# The cure for HIV

There are just two cases where the killer disease appears to have been cured. Researchers are also looking for other genes that can block HIV

**TECH-ENABLED**

DEVANGSHU DATTA

It's been almost 40 years since AIDS was first identified circa 1981. There are just two cases where the killer disease appears to have been cured. Although the second case has not yet been declared a definitive cure, it is described as a "proof of concept" AIDS can be cured.

The disease is caused by the Human Immunodeficiency Virus (HIV), which attacks the immune system. HIV takes over and kills a type of white blood cell, CD4 T-cells, which protect the body from infection. HIV inserts itself into the cell and replicates, spreading through the body.

HIV is transmitted via exchange of body fluids. Once a person is HIV-positive, meaning the virus is in the system, that person may survive without symptoms for many years. Once the immune system is shut down, the infected person has full-blown AIDS and is vulnerable to all infections. Most AIDS victims die of cancer, pneumonia, and other diseases.

About 40 million people are estimated to have died as a consequence of AIDS, and another 35-40 million HIV-positive people are estimated to be currently surviving. Close to 1 million deaths per year are still being recorded, and about 2 million new infections occur every year. That's an improvement over the early 2000s, when over 2 million were dying every year.

It would be no exaggeration to say that HIV changed global social and sexual mores. It literally decimated Southern Africa with over 10 per cent of the population infected in several countries. Anti-retroviral (ARV) drugs can suppress the disease and allow indefinite periods of survival. But ARVs don't eradicate the virus. ARVs destroy cells in which HIV is actively replicating, but HIV can go into hiding, stop replicating, and remain dormant until the ARV therapy stops. Then, HIV returns.

The first "cure" was found in 2007. Timothy Ray Brown, an American living in Berlin, was HIV-positive and under treatment for leukaemia. Leukaemia causes an abnormal increase in white blood cells. Blood cells are produced by bone marrow. Leukaemia treatment can involve bone marrow stem cell transplants from a healthy person. This helps regenerate healthy blood, and create a new immune system. Bone marrow transplants are dangerous — the patient's immune system must be destroyed, prior to the transplant.

A few people possess a mutated gene called CCR5 Delta 32, which offers natural immunity to HIV. This is a rare mutation, found only in some northern Europeans. The normal CCR5 gene, which most people possess, is used by HIV to enter T-cells. HIV cannot use the Delta-32 mutated gene and cannot replicate in a host with two copies of the CCR5 Delta 32 gene (one inherited from each parent). Even one copy of Delta 32 seems to offer protection. Only about 1 per cent of northern Europeans possess a genome with both copies.

Brown's doctors at the Charite University Medicine Berlin, Kristina Allers and Gero Hutter, found a compatible donor with a Delta-32 mutation. Twelve years after the marrow transplant, the "Berlin Patient", as Brown is called in medical journals, remains HIV-free, and living normally.

A similar approach was tried with the "London Patient", by doctors at University College London (UCL) and Imperial College London, together with teams from Cambridge and Oxford. The patient was diagnosed with HIV infection in 2003 and on ARV therapy. In 2012, when he was diagnosed with another cancer, Hodgkin's Lymphoma. The team was led by Dr Ravindra Gupta.

In 2016, after chemotherapy, the patient was given a bone marrow stem cell transplant from a donor with two copies of Delta-32. As of now, according to reports from the University of Cambridge, he remains free of HIV, 18 months after ARV was discontinued and three years after the stem cell transplant. Given the long periods, HIV has been known to go into dormancy, the doctors are cautious about calling this a cure, yet.

But it does indicate that therapy based on swapping out CCR5 genes can work. Both patients were in desperate straits with AIDS and cancer and this approach of nuking the immune system via chemotherapy and then transplanting a mutated CCR5 gene is life-threatening in itself (apart from being expensive and complex). Compatible donors may also be difficult to find.

But these two cases offer hopes of finding less dangerous means of putting immunising genes into HIV-positive patients, via genetic engineering. The recent experiment where Chinese scientist, He Jiankui, genetically modified twins, Nana and Lulu, was one such attempt to change CCR5. Researchers are also looking for other genes that can block HIV. After many years, there's hope that HIV could be eliminated.

# How much is a pvt bank CEO worth?

To protect the existing CEO salary, banks have to raise the fixed part of remuneration, which negates the very purpose of the regulator

**BANKER'S TRUST**

TAMAL BANDYOPADHYAY

The CEOs of private and foreign banks in the world's fastest growing major economy are a sulking lot these days as India's banking regulator is planning to downsize their remuneration. Those who always feel these bankers earn a lot, particularly in comparison to their counterparts in government-owned banks, some of which have much larger balance sheets, are watching them with voyeuristic glee.

