

When tech aids free speech

One way to create a censor-resistant Web 3.0 could be via blockchain adaptations. This may radically alter internet architecture



TECH-ENABLED

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The battle for Freedom of Expression (FoE) on the Net is like an arms race. FoE advocates develop harder-to-censor technology, and pro-censorship lobbies develop new ways to censor and pro-FoE advocates then respond with newer ways to sidestep censorship again.

FoE is now a precious commodity, given the large number of authoritarian governments using all their resources to block content they dislike. "Web 3.0" will be partly driven by the

battle for FoE. One way to create a censor-resistant Web 3.0 could be via blockchain adaptations. This may radically alter internet architecture.

Using blockchains as anti-censorship tools may seem odd but consider what a blockchain does. A blockchain is a distributed electronic ledger invented to manage cryptocurrency. It can be public with open access, or private with permitted access. A blockchain can be decentralised: Different entities can control different blocks and many copies of the blockchain may exist.

Each block is an "address" controlled by an entity with a private encryption key. The entire chain can be copied multiple times. Data stored in the blocks can be read and verified by many entities. But that data can only be changed by the holder of the private key to that specific block. Changes are time-stamped and reflect in every subsequent block. The "read-only" access to a blockchain cannot be easily cut off, due to the mirroring effect of multiple copies. Therefore, to hack a blockchain and delete data, or

change it, every copy of the blockchain must be hacked. This is why corporates are starting to use blockchains to plug internal fraud.

One early example of using a blockchain for FoE was the so-called Peking University case of 2018. A student reported a sexual assault and committed suicide. Her friends alleged a cover-up. Their accounts were censored. One letter detailing the cover-up was then disseminated via blockchain, embedded in transaction metadata for the cryptocurrency, Ethereum. Chinese service providers were instructed to block access to all Ethereum transactions because the letter itself could not be deleted.

An internet built on blockchains would use blocks, to host websites. Or, blocks could be used to store links to redirect surfers to data repositories. Compare this to current internet architecture where numeric internet protocol (IP) addresses are associated with Uniform Resource Locators or URLs. This Domain Name System (DNS) is administered by a non-profit, The

Internet Corporation for Assigned Names and Numbers (ICANN), which subsists on US government funding. This is a centralised architecture. It is relatively easy for governments to block websites, hack them, or to dis-cover ownership.

Instead, both data and apps could be hosted via blockchains. The original bitcoin blockchain is cumbersome and slow. But much of the delay is caused by the computer-intensive calculations used to generate new bitcoins, and verify each crypto-coin transaction. Eliminating the unnecessary calculations and redesigning an FoE blockchain could make things go much faster.

If such FoE blockchains were hosted on decentralised clouds built on the same principles, it would be even harder to interfere with, or interdict them. Governments could be forced to use brute force methods by shutting down the internet, or cutting off 4G access for all users. This somewhat defeats the purpose of censorship, since it becomes obvious something is being censored. India has an awful track record in this respect by the way.

A blockchain internet architecture would have downsides though. Somebody, or many somebodies, would have to design, implement, and manage it. This implies censorship falling in the hands of private sector

entities, who may be compromised, or pressurised. We've already seen how flawed this process is, given the experience with social media platforms.

Apart from this, phones and laptops can be stolen and cryptographic keys can be hacked, of course. Legal liability would have to be rethought for hosts too, since blockchains could be used to immutably store child-porn, or explicit bomb-making instructions. A blockchain-based infrastructure may also exacerbate the existing digital divide between the skilled and the ignorant.

Governments are now starting to use blockchains for record-keeping. Moldova uses blockchains to prevent child-trafficking by recording iris scan data of minors. The World Food Programme (WFP) uses a blockchain to distribute aid to 100,000 Syrian refugees in Jordan. The refugees scan their irises at supermarkets when they pick up food. The WFP pays the bill. This sort of usage also has scary implications since private personal biometric data is stored.

