budget since it could cost anywhere between ₹2-3 lakh crore. The only way to do this is to subsume various existing subsidies—the Central and state government spend ₹2 lakh crore per year on various agriculture subsidies—and to replace these with a flat UBI; the additional advantage is that, while most existing subsidies such as those on fertiliser or electricity (from the state governments) are cornered by large farmers, a UBI will reach all farmers and, if the Odisha government's Kalia is used as a template, this can also be extended to farm labour and tenant-farmers. This is critical for reviving the rural economy, and until that is done, the overall economy isn't going to be able to revive. And, while the Opposition will try to portray this as an election gimmick, since the government has increased direct benefit transfers (DBT) from ₹7,500 crore before it took over to ₹205,000 crore so far in FY19, it is clear the government has been moving in the direction of UBI anyway.

Boosting UPI

Treating small merchants as 'peers' will cut out transaction costs

IF DIGITAL TRANSACTIONS are to take a quantum leap, it is necessary to ensure that the MSME sector participates in the transition from cash to digital channels. Currently, small merchants and vendors are loathe to transact either via digital channels or cards. For one, they want to stay out of the taxman's net, which is not surprising. Secondly, the merchant discount rate (MDR) is an additional cost, which they understandably do not want to pay. With customers also wanting to stay off the taxman's radar, it is not surprising cash remains popular.

If the government wants to encourage digital transactions, it needs to push the envelope. And the best way to do this is to incentivise small merchants. For one, it should do away with the MDR—at least for the very small merchants—and classify them as peers for QR-based Unified Payments Interface (UPI) transactions. Such a proposal is understood to be under consideration, and the government would do well to implement this quickly. The MDR for UPI transactions stands at 0.25% for transactions under ₹1,000 and 0.65% for all other transactions. With the MDR out of the way, merchants might be more amenable to digital transactions. While UPI transactions have grown manifold since the launch of the payment mode in 2016, with volumes of 620 million in December, merchant transactions account for just 15-20% of these.

Again, once merchants are registered as GST assessees and there is a data trail, banks should be more open to offering loans at attractive rates of interest and also reduced collateral. This would ensure that merchants are not forced to borrow from the local money lender at usurious rates. Today, the majority of small merchants do not have access to formal credit, and even those that do, are able to fund less than 50% of their working capital needs through bank loans. Once he realises that his economics is improving—thanks to the access to formal credit—a merchant would be more willing to transact digitally. And, the government would stand to gain from more buoyant tax collections.

While banks say they are keen to push digitisation, their actions don't support this claim. Indeed, the larger banks appear to be dragging their feet if not altogether stalling digitisation, especially in semi–urban and rural geographies. They have been consistently refusing to raise the inter-change fee which is to be paid to smaller, new-age lenders that are installing micro-ATMs. The big banks—who call the shots in the NPCI—fear they will lose customers to the newer intermediaries and are believed to be pushing for a cut in inter-change rates. That would be a big disincentive for lenders that are installing micro-ATMs and the government must ensure this does not happen.

MoonMarking

Nations could use their space exploration missions as a decoy for establishing control over celestial territory

NASA HELD TALKS with the China National Space Administration (CNSA) about obtaining permission for US space scientists to use China's Chang'e 4—China's lunar exploration mission that made headlines by becoming the first probe to land on the dark side of the moon—for a collaboration on research. Beijing aims to build a space station and a base on the moon, as well as send a probe to Mars by 2020 and carry out a mission to Jupiter by 2029. China's space agency, last week, also announced four more lunar missions, including Chang'e-5, which will be launched by the end of the year.

All this showcases China's resolve to become one of the world's major powers in space exploration. China only sent its first astronaut into space back in 2003, but has now caught up with Russia and the US. But, this seems to have triggered a paranoia in the American leadership, with the Trump administration creating a new space command for US armed forces as well as treating China as an economic and military rival—both the latest US National Security Strategy and National Defense Strategy have identified China as a "major strategic rival". At the same time, because China's People's Liberation Army (PLA) oversees most of what China does in space, there are justified concerns about China's space goals. China is not alone in its ambitions on the moon, however. A Russian lander, scheduled for 2022, will look at the potential for resource extraction from the moon's surface and Nasa is planning its first crewed mission around the moon in half a century in 2023. While the Outer Space Treaty of 1967, to which China, the US and Russia are signatories, explicitly forbids nations from laying claim to celestial resources, countries have developed ways to sidestep the treaty's obligations that are legally binding. For instance, the US has encouraged private sector space exploration. Also, the provision in the Treaty that allows the State to retain jurisdiction and control over an object that it launches is likely to become a proxy for space colonisation. Doomsday predictions for Earth may not come true—or at least, not fully—but nations looking at colonising space, beginning with the Moon, may not be such a looney prospect.