Under India's Banking Act, private and foreign lenders always need regulatory approval for the remuneration of whole-time directors and CEOs and the Reserve Bank of India (RBI) has not exactly been liberal in its approach. Still, they manage to earn a decent (some say indecent) sum through stock options, which have been outside the remuneration package.

Now, the RBI wants to include shares and options within the variable salary of the CEOs, proposed to be capped at 200 per cent of their fixed salary; the floor for it is 50 per cent. Also, at least half of the variable pay must be in the form of non-cash. At the moment, the variable pay of the bank CEOs is capped at 70 per cent and there is no floor for it.

Simply put, under the new plan, if a bank CEO gets a fixed salary of say ₹1 crore a year, the variable portion can vary between ₹50 lakh and ₹2 crore, inclusive of shares or stock options that would be at least half of it.

Going by the proposal, at least 60 per cent of the total variable pay must be deferred for a minimum of three years. Also, there should be a clawback agreement forcing a CEO to return already-paid remuneration under certain circumstances as well as malus, denying the CEO deferred remuneration if the bank is not disclosing bad assets and setting aside money for them. The RBI also wants the banks to identify the so-called material risk takers or MRTs among the senior employees whose actions have a bearing on a bank's performance.

No one can find fault with the latest initiative of the regulator when bankers' compensation issue is at the centrestage of the regulatory reforms, globally. If at all, the RBI could have looked into this much earlier as a few Indian private banks have not exactly been reverent about corporate governance.

The plan to deny the bank CEOs full remuneration through the exercise of the claw back and malus clauses if they jeopardise a bank's health by taking excessive risks or hiding bad assets is welcome. Similarly, identification of MRTs for special treatment, on the line of the UK regulator Financial Services Authority's focus on persons of significant influence, is also welcome. However, if the regulator takes upon itself the job of structuring the CEO's salary to the last detail, what is the remuneration committee of a bank's board for?

How are banks expected to react to this? They are likely to raise the fixed component of a CEO salary. My understanding is that to protect the existing compensation, some private banks will have to raise the fixed salary of their CEOs by as much as 50 per cent. This is what the CEOs of European banks have done.

This negates the very purpose of the regulator as a more assured payment protects a large chunk of remuneration even if a CEO is taking excessive risks! Besides, it can also breed complacency and inefficiency and discourage the strive for excellence at the top job. Of course, this thesis is based on the presumption that the RBI does not plan to do both — overseeing the composition of the compensation package as well as fixing the absolute sum.

How does one value the stock options? If a CEO gets vanilla shares in the form of restricted stock units, it is easy to value them as the executive enjoys the economic benefit of an entire share of stock but in the case of an ESOP, an employee has the option to purchase stock of a company at a future date at a predetermined price. If the market price of the stock is above the procurement price, the employee stands to gain by selling it off but if it is below the agreed price level, the employee will not exercise it.

Indeed, there is a formula for calculating the fair value of an option but the market performance of Indian private banks is not uniform. For instance, an HDFC Bank employee has always been in the money as the stock has been consistently doing well but ICICI Bank employees have hardly made any money in past few years and Yes Bank stock has lost 40 per cent in the past seven months. Also, if a stock is doing well, shouldn't the CEO be compensated handsomely as this is a testimony to the manager's great work?

In November 2018 India's second-largest tyre maker Apollo Tyres' promoters Onkar Kanwar and his son Neeraj were forced to accept a 30 per cent pay cut following minority shareholders' rejection of Neeraj's re-appointment as managing director at the company's annual general meeting amid claims of high compensation and moderating financial performance.

Ultimately, the board and the investors should take the call on a CEO salary; if or when the board is compromised, the RBI should step in. Also, the size of balance sheet alone cannot determine compensation; the challenge and complexity of the job should also be factored in.

Stock offerings have turned many professionals into entrepreneurs in India, created fine banks and revived falling ones. While there must be disincentives for excessive risk takers and punishment for those who do not believe in good governance, the regulator must assure the performers that they don't need to worry. Otherwise, the best bankers may migrate to greener pastures — the non-banking finance companies, insurance firms and even FMCG and infotech sectors.

