

BusinessLine

THURSDAY, JUNE 1, 2017

Early days

While the March quarter corporate scorecard looks good, there's a question mark over sustainability of this trend

With a tidal wave of liquidity propelling the stock markets to new highs, investors have been hoping, for the last three years, for a rebound in the profit performance of India Inc to moderate expensive stock valuations. Such expectations have been repeatedly foiled. But the last two quarters have brought signs of green shoots. The 2000-odd listed companies that have so far declared their numbers for January-March 2017 have reported a 10.3 per cent year-on-year growth in net sales, a 12 per cent increase in operating profits and a 34 per cent jump in net profits. Sales and profit growth for these companies have also accelerated from 8 per cent and 27 per cent respectively in the preceding quarter. While this scorecard appears healthy enough, there are quite a few wild card factors at play that make the sustainability of these growth rates hard to call.

For starters, the bumper profit growth has been powered mainly by banks and metal and mining giants. The profit jump for public sector banks is attributable to the RBI's asset quality review in the corresponding quarter of 2016 which made for a low-base effect; this cannot last for long. And while PSBs have reported profit increases, private lenders have taken large profit hits. Excluding financial firms, the net profit growth for the universe moderates to 17 per cent, identical to the previous quarter. Metals-makers such as Hindalco, Tata Steel, MOIL and Vedanta have reported a manifold jump in profitability powered by upbeat global metal prices and protectionist measures for steel. But with the metals rally weakening on the unwinding of the so-called Trump trade, the high realisations may or may not be sustained. On the consumer front, FMCG, two-wheeler and automobile makers have charted a quick recovery from the demonetisation hit. But with pricing power at a low ebb, rising raw material costs have proved to be their undoing. For the entire universe, raw material costs to sales, at 48.6 per cent, showed a 4 percentage point escalation from last year. Finally, while cyclical sectors such as capital goods are reporting improved order books, the so-called defensives are disappointing roundly. IT majors have slipped up on headwinds in the US, pharma companies have taken profit hits from global pricing pressures and telcos have witnessed a bloodbath on intensifying competition.

Overall, while the big picture appears good, the details may not provide sufficient grist for analysts to call a turn in the earnings cycle. Trends in commodity prices and continuing government-driven capex, apart from the global outlook, will hold the key to a sustained turnaround. Meanwhile, investors also have to budget for the short-term disruptive impact of the new Goods and Services Tax on India Inc. With an expected shift in business from unorganised to organised players, GST will likely prove positive for listed players over the long term. But in the short term, they still have to cope with a re-ordering of their supply chains, and the anti-profiteering clause that effectively caps any margin gains from GST.

# Let's be wary of China's New Silk Road

Now's the time for India to join hands with Japan, the US and the EU to promote alternatives to Chinese economic exploitation



G PARTHASARATHY

China has got accustomed to violating India's territorial integrity in Jammu & Kashmir and Arunachal Pradesh. It transgresses international norms by supplying Pakistan with know how and designs of nuclear weapons and missiles. Its provocative behaviour includes protests over visits by Indian dignitaries to Arunachal.

China, meanwhile welcomes political figures from POK and Gilgit-Baltistan on official visits. Beijing also seeks to undermine India's relations with South Asian neighbours such as Sri Lanka, Nepal, the Maldives and Bangladesh, backing politicians and political parties known to be less than friendly to India.

Finally, a studied reaction New Delhi is, however, now reacting in a more measured manner to China's policy of "strategic containment". Ignoring warnings from China, India reinforced its claims to Arunachal Pradesh by encouraging a high profile visit to the State by the Dalai Lama, who acknowledges it as an integral part of India. The Dalai Lama pointedly visited Tawang, which has special spiritual significance for Tibetans.

But the proverbial last straw on the Indian camel's back is the China-Pakistan Economic Corridor (CPEC) involving an investment of around \$51 billion. The CPEC challenges Indian sovereignty by traversing Gilgit-Baltistan as part of Beijing's larger Eurasian 'One Belt One Road' (OBOR) project. India

cannot ignore the security threat that this project poses, as an integral part of a China-Pakistan axis to contain India, across the Indian Ocean region. Accompanying this project has been the laying of a fibre-optic cable connecting China's People's Liberation Army in Kashgar, Xinjiang province, and the Pakistan army's GHQ in Rawalpindi. The CPEC enhances communications between the armies of China and Pakistan. It provides Beijing the road link to the port of Gwadar, which has been handed over to it by Pakistan. China has also agreed to provide Pakistan with a large number of frigates and submarines.

Smart routing

Gwadar is significantly located alongside the maritime routes for oil supplies to India from the Persian Gulf. China's Maritime Silk Route, which complements the OBOR, traverses India's shores in the Indian Ocean, from the Straits of Malacca to the Gulf of Aden. China is evidently seeking to surround India with a "string of pearls", comprising base facilities in Kyaukpadaung in Myanmar, Hambantota in Sri Lanka, Gwadar in Pakistan, Mombasa in Kenya and Djibouti in the Gulf of Aden.

The Chinese *modus operandi* is clear from what transpired in Sri Lanka. China undertook financially unviable projects in President Rajapakse's constituency and pushed Sri Lanka into a debt trap. Sri Lanka was compelled to hand over both the port and the neighbouring industrial area to China in a debt/equity swap. Despite this having triggered protest riots in Sri Lanka, China sought to berth a submarine in Colombo when Narendra Modi was visiting the island.