GOOD JOB

IN THE PROFESSIONAL AND TRANSPORT SECTORS ALONE, A TOTAL OF 18 MILLION JOBS WERE CREATED BETWEEN 2014 AND 2019

Jobless growth in Modi years a bogus claim

TV MOHANDAS PAI & YASH BAID

Pai is chairman, Aarin Capital Partners and Baid is head of research, 3one4 Capital

IT IS AN undisputed fact that India's economy has been growing fast over the past years, with India taking the title of 'fastest growing large economy' in 2018. What is more commendable is that this growth, lately, has been achieved with low inflation. This has been the crucial achievement of the government over the past 4.75 years, that of having sustained India's pace of growth while reigning in high levels of inflation that wrecked havoc during the term of the previous government.

Further, the addition to the GDP, at current market prices, during 2014-19 (2019 numbers are estimates) is over 28% higher than 2009-14. India's nominal GDP grew by ₹59 lakh crore in total during 2009-14, with high inflation. In contrast, nominal GDP grew by ₹76 lakh crore between 2014-19, but with low inflation—demonstrating much higher quality growth. For an economy of the size of India, growing at such a pace cannot possibly imply jobless growth. In the UPA II era, too, large-scale jobs creation would have taken place. But, the UPA seems to have forgotten how to count these jobs and fell prey to the bogus theory of jobless growth. To support our stance of healthy job growth, it is necessary for us to look at the key drivers of the nation's economy which create jobs. We had previously looked at the transportation sector (*bit.ly/2FtPrSS*), wherein we had estimated that this sector alone had added nearly 14 million jobs from April 2014 to December 2018. Another large sector which creates jobs is the professional sector, much of which is non-corporate and outside the social security network.

Professionals who start their own practices also create a significant number of jobs every year and these need to be an integral part of our calculations. Job creation is high among professionals like chartered accountants, company secretaries, management accountants, lawyers, fashion designers, doctors, architects, project managers, financial advisors, insurance agents, real estate brokers, stock market brokers and intermediaries, and myriad other professional service providers.

The total jobs created by this segment of the economy is also a function of the rich human capital graduating from our universities and professional entities. There is consistent data available in the income tax (I-T) department's annual Income Tax Return Statistics Reports that provide a total of non-corporate professionals who are taxpayers. Non-corporate taxpayers declaring their income under the head, income from professions, implies that they are not paid salary for themselves but pay salary to people employed by them. Most non-corporate professionals will have lower than 20 employees outside the purview of social security payments and can be counted separately. Based on the latest report for FY17, there is a total stock of 2 million such taxpayers as of March 31, 2017. Taking the average growth of around 150,000 new taxpayers per year, we can estimate the stock of non-corporate professional taxpayers at 2.4 million by March 2019. Of course, there will be more professionals working who may not be taxpayers but they will reflect as taxpayers in future years.

Taking an extremely conservative estimate of each taxpayer employing 5 individuals on an average, we can estimate that there is a total current stock of a minimum of 12 million people employed in this sector alone. We further estimate that three professions—chartered accountants, lawyers, medical professionals—together could be employing around 10 million people because a majority of these professionals, who have been practicing for 5+ years, would employ over 5 individuals. This is demonstrated in detail from our study which was published in the Yojana magazine in August 2018. The increase in total non-corporate professional taxpayers on a y-o-y basis helps us estimate the number of new practices being added every year. Using the same estimate of 5 jobs per practice, we can estimate from the attached graphic that 8 lakh jobs are added from the professional sector every year.

The attached graphic shows the incremental increase in taxpayers every year. It is possible that they were working earlier and they then came into the tax bracket this year. However, this is an annual feature with a continuing pipeline and, hence, it normalises over time. We estimate that the professional sector alone has created around 4 million jobs from 2014-15 to 2018-19 (last year numbers are estimated). Taking the jobs that we estimate from the transport sector—14 million over a similar time period—we can easily estimate a total of 18 million jobs were created in this period. We also cross-verified the annual flow of professional talent from our universities and professional entities to make sure that there was adequate talent joining the job market every year. Of course, very many will join corporate employers and come into the social security net, but large numbers will join professions too.