Incidentally, the compensation structure of the CEOs of India's public sector banks needs to be recast without delay, if we care for performance. It needs to be delinked from bureaucrats' salary. And, the ESOP proposals of at least two such banks have been lying with the finance ministry for years now. Has anyone heard on this?

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## CHINESE WHISPERS

**Turmoil in Congress state units**

All is not well with the Congress party's state units. Many are upset in Karnataka that the party is willing to surrender eight to nine Lok Sabha seats to the Janata Dal (Secular), and some have even threatened to join the Bharatiya Janata Party, and be fielded against Congress candidates, including senior party leader Mallikarjun Kharge. Similarly, Maharashtra Congress legislative party leader Radhakrishna Vikhe Patil is unhappy that the party might surrender the Shirdhi Lok Sabha seat to the Left parties. In Haryana, former chief minister Bhupinder Singh Hooda has threatened to float a new party if he continues to be ignored by the party's top leadership.

**Will Sonia intervene?**

The Congress top leadership is keen to have an alliance with the Samajwadi Party and Bahujan Samaj Party in Uttar Pradesh. Emissaries have been sent but the leadership of the two parties has interpreted the despatch of junior leaders to mediate as a sign that the Congress is not serious. Senior Opposition leaders, including N Chandrababu Naidu, Sharad Pawar and others, are hopeful that United Progressive Alliance Chairperson Sonia Gandhi *(pictured)* will — sooner rather than later — intervene to finalise alliances not just in Uttar Pradesh but also in Delhi with the Aam Aadmi Party since several party leaders, including Delhi unit chief Sheila Dikshit, are unwilling to listen to Congress President Rahul Gandhi.

**When Modi became 'daddy'**

The political equation between the All India Anna Dravida Munnetra Kazhagam (AIADMK) and Bharatiya Janata Party (BJP) seems to have changed 180-degrees since AIADMK supremo J Jayalalithaa's death. In March 2016, Union Minister Piyush Goyal came down heavily on the AIADMK leadership (read Jayalalithaa), saying Tamil Nadu was "a state within a state". Fast forward to 2019, and Goyal can be heard waxing eloquent about Jayalalithaa's pro-poor initiatives and calling her a "true nationalist". Then there is State Minister for Milk and Dairy Development K T Rajenthra Bhalaji, who has just labelled Prime Minister Narendra Modi the "daddy" of Tamil Nadu. When reminded that *Amma* — as Jayalalithaa was popularly called — never agreed to an alliance with Modi, Bhalaji retorted, "When Amma is not there Modi is our daddy; India's daddy."

## INSIGHT

# NIIF gets aggressive

However, it must proceed with caution

JYOTI MUKUL

The youngest among financing institutions created by the government, the National Infrastructure and Investment Fund (NIIF), has adopted a different approach to go about its business. Operationalised through a private company of the same name in 2015, it is advancing more aggressively than many such institutions created earlier.

In contrast to financial institutions of the past, NIIF has been conceptualised to monetise infrastructure assets and channelise sovereign funds of other countries into India. The idea of monetisation in itself is new since traditionally promoters or operators are expected to remain invested in their projects. But just as promoters of start-ups look to rake in money through exits after creation of value out of their initial investment, the monetisation of assets creates value and frees up invested money, whether equity or debt, for investment elsewhere. At the same time, such an approach fills in for bank funding where sectoral limits have been reached.

The history of India's industrialisation and infrastructure building has shown whenever there is need for investment and the private sector does not have the bandwidth, the government pitches in with its own institutions for manufacturing, building and even financing. The funding to spur industrial and infrastructure activity comes not just from the government's capital spending but also from these institutions created by it outside its set-up.

So, while a lot of public sector companies were set up to meet the demands of a growing economy, institutions like IFCI created way back in 1948, IDFC in 1997 and even the currently troubled IL&FS set up in 1987 gave the required financial push. In the absence of a vibrant bond market, these institutions along with the Power Finance Corporation and Rural Electrification Corporation continued to pitch in with money for industrial as well as infrastructure project lending. Bank loans, however, continued to dominate the space even after the UPA government created the Infrastructure Finance Company Ltd in 2006 to provide long-term finance.

The difference in NIIF's approach not just comes from the newer concepts of monetisation and taping of sovereign funds, but also in the way it is investing in ports, renewable energy companies and airports. Since Abu Dhabi Investment Authority (ADIA) is a partner in NIIF, its first investment was in partnership with Dubai Ports in a $3-billion equity platform, Hindustan Infralog, focused on ports, terminals, transportation and logistics businesses in India.