Technology is ultimately a tool. It can never replace legislation and the moral principles underlying legislation. FoE is acknowledged as a fundamental right by most governments, including those which punish citizens who actually exercise the right to FoE. A blockchain-based FoE model could however, force governments to confront their hypocrisy in this respect.

What ails Indian banking, according to Viral Acharya

Some of India's top-rated firms do not always make payments on time and many state-owned, listed entities that borrow in bond markets default regularly



BANKERS' TRUST

TAMAL BANDYOPADHYAY

Early this month, Reserve Bank of India (RBI) Governor Shaktikanta Das delivered a speech at the State Bank of India's economics conclave, titled "Indian Economy at a Crossroad: A View from Financial Stability Angle". Later this week, former RBI deputy governor Viral Acharya's book, "Quest for Restoring Financial Stability in India", will be released.

This is no coincidence. Financial stability is the talk of the town now. The Covid-19 pandemic is a recent threat but the factors threatening the financial stability have been around for quite some time.

Between September 2019 and March 2020, through press releases and tweets, the RBI repeatedly stressed that the Indian financial system was safe and sound. It needed to do so as in the two years between February 2018, when the Nirav Modi scam hit state-owned

Punjab National Bank, and March 2020, when private sector Yes Bank Ltd was placed under moratorium, every facet of India's financial system was exposed to reveal its vulnerability. Infrastructure Leasing & Financial Services Ltd, a shadow bank, collapsed; Dewan Housing Finance Corp Ltd, a housing finance company, went under; and the multi-state Punjab and Maharashtra Cooperative Bank crumbled.

Within a month of moving into the Mint Road, Acharya, the RBI's youngest deputy governor post-liberalisation, chose to speak "with a certain sense of urgency" on the need and ways to "decisively resolve Indian banks' stressed assets", at a banking technology conference. As a deputy governor, his mandate was monetary policy-making but his core focus was on the banking crisis.

Much later, in October 2018, delivering the AD Shroff Memorial Lecture, Acharya said the governments that don't respect central bank independence "will sooner or later incur the wrath of financial markets, ignite economic fire, and come to rue the day they undermined an important regulatory institution". Subhash Chandra Garg, then economic affairs secretary, retaliated, tweeting: "Rupee trading at less than 73 to a dollar, Brent crude below \$73 a barrel, markets up by over 4 per cent during the week and bond yields below 7.8 per cent. Wrath of the markets?".

The language of his two speeches chronicles the evolution in the relation-

ship between the RBI and the government during that period, leading to governor Urjit Patel's resignation in December 2018.

The preface of the book takes off from the "wrath of the markets" speech and talks about how fiscal dominance has become the bane of the Indian banking system.

Assessing the performance of RBI during his tenure, Acharya claims to have achieved "moderate success" in fixing the health of the banking sector, restoring financial stability, and restraining weak banks from lending. These developments coincided with the government announcing significant capitalisation of public sector banks (PSBs) and the insolvency law putting the recovery of bad loans on the fast track. Even privatisation of a few state-owned banks was on the table. Or, so Acharya felt.

However, in the next "10 months" the trend was reversed and the RBI lost its governor at "the altar of financial stability". Acharya does not get into micro details but blames fiscal dominance for all the ills in the Indian banking sector.

The government needs to borrow to bridge its fiscal deficit and it is the RBI's job to create ample liquidity in the system and keep the interest rate low to ensure the borrowing programme's success.

He even talks about "implicit" pressure on the monetary policy committee to cut rates: "Rate cuts are preferred and inflation forecasting errors on the downside are okay (even welcome!), while rate

hikes are particularly disliked along with inflation forecasting errors on the upside." Once sufficiently fiscally dominated, the liquidity policy can control most of the government bond yield curve and prices, rendering the rate-setting process irrelevant.

Apart from successfully playing the role of the government's debt manager, the RBI's other priority, according to Acharya, is protecting the PSBs' balance sheets. If they make profits, the government does not need to infuse capital. So, the banks are allowed to reap the benefit of treasury gains immediately but losses can be recognised over a period of time. "The central bank is often working the hardest to ensure that public sector banks can show profits and adequate capital to markets at quarter ends," he writes. Not the bankers and their owners, the RBI manages the interest rate risks for these banks!