We need to next look at the EPFO, ESI, and the NPS data to get a good estimate of the overall jobs across these three big job sectors. But the inescapable conclusion is that India is producing a large number of jobs and there is no evidence for the bogus claim of jobless growth.

Total tax paying professionals - Non corporate

Business professionals	AY14-15	AY15-16	AY16-17	AY17-18
Chartered accountants, Auditors,etc.	80,231	87,821	92,625	1,02,895
Fashion designers	12,581	16,446	15,615	14,375
Legal professionals	1,79,282	2,20,790	2,38,223	2,55,600
Medical professionals	3,23,508	3,71,881	3,95,013	4,19,379
Nursing homes	11,070	11,836	12,025	11,652
Specialty hospitals	4,135	4,538	4,667	4,601
Others	9,91,617	11,27,199	12,34,674	12,76,894
Total	16,02,424	18,40,511	19,92,842	20,85,396

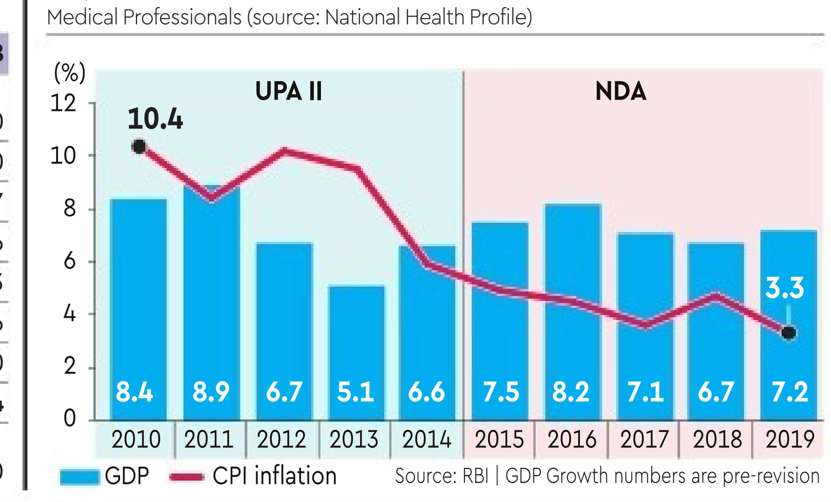
Y-o-Y change in non-corporate professionals

Non-corp professionals	AY14-15	AY15-16	AY16-17	AY17-18
Chartered accountants, Auditors,etc.	7,456	7,590	4,804	10,270
Fashion designers	1,628	3,865	-831	-1,240
Legal professionals	18042	41,508	17,433	17,377
Medical professionals	29,264	48,373	23,132	24,366
Nursing homes	127	766	189	-373
Specialty hospitals	220	403	129	-66
Others	95,223	1,35,582	1,07,475	42,220
Total	1,51,960	2,38,087	1,52,331	92,554
Jobs per non-corporate Tax paying professional	7,59,800	11,90,435	7,61,655	4,62,770

Adequate talent joining the job market every year

	2014-15	2015-16	2016-17	2017-18
New lawyers (UG)	65,247	63,909	67,973	72,486
New lawyers (PG)	7,378	7,903	11,387	8,950
New lawyers	72,625	71,812	79,360	81,436
New members	12,573	10,295	13,363	16,970
New practicing firms	3,216	5,100	8,482	3,358
Total doctors	33,536	20,422	25,282	17,982
Total dental surgeons	7,277	1,955	41,343	53,473
Total AYUSH doctors	50,219	8,025	26,905	2,200
Total medical professionals	91,032	30,402	93,530	73,655

Lawyers (source: AISHE); Chartered Accountants (source: ICAI); Medical Professionals (source: National Health Profile)



Source: RBI | GDP Growth numbers are pre-revision

The fat cat backlash is coming

More than 10 years after the collapse of Lehman Brothers, hostility toward the corporate elite is finally hitting the political mainstream in a meaningful way. Executive rewards are looking indefensible, and being a globe-trotting "thought leader" offers no protection