Similarly, NIIF's Green Growth Equity Fund (GGEF), created in partnership with UK's development finance institution CDC, bought stake in Ayana, a renewable energy platform promoted by CDC.

Apart from instruments like HDFC's Affordable Real Estate Fund and the acquisition of IDFC Infrastructure Finance that gave it a take-off point for debt funding in the infrastructure space, NIIF is also looking at the aviation sector. It made a failed attempt at acquiring the rights to develop and operate four Indian airports out of six, bidding for which closed last month. NIIF had reportedly tied up with Zurich Airport and is looking to invest in overseas airports.

At the same time, there are reports of NIIF's possible participation in the beleaguered Jet Airways. The fact that ADIA is a partner in NIIF is again crucial here since Etihad Airways, a UAE airline, is a 24 per cent equity partner in Jet. ADIA funding through NIIF could bring for Etihad the crucial say in the running of India's second largest airline since, Etihad, a foreign entity, on its own cannot hold a majority stake in Jet.

NIIF's ambition for both the airports and an airline might be a case of thinking big but it is evident that UAE's own interest is setting the course for the fund. Besides, it points towards digression from the initial purpose of bringing in fresh money and helping in the monetisation of assets. This is more so, if it invests in Jet Airways since going by the definition of infrastructure, services like airlines or telecom companies, do not constitute infrastructure. Airports and other such static public assets, like telecommunication towers, are part of infrastructure.

The confidence that ADIA and CDC bring to NIIF might give it an advantage over other domestic institutions. However, it must proceed with caution.

## LETTERS

### US can't ignore India

This refers to "Despite US sanctions, tea firms bullish on Iran exports" (March 9). The currency exchange and trade sanctions by one country alone does not determine the flow of international trade. International trade is on the basis of demand and supply and political stand-offs cannot completely shut down these economic movements. Although Iran faces shortage of US dollars, trade with India in respective currencies at a predetermined rate can partially compensate for exchange conversion losses of the two countries.

The shortage of US dollar reserves with Iran affects its trade with Sri Lanka that continues to maintain the dollar exchange rate. This is despite their competitive quality of tea, a situation India can capitalise on. Iran's export of oil to India is reciprocated by its import of Indian tea, rice and medicines. However, international trade is also governed by a political agenda involving the US and India. The US can only threaten but cannot afford to impose trade and currency sanctions on India as its trade relations with us bolster its economy both at the industrial level and at the services level. It cannot afford to block the oil trade between Iran and India whether directly or indirectly. Indian tea exports to Iran are also routed through Russia and the UAE.

Finally, the US government policy is commercially oriented. This explains the uninterrupted increase in Indian tea exports and our uninterrupted oil imports in foreign trade without US intervention.

**C Gopinath Nair** Kochi

### A lot needs to be done

Apropos your front page report "BS Insurance Round Table: 18% GST on premium is brutal, says Irdai member" (March 8). One must salute the Insurance Regulatory and Development Authority of India (IRDAI) member Nilesh Sathe for his blunt, forthright no holds barred comments on the "brutal 18 per cent GST on insurance premium".

He is spot on when he says that India accounts for a pathetic 1.5 per cent of the world's total insurance premium. For a country that accounts for over 15 per cent of the world population — and aspires to be a super power — this makes us a grossly under-insured nation and consequently, a nation that just doesn't have adequate internal savings to fund its ambitious infrastructure development plans. Insurance funds worldwide support infrastructure building and so should they in India.

There is immense headroom in the sector and the increasing cost of health care demands that more and more people have adequate insurance cover. That health premium has grown at a robust 25 per cent year-on-year over the last five years is proof that the sector offers huge scope for expansion. Increased life expectancy may not be entirely due to health insurance awareness and yet it is a fact that we need much greater insurance penetration in the country.

Clearly a lot needs to be done — besides exempting premium from GST or at least taxing it at a very low rate — in our insurance sector.

**Krishan Kalra** Gurugram

### No place for hate

The government needs to wake up from its slumber. After the unfortunate Pulwama attack where more than 40 CRPF personnel were killed, there were series of attacks on and intimidation of Kashmiri people. More than 50 incidents of physical attacks, threats and intimidation have been reported across the nation, with the latest report saying two Kashmiris were assaulted in Lucknow by right-wing men. Some have even suggested that those who can enforce order were deliberately kept at a distance to ensure such incidents continue to happen and create polarisation. Under this difficult situation, support was lent by Sikh groups in Punjab who ensured safe passage, food and lodging to hundreds of Kashmiri students. This clearly shows where the government fails, people can succeed in reaffirming faith in the fundamental unity of all religions. Leaving aside the Lok Sabha election, the government should now take stringent action against those resorting to hate campaign and violence.