This practice is fairly well-known in India but the central bankers normally don't talk on such issues. He also refers to the government's demand for "interim dividend" from the RBI, bypassing other arrangements such as ways and means advances (which limit the extent of temporary monetisation of the government deficit by the central bank) and how it erodes the strength of the central bank's balance sheet. Alongside, we get to know little secrets such as even some of India's top-rated firms do not always make payments when due and many state-owned, listed enterprises that borrow in bond markets default regularly.

Without naming the bank, he says that ever-greening of poor loans by a part of India's shadow banking lay at the

doorstep of India's banking, notably "one private bank", and pitches hard for making the asset quality review a mandatory annual ritual for the entire financial sector, including the non-banking financial companies.

A few years ago, D Subbarao wrote a tell-all book, "Who Moved My Interest Rate?". Y V Reddy followed it up with his autobiography, "Advice & Dissent: My Life in Public Service". Then came Raghuram Rajan's "I Do What I Do". The title sounds combative but Rajan was not loud — he was circumspect and there was a coherent pattern through all his speeches — taking forward the reform agenda of the Indian banking and financial sector. Acharya, often referred to as the "poor man's Rajan", followed the Rajan genre.

Music is very close to his heart. Acharya loves Hindustani classical music and believes that lyrics give further meaning to music. His all-time favourite song is Kishore Kumar's "Kuchh toh log kahenge/Logon ka kaam hai kehna/Chhodo bekaar ki baaton mein...". While writing the preface to this book, a compilation of his speeches delivered during the RBI days, Acharya seemed to be listening to this song but this won't be music to the ears of many.

"Quest for Restoring Financial Stability in India" is a good appetiser. The main course is Acharya's boss Patel's book, "Overdraft: Saving the Indian Saver".

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CHINESE WHISPERS

MGR in saffron shawl

A statue of former Tamil Nadu Chief Minister M G Ramachandran was found draped with a saffron shawl in Puducherry, sparking a furore, which crossed over to neighbouring Tamil Nadu. Anbalagan, All India Anna Dravida Munnetra Kazhagam (AIADMK) MLA in Puducherry, staged a protest and even raised the issue in the House. Party co-coordinator and Tamil Nadu Chief Minister K Palaniswami condemned it as a "barbaric" act. The MGR episode came days after social reformer Periyar's statue in Coimbatore was smeared with saffron paint, leading to the arrest of a fringe Hindu outfit functionary. As the situation threatened to go out of control, Puducherry Chief Minister V Narayanasamy stepped in to reassure the protesters that quick action would be taken against the culprits.

Sidhu's road map



After lying low for almost a year, Congress leader Navjot Singh Sidhu (pictured) has broken his silence. In a letter to Punjab Chief Minister (CM) Amarinder Singh over the weekend, the former cricketer alleged his constituency was being ignored after his resignation from the Cabinet. He had resigned last year following a spat with the CM. Citing several "stalled" projects in his constituency, the MLA from Amritsar East said in his letter it was "unfortunate but true" that nothing had moved in his constituency since he resigned in June last year. He did make some noise in March this year, when he launched his YouTube channel, Jittega Punjab (Punjab will win), and had said that he would be preparing a road map to resurrect his state but nothing much happened after that. Following his letter, some in the CM's team said they were waiting for that road map.

Who will buy?

Mumbai's Lower Parel and Worli areas are witnessing a sharp fall in real estate prices with flats that flaunted a price tag of ₹4 crore a year ago not fetching even ₹3 crore now. Builders say an oversupply of residential apartments in a highly congested area has led to such a pass. The matter has reached such a state that one of the builders has had to hand over an entire multi-storied building to its financier, a non-banking financial company (NBFC). The residential tower, which is now almost ready, will be converted into a commercial building by the NBFC. The problem is that there are no takers even for commercial spaces at the moment.

INSIGHT

Covid-19: Beginning of the end?