LIONEL LAURENT

Bloomberg

TEN YEARS AGO, the Davos conference asked the question: "What must industry do to prevent a broad social backlash?" The answer probably wasn't "double, triple, or sextuple the wealth of the most prominent conference attendees, while letting median household incomes stagnate back home". Yet, that is what happened. Make no mistake: The backlash is coming. There has always been a whiff of hypocrisy at Davos, where elites expand their carbon footprint, eat $43 hot dogs and throw lavish parties in the name of making the world a better place. "Fat cats in the snow", the regular attendee Bono once called it (and he should know). But, given the rapid advances of populist politics, it is remarkable that, in 2019, those felines are looking better-fed than ever. The past decade and a half has seen US corporate profits outgrow employee compensation at an unprecedented pace, according to the St. Louis Fed. A Bloomberg News analysis of the fortunes of a dozen Davos attendees found that they soared by a combined $175 billion since 2009. Those feel-good panel debates on topics like "Better Capitalism" are pretty laughable.

The response from the Davos crowd has always been to talk, talk, and talk a bit more. But there is an increasing impatience with capitalism's inability to regulate itself. That might explain why quite a few handsomely paid "Davos Men" have experienced a rather brutal comeuppance of late.

It's surely telling that Carlos Ghosn—the ultimate personification of Davos, according to Bloomberg BusinessWeek—will not be anywhere near the event this year, after his shocking arrest in Japan for allegedly under-reporting his pay. The holder of three passports, who amassed a $120 million fortune after many years of leading the Renault-Nissan carmaking alliance, cut a gaunt figure in court this month when denying the charges. Whatever the merits of the case, the pile-up of revelations about his lavish lifestyle, including a report that he benefited from a Dutch tax residency, has done serious damage to his image.

Other jet-setting Davos regulars will be keeping a lower profile too. Hot-shot investment banker Andrea Orcel was meant to be taking the reins at giant Spanish lender Banco Santander SA in early 2019, but he was dumped before his first day on the job—officially because of a disagreement over back-pay with his former employer UBS Group AG. Press reports put the figure at $40-$60 million, with Santander declining to compensate him for that amount. Beyond the financial considerations of a retail bank stumping up that kind of cash, the symbolism would have been terrible just as Spain's populist parties are gaining ground.

British ad mogul Sir Martin Sorrell has been another mainstay among the guest speakers at Davos. This year, his name is absent. Sorrell left WPP under a cloud last year, after a probe into alleged personal misconduct and misuse of company assets. Sorrell has denied these allegations, but he has confirmed and defended a travel expense bill of 274,000 pounds for his wife.

No doubt, these examples will be talked about only in private at this year's Davos; no doubt, the usual panel fodder of more co-operation and better governance will be dished up instead. But who is listening? Donald Trump, Emmanuel Macron and Theresa May are all too busy fighting political conflagrations at home. Populist and authoritarian leaders now oversee the lion's share of G20 economic output. While Trump is a true friend to rich Americans, his populism has opened up political ground for the radical left. Alexandria Ocasio-Cortez, a US Democratic congresswoman, has grabbed more attention this year with her proposed 70% income tax rate (a policy that most Americans support) than any Davos Man will.

So, expect some jitters around the fondue set. More than 10 years after the collapse of Lehman Brothers, hostility toward the corporate elite is finally hitting the political mainstream in a meaningful way. Executive rewards are looking indefensible, and being a globe-trotting "thought leader" offers no protection. Look at Macron's apparent eagerness to distance himself from Ghosn, despite the harshness of the Japanese legal system. Davos Man should look over his shoulder.

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LETTERS TO THE EDITOR

The negativism of Indian democracy

The show of strength by the non-BJP political parties in Kolkata under the aegis of West Bengal CM Mamata Banerjee reflects the disturbing pattern of sheer negativism on the Indian Democratic canvass. The cry of getting Modi out as a single point agenda of the conglomerate without any alternative narrative about the leader, policy or programme can prove to be disastrous if the results of the Lok Sabha polls provide an opportunity to this motley conglomeration. Even the issues of demonetisation and GST, talked about so frequently by these secular leaders, are sheer irrational chorus, without an alternative, notwithstanding the mythical confusion about the Rafale deal

— Jai Prakash Gupta, Ambala

A new low

The drunken brawl indulged in by two Congress MLAs at the Eagleton resort in Bidadi, where the legislators are holed up, represents a new low in Karnataka politics. Vijayanagar MLA Anand Singh who split the beans about his fellow legislators' plans to jump ship to the BJP went awry as he was allegedly attacked with a liquor bottle by fellow Ballari MLA and aide JN Ganesh (Kampli). The unsavoury incident is a blot on the Congress party which is already on a sticky wicket