**S K Khosla** Chandigarh

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## HAMBONE

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# Quicker transmission

## SBI does a first, opens new window

The State Bank of India's (SBI's) decision to link its savings deposit rate and pricing of short-term loans to the repo rate is a prudent move because it is expected to enable a quicker transmission of interest rates. For long, successive cuts by the Reserve Bank of India (RBI) of its key policy rate have not been passed on in equal measure to borrowers, and the reason for this is banks have not been in a position to reprice their deposits all at once. So far, banks have been linking interest rates to their own cost of funds.

The country's largest bank has voluntarily linked the interest rate it offers on savings bank deposits of over ₹1 lakh to the repo rate, which now stands at 6.25 per cent. Starting May 1, savings deposits will earn interest at 2.75 percentage points below the repo rate. The share of such deposits as a percentage of SBI's total deposits is significant at 33 per cent; in effect, the bank will now price this corpus of its deposits on a floating-rate basis. On the lending side, cash-credit accounts and overdrafts over ₹1 lakh have also been welded to the repo rate plus a spread of 2.25 per cent. The threshold of ₹1 lakh on both the deposit and lending side is to ensure that smaller savers and borrowers are not penalised — due to cut in the repo rate in the case of former, and a hike in the case of the latter. It is now near-certain that other bigger banks will follow suit as they can improve and reduce the volatility in their interest margins.

What needs to be seen is just how mutual funds and insurance companies react to this measure. In the recent past, banks' retail-term deposits have not grown as fast as before, especially after the huge one-off surge seen in the post-demonetisation phase. A good chunk of those who were earlier retail-term depositors now opt to invest in physical assets — housing and gold; and in offers from both mutual funds and tax-saving insurance schemes. This is a key reason why banks' reliance on borrowings (non-deposits), in general, went up by over 30 per cent in FY18 from just 11 per cent in the preceding year. While current and savings bank deposits (Casa) continue to account for 42 per cent of total deposits, it remains to be seen how larger investors in them now react after a cut in the repo rate. This was the key reason why banks were also reluctant to cut deposit rates — be they on savings or retail-term. Some also say that the move may face some resistance from depositors at a time when the inflation trend is downward, and it would have been better to wait for a cycle where interest rates are going up so that customers get used to the structure.

But successive RBI governors have grappled with the issue of the weak transmission of interest rates by banks. All previous efforts targeted the lending side of the game — be it the base-rate regime or marginal cost-based lending rate. The trouble was that it did not address the fact that only new borrowers stood to gain, and in any case, the issue of stubborn deposit rates was not tackled at all. SBI's voluntary move has opened a new window.

# Open offer pain

## New norms may lead to fewer players in bankruptcy resolution

The Securities and Exchange Board of India (Sebi) has tightened the norms for open offer exemptions in cases of debt restructuring. Only lenders such as banks and financial institutions will receive exemptions from open offers when taking over a company under the Insolvency and Bankruptcy Code (IBC). This is aimed at giving minority shareholders a fair deal in takeovers. But it could also cause some impediment to the process of disposing of bankruptcy cases since it raises costs for asset reconstruction companies (ARCs), or "white knights". Under normal circumstances, the Sebi Takeover Code demands that when an entity acquires 25 per cent of the equity of a listed company, it makes an open offer for a further 26 per cent of equity. This provision allows minority shareholders to exit if they so choose, and, in practice, an open offer usually leads to a rise in the share price, which is beneficial for minority shareholders. An open offer may raise the cost of debt recovery considerably for lenders in bankruptcy cases and, therefore, Sebi has offered an exemption in such cases. In bankruptcy situations, it is a common strategy for lenders to convert some portion of the debt into equity. If the equity holding exceeds the 25 per cent threshold, it could trigger the open offer mechanism without the exemption.

The earlier norms allowed for wide-ranging exemptions from the obligations of making open offers in bankruptcy cases. The new norms will allow lenders to convert unpaid debts into equity in the hope of recovering their dues if the company turns around. But this exemption will no longer apply to non-lenders and it will apply only in IBC cases that have come to court and not in cases of corporate debt restructuring, where lenders have worked out a deal. It is also common for existing shareholders other than the promoter to act as white knights by investing in a stressed business in return for higher equity stakes. In a case like the proposed Jet Airways bailout, lenders such as the State Bank of India-led consortium may receive exemptions if Jet Airways comes to the IBC. But white knights like Etihad will not receive exemptions. This could scuttle the bailout.