The pandemic appears to be receding across the board, although the possibility of a second wave cannot still be ruled out



ALOK SHEEL

There have been well over half a million (613,413) Covid-19 deaths globally as of July 21, 2020. A timeline and geographical analysis of the mortality data, normalised to deaths per million to enable cross-country comparisons, in the accompanying table has both good and bad news.

The good news is that the pandemic appears to be receding across the board, although the possibility of a second wave cannot still be ruled out.

As is to be expected, this recession is uneven. The bad news is the possibility of elongation of the epidemic cycle in some regions, and that over the last six weeks, India is the worst performer amongst the major countries, including those in its South Asian neighbourhood. Only South Africa fared worse.

Based on data available till April 20, it was argued in this paper (*Business Standard*, April 26) that the severity of the Covid-19 pandemic, proxied by deaths per million of the population, was much higher in the climatic zone roughly above 30 degrees north. A second analysis of the data (*Business Standard*, June 8) available till June 6, 2020, concluded that while there remained a wide differential in mortality per million between the two zones, this Covid Maginot Line was nevertheless being breached. Mortality was rising sharply in the south even as it was declining in the north.

The data, now available up to July 21, shows that while this trend has accentuated, the pandemic is nevertheless receding across the board.

In terms of mortality, however, the Covid axis appears to have shifted from north-south to east-west, on account of increased mortality in Latin America, West Asia, North Africa and South Asia. Barring the latter, most of these countries either adjoin the Atlantic Ocean, or are linked to it through the Mediterranean. Instead of 30 degrees north, the critical divide now appears to be the Atlantic Ocean.

The 31 countries represented in the table account for 72 per cent of the world's population and currently 86 per cent of Covid-19 mortality. Of these, 23 countries classified as part of the Atlantic system with just 24 per cent of the global population have 79 per cent of the global Covid mortality. On the other hand, eight Asian countries, accounting for 48 per cent of the global population, have just 7 per cent of Covid mortality.

The data points to a 18-week Covid cycle consisting of three sub cycles of six weeks each. In the first phase, mortality rises sharply. In the second, it declines while continuing to remain high. In the third, the epidemic is practically halted. This three-phase cycle can be seen in the case of China, followed by Europe and North America. The increase in Covid mortality has practically halted in some of the worst-affected European countries. The aggregate mortality, however, remains relatively high in this region on account of legacy deaths. Also, the drop in mortality is less sharp in Russia, and also in the UK, Portugal, Sweden and North America.

Following the breach of the 30 degrees north Maginot Line, mortality rose sharply in Latin America, West Asia, North Africa and South Asia. A noticeable feature of the cycle in these regions is that first, mortality in the first sub-cycle, and second, mortality decline in the second sub-cycle, are much lower, than what it was in China and Europe. These regions could therefore have a lower legacy of deaths per million of the population, because of the base effect. It is also possible that stabilisation of the epidemic in these regions may extend beyond the three sub-cycles described above.

Outside the Atlantic region, the Asian

region has on the whole weathered the Covid storm very well, except for South Asia, where India is the worst performer. India has 37 per cent of the population of the eight selected Asian countries but a disproportionate 60 per cent of Covid deaths in the region. Six weeks ago, India's Covid mortality per million stood at the Asian average of 4.8; it is now significantly higher at 20.4, compared to the regional average of 12.7. Only Pakistan has a higher mortality rate amongst these eight Asian countries. The mortality growth in Pakistan over the last six weeks was however significantly lower than that in India.

The only consolation appears to be that mortality growth has declined sharply in India over the past six weeks compared to the previous six weeks, as elsewhere. India is therefore likely to end the pandemic at significantly lower than the global average mortality per million on account of lower legacy deaths in the first sub-cycle. This is still less than a tenth of the average for the Atlantic region, and about a quarter of the global average.

The decline in Covid mortality is no doubt uneven, as the infection cycle is not spatially synchronised. Individual experiences can therefore vary at the micro level, depending on where you are. At the macro bird's eye level, however, the picture is clearer, with the upswings now out shadowed by the downswings.