— Ravi Chander, Bengaluru

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Regd. No: DL-21048/03-05. R.N.I. No.26750/74. Printed and Published by R.C. Malhotra on behalf of The Indian Express (P) Limited and printed at The Indian Express (P) Limited Press, A-8, Sector-7, Noida - 201301 and published at The Indian Express (P) Limited, Mezzanine Floor, Express Building, 9 & 10, Bahadur Shah Zafar Marg, New Delhi-110002. Phone: 0120-6651500, Fax: 0120-4367933. (Cover price: Patna: Mon-Fri ₹6, Sat ₹9, Sun ₹11; Raipur: Mon-Fri ₹7, Sat ₹10, Sun ₹10)
Chairman of the Board: Viveck Goenka, Managing Editor: Sunil Jain, Deputy Managing Editor : Shobhana Subramanian* (*Responsible for selection of News under the PRB Act)

ILLUSTRATION: ROHNIT PHORE

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THE 10% QUOTA

Reimagining the notion of backwardness

The step to provide 10% quota acknowledges that backwardness is not static; it is social and, more importantly, multidimensional. It will avoid the implicit societal division between the reserved and unreserved based on caste lines. It will take away the caste stigma, where people availing this benefit will not be asked their '*jaat*' and looked down upon. It can make reservation a unifier, not just a divider

THE NARENDRA MODI government has announced 10% quota for the poorer sections in the general category. While some have called it a reservation *jumla*, it is a bold and forward-looking attempt to recognise and reimagine the notion of backwardness.

Having faced second-class treatment in their own land, our founding fathers knew well the significance of equality to actually give to Indians a free society. But their foresight was extraordinary; they well understood that true freedom cannot be brought in a multilayered India if the downtrodden and backward are not taken special care of. It was against this backdrop that state support in the form of affirmative action was agreed upon, primarily based on backwardness of various groups in our society. This inherently disadvantageous position in the society was sought to be set right in all possible spheres of life—Articles 15 and 16, and the Preamble make constitutional promises of equality of opportunity and social, economic justice.

The premise of reservation under Articles 15 and 16 was to strike at the root of historical discrimination on the lines of caste and occupation, which eventually culminated in a mix of social and economic backwardness. The objective was to break away from the vicious cycle or trap of extreme economic destitution and social exclusion. Therefore, the scheme of reservation was first framed for the scheduled castes (SC) and the scheduled tribes (ST), and then for other backward classes (OBC) in the 1990s by implementing the Mandal Commission recommendations.

A 'class' ideally means any identifiable group of people; however, in applying the OBC reservation, we chose 'caste' as the primary factor in determining backwardness. For electoral backlash, the political mainstream will never try to find out whether our caste-centric approach to class backwardness yielded results or not, but there is no doubt that this unidimensional approach left out many groups plagued with backwardness who may not have necessarily suffered the baggage of 'caste'.

India has a unique caste-influenced identity system that led to divisions and fissures in society, and consequently to continued discrimination. Thus, social identity is justified as a parameter to ensure upliftment from backwardness. However, this eclipsed the perpetuity of economic backwardness. Most nations identify backwardness only on economic factors. Those calling this a form of poverty alleviation scheme are completely misplaced. Economic backwardness has not arisen in a few years, and people have certainly not become poorer in an economically stable and growing economy. Thus, economic backwardness is as much entrenched in the social system as caste-based backwardness, and it is as much a result of decades of apathy and vicious cycle as social exclusion, the shackles of which could not be broken by the economically struggling and backward people.

> It changes the paradigm of social position and opportunity, doing justice to affirmative action by supporting people for their lack of means, and not merely identity

The latest World Bank Poverty & Equity Brief shows that 60% of India falls in the lower middle income class, an unacceptable number that reflects the immobility of economically backward people to a better-off state than before. In this set-up, now imagine those who are notionally forward in the social ladder, but never had the opportunity, and thus the money, to live an honourable life, or the means to educate or skill their children. It is a serious question as to whether their notionally high position in the social strata at all brings the social respectability as many intellectuals are theoretically assuming. The caste of a poor does not help his poverty; they have no social status. They have limited access to learning and, over the years, become socially and educationally backward. Employment in services based on merit becomes a distant dream. These conditions necessitate state intervention.