An enforced open offer could raise the cost of debt reconstructing considerably in many cases. It could, therefore, make the entire business of asset reconstruction unviable. ARCs can play major roles in resolving bankruptcies. ARCs may buy debt from the lenders at a deep discount and look to convert that into equity. Or, they may seek to buy equity directly. Any ARC must now reckon on the cost of a potential open offer and this could mean the exit of many ARC players.

As such, while the tightening of the open offer code may, in theory, be beneficial to minority shareholders, it could, in practice, mean fewer players in the bankruptcy resolution space. That would imply fewer resolutions and slower movements for IBC cases. It also casts a cloud over the concept of debt restructuring outside the ambit of the IBC since those bailouts would trigger the open offer provisions.

ILLUSTRATION BY AJAY MOHANTY

# The new world of 4% inflation

## Business building will be put on better foundations when we fully adapt the assumptions underlying financial analysis to the new low-inflation environment

**SNAKES & LADDERS**

AJAY SHAH

From 2015 onwards, the RBI has committed to delivering year-on-year CPI inflation of 4 per cent. Most of the discussion on inflation targeting has emphasised how low and predictable inflation stabilises the macroeconomy. Expectations of stable 4 per cent inflation change many things about how we plan for the future. In this article, we show implications for wage hikes, borrowing, public finance, rupee depreciation, corporate investment and fund management.

**The new world of low inflation:** A long inflation crisis began in February 2006. The policy community was persuaded that institutional reform of monetary policy was required, which led up to the Monetary Policy Framework Agreement (MPFA), signed on February 20, 2015. The RBI has been transforming itself to deliver on the transparent single-objective of 4 per cent inflation. So far, the points of pain have been inflation that is too low, not too high.

It now looks likely that the RBI will succeed in delivering inflation in the region of 4 per cent all the way to February 20, 2020, thus giving a full five years' performance in macroeconomic stability. Before the MPFA, the thumb rule for inflation in the future was 8 per cent, and now we have increasing confidence in stable 4 per cent inflation. This has important consequences for numerous areas of decision making in the private sector and in public policy.

**Impact on wage hikes:** Our thumb rules about wage hikes change. Earlier, wage hikes were anchored around the number of 10 per cent. The floor for wage hikes was 10 per cent, which was 2 per cent real, and some employees got more than 10 per cent. Now we need to anchor ourselves around 5 per cent wage hikes. Keeping up with inflation is a 5 per cent wage hike, and some employees will go above 5 per cent.

When inflation rates come down, for some time, the economy keeps going with old assumptions about inflation. Perhaps hiring by firms has been slower than usual in recent years because wages have been too high compared with the growth of the top line (that has declined because of lower inflation). Perhaps we will get back to a more normal environment on the labour market once firms recalibrate down to lower wage hikes.

**Impact on borrowing:** Lower inflation changes how we think about debt. High nominal growth has a way of making old loans subside. In India, we had got used to the assumption of 15 per cent growth in the balance sheet every year. This gave a doubling every 4.6 years. So a loan which feels like a stretch today is half as worrisome within 4.6 years; both sides have to only fight it out for the first 4.6 years.

This was particularly important for banks and banking regulation. Banks were used to racking up bad debt and then growing out of it. Banks would lend 100, of which 20 went bad. Accounting and regulatory tools were used to postpone the bad news, so the bad debt was only confronted after 4.6 years. At this point there was a recovery of five and a loss of 15, but the loss of 15 was expressed on total assets of 200, and that was survivable.

The old environment of sharp growth of the balance sheet has changed. When balance sheet growth drops to 11 per cent a year, in the low-inflation environment, this is a doubling every 6.3 years. Alongside this, the willingness to play the old game of hiding bad news has reduced at all levels: The Department of Financial Services, RBI, bond markets and corporate boards. These two factors have induced a valuable sea change in the behaviour of the debt market. The lending process needs to become much more analytical, away from the old ways of doling out debt without studying the borrower.

**Impact on public finance:** The key number that drives the budget process is the assumption about future nominal GDP growth. Traditionally, big numbers went in — 6 per cent growth and 8 per cent inflation was 14 per cent nominal GDP growth. But now we should be more cautious: 6 per cent growth and 4 per cent inflation give 10 per cent nominal GDP growth.