Might the Covid axis swivel once again, especially since mortality growth, while declining sharply (with the notable exception of Iran, where there is a marginal increase), is nevertheless significantly higher in South Asia in the second phase than what it was in China Europe and North America? On account of the far lower legacy deaths in the first phase, however, South Asia (including India) is likely to end the pandemic with far lower deaths per million compared to the Trans-Atlantic countries.

With a Covid-19 vaccine on the horizon, and mortality declining sharply across the board, albeit unevenly, we might well be seeing the beginning of the end of the Covid 19 pandemic. One would, however, still need to watch out for a possible elongation of the epidemic cycle in some regions, and for a second wave.

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SLOWING DOWN BUT...

Country	Deaths/Million (as on)					% increase in deaths
	March 6	April 20	June 6	July 21	April 20 - June 6	
Canada	0.0	42.1	204.1	234.7	385	15
France	0.1	302.1	446.0	462.3	48	4
Germany	0.0	55.4	104.6	109.5	89	5
Italy	2.4	391.3	558.6	579.9	43	4
The Netherlands	0.0	215.1	350.6	358.2	63	2
Spain	0.1	437.5	580.4	608.0	33	5
Portugal	0.0	70.0	143.6	165.8	105	15
Sweden	0.0	152.5	459.3	558.3	201	22
Denmark	0.0	61.3	101.2	105.5	65	4
Norway	0.0	30.4	43.9	47.0	44	7
Switzerland	0.1	161.0	222.1	227.9	38	3
Russia	0.0	2.5	39.2	85.2	1,486	117
UK	0.0	236.6	593.0	667.4	151	13
US	0.0	122.5	336.5	434.5	175	29
Turkey	0.0	24.0	55.3	65.6	130	19
Iran	1.3	60.9	97.7	171.5	60	75
Algeria	0.0	9.3	15.7	24.8	70	58
Egypt	0.0	2.7	11.4	42.5	322	273
Nigeria	0.0	0.2	1.6	3.9	974	141
South Africa	0.0	0.9	15.3	87.2	1,581	470
Argentina	0.0	3.0	14.0	52.5	372	275
Mexico	0.0	5.3	102.1	306.3	1,820	200
Brazil	0.0	11.6	164.9	377.5	1,324	129
Atlantic	0.1	78.4	184.4	259.3	135	41
% Global Deaths	8%	88%	86%	79%		
India	0.0	0.4	4.8	20.4	1,090	323
Bangladesh	0.0	0.6	5.1	16.2	830	215
Pakistan	0.0	0.8	8.8	25.3	1,052	189
Indonesia	0.0	2.1	6.6	15.5	209	135
China	2.1	3.2	3.2	3.2	0	0
Japan	0.0	1.9	7.2	7.8	284	9
S.Korea	0.8	4.6	5.3	5.8	16	8
Australia	0.1	2.8	4	4.8	44	21
Asia	0.8	1.8	4.7	12.7	161	172
% Global deaths	91%	4%	4%	8%		
World	0.4	21.4	51.7	79.4	142	54

SOURCE <https://ourworldindata.org/coronavirus-source-data>

LETTERS

Need to act fast

The corona pandemic is ravaging India and the world. The unparalleled race to come out with a rudimentary vaccine is now being matched by the speed with which rich nations like the US and the UK are entering into advance purchase agreements with global vaccine makers. Since India is the third-largest producer of generic medicines at the lowest cost and has capacities to manufacture three billion doses of vaccine annually, it is time the government at the Centre put in place a rational and objective strategy to ensure fair and equitable access to Covid-19 vaccine for everybody.

With surging number of corona positives and some states admitting that the virus has attained community-level transmission, the government has to first set up a national body exclusively manned by experts to deal with the acquisition and distribution of the vaccine when it is ready. Instead of putting all our eggs in one basket — the Serum Institute of India — the government should encourage Indian vaccine makers to enter into licensing agreements with global developers who are at fairly advanced level of clinical trials.

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