The Lutyens intellectuals may brand every voice of support in saffron colours, but such an idea of reservation has not been unheard of. Independent voices have highlighted economic plight as relevant to class reservation. The logic is put succinctly by Justice Kuldip Singh in the much-famed *Indra Sawhney* case from paragraphs 386 to 390.

He says: "Poverty breeds backwardness all around the class into which it strikes. It invariably results in social, economic and educational backwardness." He adds: "The concept of backward classes under Article 16(4) cannot be confined to socially and educationally backward classes, it is of wider import. It is not correct to say that social backwardness is an essential characteristic of backward classes under Article 16(4)."

He finally opines: "Poverty has a direct nexus to social backwardness. It is an essential and dominant characteristic of poverty. A rich belonging to a backward caste may or may not be socially backward, but a poor Brahmin struggling for his livelihood invariably suffers from social backwardness. The reality of present day life is that economic standards confer social status on individuals. Poverty never discriminates, it chooses its victims from all religions, castes and creeds. Poverty binds them together as a class."

The '*jumla*' calling group has contested the constitutional amendment on its income criteria limits. This criticism is again unfounded as the income criteria is on par with limits placed for already existing 27% reservation for OBCs.

The ₹8 lakh yearly household income (not individual income) looks high at first glance, but looks reasonable after a thorough study, which is not the forte of impulsive critics. History reminds us of the OBC creamy layer limit of ₹1 lakh per family was introduced in 1993. This has been increased in 2004, in 2008, and in 2013 to ₹6 lakh. The NDA government increased it to ₹8 lakh in 2017. If for certain castes ₹8 lakh is an acceptable benchmark to decide eligibility for state support, it is absurd as to why the same benchmark is protested against for the 'poor' class of people among the unreserved.

Many have also argued that the bulk of the population will be covered in 10% criteria. They should be reminded of the Mandal days. Mandal had identified 52% of the population as backward, apart from 22% STs and SCs. If 49% reservation covered 74% of the population, 10% is not unjustified to take care of the poor from the rest. Those who were canvassing for reservation for 74% of the backward classes then have no basis to question the 10% reservation for economically weaker sections.

The fact is that this assertive action to provide 10% quota to address backwardness acknowledges that backwardness is not static; it is social and, more importantly, multidimensional. It will also avoid the implicit societal division between the reserved and unreserved based on caste lines. It will take away the caste stigma, where people availing this benefit will now not be asked their '*jaat*' and looked down upon. It can make reservation a unifier, not just a divider. As income inequality feeds into social backwardness, it can promote justice and equality for all. It changes the paradigm of social position and opportunity, truly doing justice to affirmative action and our founding forefathers by supporting people for their lack of means, and not merely identity. For those who keep their foot on the ground and see the reality of Bharat can find this new thinking on backwardness as transformative, not cynical.

BIT BY BIT

Intelligence in the data

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Powered by unprecedented levels of data, AI is changing our lives like never before

WE ARE ALL slaves of technology, striving hard to keep up with the gadgets that govern us. But other than make our lives complex, despite all the conveniences they shower on us, what can technology really do? I'm sure a lot of us have asked ourselves this question as we looked back at the simple times of the past. But technology could well be on the threshold of changing our lives drastically, as electricity did well over a century ago.

I did not use the comparison with electricity in vain. In fact, artificial intelligence (AI) has often been called the "new electricity" because it is soon going to be all-pervasive and omnipresent. While AI itself is not new and is a buzzword that has been buzzed at us for many years now, it is only now that it has started changing lives at an unprecedented scale.

Microsoft India president Anant Maheshwari puts it in simple terms. Never before, he says, have we had a convergence of data, cloud technologies and analytics tools at this scale, bringing down the cost of predicting anything. This power is literally in the hands of everyone. "But when we all start asking what we would like to predict," Maheshwari says, "the possibilities of this technology really start to explode."

Across the world, people are asking what AI can do for us? Take the case of disabilities. AI-driven technologies can now help a visually challenged person do everything from walk into a mall for a regular shopping errand to develop software. Microsoft's Seeing AI app, available as a free download for smartphones, can recognise everything from text on a document to signages and even scenarios, acting as an artificial eye for those who cannot see. The Soundscape app, meanwhile, gives uses stereophonic or 360-degree spatial audio to decipher digital maps and tell the user what is around him. There is a $100 add-on that can activate gaze tracking on any screen to help those who cannot move their hands. It has even developed hardware to bring Xbox gaming for those who otherwise cannot play.