**Impact on INR depreciation:** When Indian inflation was at 8 per cent and the world was at 2 per cent, this created a systematic pressure of about 4 per cent rupee depreciation every year. With an inflation target of 4 per cent, that systematic pressure is largely out of the way.

There will, of course, be substantial exchange rate volatility. When emerging markets float the exchange rate, they get to about 12 per cent volatility. When India fully graduates to a modern monetary policy capability, we will get much higher INR volatility. But there will be no systematic pattern of INR depreciation.

**Impact on rates of return:** Assumptions about rates of return in India tend to be very high. We tend to look back at the BSE Sensex performance from 1979 to 1990, and the Nifty returns from 1990 onwards, and form a very optimistic sense of the rates of return on public equity. These assumptions need to change because inflation has come down by 4 percentage points, and because the equity index got a one-time surge when India opened up.

If you used to believe that the long-run average Nifty returns will be 16 per cent, you need to rescale this downwards to 12 per cent owing to lower inflation. The rough numbers may be as follows (https://bit.ly/2HmSCvX). With an inflation target of 4 per cent, the short-term riskless rate may be 6 per cent, on average. The equity premium may be 5-6 percentage points, giving equity index returns of 11-12 per cent.

This impacts upon corporate finance, structuring of private equity funds, etc. The process of business building will be put on better foundations when we fully adapt the assumptions underlying financial analysis to the new low-inflation environment.

When inflation rates come down, for some time, the economy keeps going with old assumptions about inflation. Perhaps investment by firms has been slower than usual in recent years because it has been hard to find projects that are viable at excessively high hurdle rates. Perhaps we will get back to a more normal environment in investment when we recalibrate to lower required rates of return.

*The writer is a professor at National Institute of Public Finance and Policy, New Delhi*

# Food = Nutrition, nature and livelihoods

**DOWN TO EARTH**

SUNITA NARAIN

Poorer countries have health problems because of lack of food. Then as people get rich, they end up losing the health advantage of food availability. They eat processed food that is high in salt, sugar and fat, which makes them obese and ill. It is only when societies get very rich that they rediscover the benefits of eating real food and value sustainability.

In India, ironically, it is happening all at once. We have huge challenges of malnourishment and now a growing battle with the bulge and its associated diseases of diabetes and hypertension. But we also have an advantage — we have still not lost our culture of real food. The nutrition, nature and livelihood connection still exists, as many millions of Indians still eat frugal, but still nutritious, home-cooked meals with local ingredient. But this is because people are poor. The question and challenge are if we can continue to eat healthy meals that are sourced from bio-diverse nature and built on rich culinary cultures even as we get rich. This is the real test.

But to do this, we must get food practices right. We must understand that it is not necessary or accidental that the richer societies tend to lose the health advantage because of bad food. It is because of the food industry and it is because governments have stopped regulating in favour of nutrition and nature. Quite simply, they have allowed powerful industry to take over the most essential of our life business — of eating.

We need also to understand that eating bad is about changing practices of agriculture, so that business becomes integrated and industrial. This model is built on the model of supplying cheap food, with high resource and chemical inputs. So, names change; but food goes from one chemical ingredient — pesticide, antibiotics — to another.

The fact is that we need a model of agricultural growth that will value local good food production and not have to first "chemicalise" and then learn better. This is difficult. But this is what needs to be done so that we can have both nutrition as well as livelihood security. As yet, the food safety business is designed to focus on hygiene and standards. But regulations need food inspectors and so the cost of surveillance increases. Ironically, in this model, what goes out of business is what is best for our bodies and our health — small farmers and local food business. What survives is what we do not need — large agribusiness.

But simultaneously, we need to protect against bad food. Governments cannot say that eating processed food is about choice. Governments cannot stand by and watch as industry uses millions of dollars to cajole, persuade and seduce consumers to eat what they know is junk and unhealthy.

The Food Safety and Standards Authority of India (FSSAI) is sitting on two crucial regulations — that it published over a year ago — to regulate labelling "junk" food and to guide schools on the food menu that is both nutritional and hygienic.