Elsewhere, while Apple's AI-driven ARKit can look at and tell you if a piece of baggage is cabin size or not, Microsoft's AI tech harnessing the power of Azure is helping Germany's Welthungerhilfe detect undernourishment in Indian children with just the camera.

> Access to big data will give us insights about health. For example, Fitbit could have huge amounts of data on sleep patterns

"A lot of innovation around cloud and AI is possible because of scale; because we have huge amounts of data," explains Sriram Rajamani, MD, Microsoft Research's India Lab. A lot of these innovations come from his team of researchers. One of their achievements has been to bring this level of computing on microcomputers, changing the paradigm on what is possible at a local level.

Almost all these innovations are possible because there is access to so much data. But the large datasets needed to train systems to predict are not that easy to come by. In 2016, IBM bought The Weather Company primarily because it gave it access to the kind of data that was not available at that point. "Weather brings a lot of data, variety, velocity, variability and it becomes a good feed for non-structured and structured data to come together and create decision capabilities. In a way, it was a good fit for Watson (IBM's supercomputer)," says Himanshu Goyal, India Business Leader, The Weather Company. This combination helped consumers and companies make better personal and professional decisions, from planning flights to management based on the expected weather conditions. In India, many start-ups are using this data to give better and actionable information to farmers, Goyal adds. He says one of the company's patterns is helping pomegranate farmers decide when to irrigate, how much to irrigate, which pesticides to use, etc. For the average consumer, this means The Weather Channel app can now give everything from a sweat index to a mosquito infestation index, and not just temperature or humidity that we are used to.

The access to this level of big data will gradually give the kind of insight we have never had, especially about human health. A company like Fitbit could have unprecedented data on sleep patterns, while the Apple Watch could have never before collated data on wheelchair users. With analytics tools applied, this data could be what makes us healthier in the near future. AI is finally becoming a boon for humans.

Are numbers giving the right signals?

"Corrections" have become a convenient way of coming over data aberration (against expectations), if any

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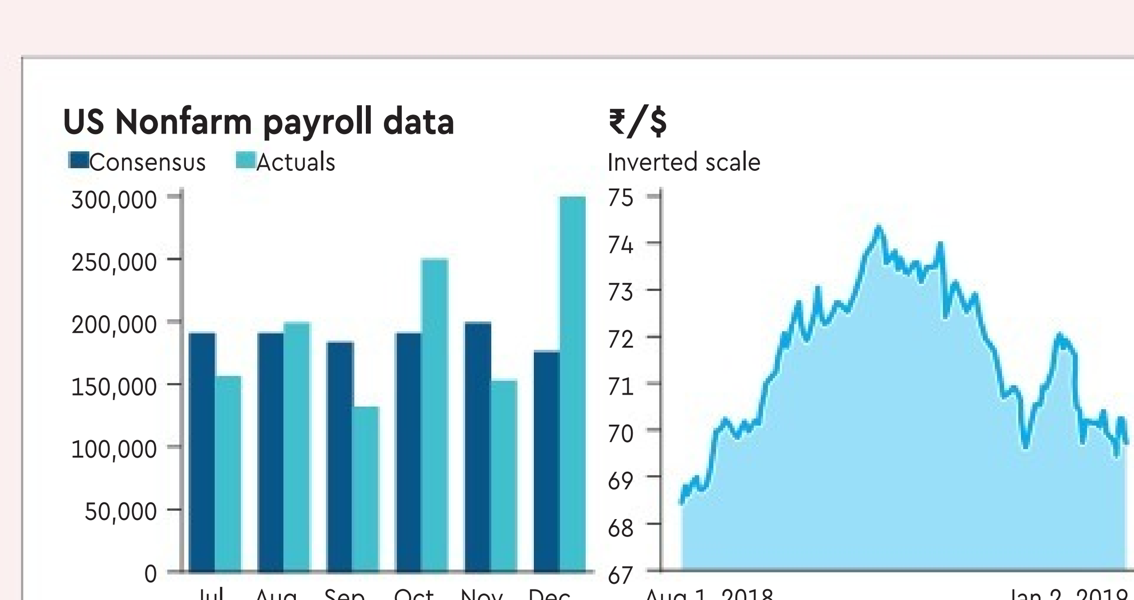
THE WORLD OF FINANCE and economics is getting interesting by the day. The deepening of the financial markets and the global integration of the economies is creating challenges for the financial sector, and the volatility in the market is slaughtering economic predictions like a juggernaut.

Who would not like to see the future and lay out plans accordingly, be it liquidity, forex rate, inflation, employment or other macro numbers, but the dynamic financial environment we are working in makes things uncertain. It is not only becoming difficult to peek into the distant future, but also in the immediate one. This may be on account of various factors—some of which are geopolitical in nature, some guided by political motives, few pure economic, and some even due to the frequent statements made by global bigwigs on trade and foreign policies, resulting in changing dynamics of demand and supply, besides others. Gone are the days of '*ceteris paribus*'.

Let us take the case of the year's first release, i.e. the US Nonfarm payroll data. In the past few months, the actuals have been quite distant from the consensus, with revisions following later on. The variations are manifest over the last four months, which may signal impact of the trade war. It is by easy understanding that a better-than-anticipated payroll data results in strengthening of the dollar as it indicates economy to be growing fine. However, the revisions in the data later creates an anomaly. For instance, as against the first release of the US Nonfarm payroll data of 201,000 (against estimate of 191,000), the third revision increased the figure to 286,000. For November 2018 also, the second revision at 176,000 is higher than the first release of 155,000 (against a consensus of 200,000). Value judgements go for a swirl on these frequent changes.

Now, take the case of other critical indicators like oil price movement, the dollar and even domestic inflation levels. Although looking at the historical data on crude oil, no major correlation was found between the oil price and rupee level, but that the post-August 2018 slide in the rupee was triggered squarely due to the hardening of oil prices and the correlation of over 0.50 (up to the first week of January 2019) supports this argument as against a negative correlation, which was there in the past decade.

When the rupee was losing out to the dollar, few even talked about the rupee touching 80 levels—guided by the forward premium in the non-deliverable forward (NDF) market—suddenly bringing export-oriented bigwigs out of slumber, warranting the central bank's intervention, further leading the think tanks across the country to scratch through the ice and find out ways to stabilise the sliding rupee. When we take a look at last 14 years' data, it has been found that the correlation of 0.94 between the rupee and forwards (12-month NDF) has been moving down and has touched 0.80 levels if data points of past couple of years are taken.



The NDF, which signalled further slippage of the rupee, might have been guided by the US sanctions on Iran supposedly kicking on from November 4, 2018 (which actually was waived off by the US for some countries, including India and China). However, the softening of the rupee has belied tracking of (only) the NDF for forecasting rupee in the absence of any other supporting factor. However, the rupee, after touching 74.39 to a dollar on October 9, 2018, eased around the 70-level as a response to easing international crude oil prices, restoration of capital flows, etc. The 10-year benchmark, an indicator of systemic liquidity and balance, has also eased after breaching 8% levels during the same period. However, the crux is the change in the swing again. Oil looks moving up again, and so is the dollar. Will it again change the matrix?

Inflation, on the other hand, has moved quite off the central bank's expectations; so have been other macro numbers. The fiscal turbulence on account of hardening crude suddenly eased, and so have been trade deficit numbers, quelling debates on fiscal imbalances and slippage. The extent of this disconnect can be understood by the fact that even the relatively-low GDP advance estimates announced on January 7, 2019, failed to trigger the market either way, signalling the numbness of the market towards these numbers.

The issue that impairs the criticality of these numbers is the frequent revisions, and these too, at times, by a decent margin. If revisions were not causing enough confusion, these are topped up by corrections in the numbers, which also, of late, have become a trend. Take the latest IIP numbers. The growth in IIP for November 2018 has come to 0.5% (year-on-year). This is a sharp reversal from the growth of 8.4% registered a month ago, in October 2018. To the common man, it is nothing less than "sky has fallen." In the absence of economic knowledge, to check this number against the previous year's base (which gives it the real sense), these figures look abysmally low, especially for an economy like India, which seems to be driving growth of emerging market economies (EMEs). Such a drastic reduction reflects the volatility of numbers followed by "corrections," a word that has become a convenient way of coming over data aberration (against expectations), if any.

These numbers raise an interesting question: Whether volatility itself has become too much volatile? The dynamic economic environment that has catapulted the world economy, especially the EMEs, to grow very fast has become too dynamic to handle.

In the emerging scenario, trade-related rhetoric of world leaders sometimes takes us back to the pre-liberalisation era and makes us wonder the complexity of business. It even forces us to think whether, in such an interconnected and fragile business environment, these numbers truly guide in making any value-judgement and forecast on macroeconomic variables?