This is clearly because of pressure from the powerful and organised processed food industry, which does not want front-of-the-pack labelling that will tell consumers how much sugar, salt or fat their product contains in relation to what we should be consuming every day. The objective of this draft notification was to ensure that as we consumers were told that gulping down a bottle of our favourite soft drink, for instance, would mean consuming two days' quota of sugar. Or that next time we serve children their instant noodles, it would mean that the rest of the day has to be minimal in salt — in fact it has to be boiled vegetables. The draft notification on labelling, for the first time, required information on the amount of salt, sugar and fat in relation to what the recommended dietary allowance is. It would provide us the knowledge to make informed choices as consumers. But this is too inconvenient for industry, which thrives on making food that is junk and without nutrition.

This is not all. In India, we also need to celebrate our rich food cuisine, which is built on the incredible colour, flavour, spice and diversity of nature. We need to know that if biodiversity disappears in the wild, we will lose the food wealth on our plates. Food will become impersonal. It will become a sterile package designed for universal size and taste. This is what is happening today, where we eat plastic food from plastic cans.

We need to make the connection between what we eat and why we eat it. Because if lose the knowledge and culture of our local cuisines then we lose more than their taste and smell. We lose life. We lose our tomorrow.

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# Climate change and human history

**BOOK REVIEW**

PETER N MILLER

From around 1570 to 1710, temperatures in the earth's Northern Hemisphere plunged by an average of about 2 degrees Celsius — roughly the same amount by which the planet's temperature is supposed to rise under the more catastrophic predictions of our warming futures. Two degrees colder meant a growing season shortened by three weeks. The apocalyptic changes that are coming — bigger storms, higher seas, longer heat waves, more insect-born disease — remain, for now, a task for the imagination. But the impact of those long-ago icy winters, frigid summers and torrential autumns requires no imagination: It's all recorded in contemporary sources.

In "*Nature's Mutiny*," Philipp Blom, a German historian, treats this one well-documented period of climate change, the so-called Little Ice Age, as an experiment in what can happen to a society when its baseline conditions, all ultimately dependent upon the weather, are shaken. The premise of treating historical sources as a way of answering current questions is so good that Blom should have stuck to it. He is tempted, however, into making everything new in the 17th century a result of climate change, and this can only be true by so diluting the notion of causation as to render his claim meaningless — or just plain vulnerable.

The initial crisis was food insecurity, much as it will be for us. Hunger hit the countrysides of Europe first. If peasants starved and then abandoned the country for the cities, the aristocrats, who lived off peasant production for both food and wealth, went down with them. People living on the land at least had direct access to whatever food there was; those in cities were dependent on rural surplus reaching them, and when it didn't, they rioted. They were also pushed into even more extreme measures: During the siege of Paris in 1595 the starving defenders of the city discussed breaking into a cemetery, removing the bones, grinding them into a fine flour and then using it to bake bread.

Resource scarcity stoked violence big and small. This was a century at war with itself: urban revolt, civil war and international conflict, and sometimes all at the same time. The losers were the ordinary people who died in vast numbers or were forced into exile as loathed refugees, also in vast numbers. The big winner was religion: Those who trafficked in biblical warnings about the end of the world got more attention. The most radical, who saw God's flail in worsening weather, sometimes took matters into their own hands and abandoned Europe altogether to build on some distant shore their shining city on a hill. Few centuries in recent times were as dominated by religious upheaval as the long one that stretched from Luther to Louis XIV. Die-hard secularists take note.

**In "*Nature's Mutiny*," Philipp Blom treats this one well-documented period of climate change, the so-called Little Ice Age, as an experiment in what can happen to a society when its baseline conditions**

If there is a bright part of the story it's that crisis forced innovation — or at least removed a bias in favour of doing things the way they always had been done. What we call "research" often came to the rescue: "The most basic proposals for tackling the climate crisis came from gentlemen scholars we would today call botanists and agricultural experts." Why this occurred in Europe but not, say, in China is an important question that Blom, unfortunately, declines to entertain.

The book is marred by errors of fact. (Montesquieu wrote in the 18th century, not the 17th; the Jewish Pale of Settlement was created in the late 18th century, not the 17th.) It too often reads like a series of potted histories. But the main thrust is well worth pondering: Climate impacts human history. T S Eliot warned in "*Four Quartets*" that though nature seemed like a "solved" problem, "in the sombre season or the sudden fury" it was a "reminder of what men choose to forget." Being lulled into forgetting nature is, at least, no longer our problem.

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**NATURE'S MUTINY**
How the Little Ice Age of the Long Seventeenth Century Transformed the West and Shaped the Present
Philipp Blom
Liveright Publishing
332 pages; $27.95