After carefully graduating its response to the CPEC, India finally made a statement, objecting to not just the fact that the CPEC violates



In search of new markets And roads to connect them BLOOMBERG

our territorial integrity, but that it appears to be a project, whose exploitative terms would render the recipients bankrupt. The external affairs ministry's spokesperson suggested, prior to the OBOR summit in Beijing, that the project was not based on "universally recognised international norms", adding that it appeared to violate international norms of "openness, transparency and equality". The statement also suggested that the project does not meet the principles of financial responsibility, which require avoidance of creating unsustainable debt in recipient countries. India noted that connectivity projects should involve transfer of skills and technology and respect "sovereignty and territorial integrity".

Like its decision on taking the Kulbushan Jadhav case to the International Court of Justice, the Government's decision not to attend the OBOR summit in Beijing, was predictably criticised by the same critics. Ominous warnings were voiced that India would now find itself "isolated" by taking on an all-powerful China.

What transpired was somewhat

different. Only 20 countries, mostly from South and South-East Asia and Africa, attended the summit. Given his dependence on China, President Vladimir Putin was the only major world leader present. This, despite the fact that Russian academics and others had expressed serious reservations on OBOR cutting through the Eurasian belt, major portions of which have historically been regarded by the Russians, as their backyard.

Chinese pettiness and petulance were evident when they expressed their displeasure by not inviting the respected prime minister of Singapore, Lee Hsien Loong, who had the courage to say that territorial disputes in the South China Sea should be settled according to international law. The navies of India and Singapore held joint exercises in the South China Sea shortly thereafter. Moreover, within the OBOR conference, the Europeans and some others were quite vociferous.

The EU has strongly criticised China's international trade and economic assistance policies. Senior EU leaders have made it clear that they believe that the OBOR project lacks

a formal structure and that China has shown a lack of transparency. The EU is sceptical about China's motives and its terms of trade and economic cooperation. EU functionaries feel Chinese policies are mercantilist.

Financial risks

The UN Economic and Social Commission for Asia and Pacific has meanwhile warned of high financial risks in several OBOR projects. There are now apprehensions that Pakistan will be forced to go the Sri Lanka way. More importantly, there is growing realisation internationally that China is not a 21st-century Santa Claus and that the OBOR project is predominantly an effort by China to rebalance its economy and provide jobs for its vast labour and construction industry.

It is now time for India to work with Japan, the US and the EU to actively promote alternatives to Chinese economic exploitation in Asia and Africa. Moreover, Russia needs to be co-opted bilaterally and through funding by institutions such as the Brics Bank and the Asian Infrastructure Development Bank, to construct transport corridors through Iran to Afghanistan, the Caspian and Central Asia. The US has meanwhile renewed its proposal for a 'New Silk Route' across Asia, which India had welcomed. Finally, India and Japan should jointly build a transportation and industrial corridor to the shores of East Africa, where Modi's visits have set the stage for expanding economic, industrial and energy cooperation, across the Indian Ocean.

China will have to learn that true economic development comes from transparent multilateral cooperation and not bilateral economic exploitation.

The writer is a former High Commissioner to Pakistan

# We are bombarded by political shibboleths

Catchwords such as communalism, federalism and socialism are bandied about, and core issues are distorted or forgotten



EA RAMASWAMY

Shibboleths are the stuff of our public discourse. You can't turn on the TV, read a newspaper or browse the net without being assaulted by them. And we have them in plenty — secularism, communalism, socialism, federalism, human rights. They are powerful weapons that serve a wonderful purpose, a fig leaf used to good effect by politicians, ideologues and celebrities who have much to hide, or have nothing left to defend themselves with.

Politicians nailed by the courts for corruption swear that they will not rest until communalism is rooted out and the flag of secularism is hoisted from the ramparts of Red Fort.

You might wonder how and why secularism is linked with ill-gotten wealth invested in farm houses and shell companies, but only if you are politically illiterate. They are trying to convince us that they have been

punished not for any misdeed but for upholding secular values. But, their secularism has no place for women thrown to the wolves by that dreaded word called talaq. Indeed, being an elastic shibboleth, secularism comes to their rescue. It is secular to leave customs such as talaq to the care of the community, and communal to support a common civil code.

Human rights is another wonderful omnibus. Terrorists, stone-pelters and Maoists have human rights but not Kashmiri Pandits, or for that matter patients battling for life in an ambulance blocked by a minister's cavalcade.

Beached whales

Champions of the public sector want moth-eaten dinosaurs that have wiped out their capital to be preserved for posterity. Nehru's vision of socialism that glorified public enterprises as the temples of modern India offers them an invocation so powerful that even disbelievers must treat it with circumspection.

Most of these enterprises now look more like beached whales than temples to any deity, but for plenty of politicians and trade unionists



Trade unionism Barking up the wrong tree AM FARUQUI

socialism offers an impenetrable cloak behind which to hide a whole range of hard-to-defend sectional interests.

The latest addition to this genre is federalism, a catchphrase that has gained new life after the present government assumed office. The great virtue of federalism is that it can be used as a powerful justification for doing nothing. The government at Delhi might want reform, but what of the States? Can they be ignored in a federal struc-

ture? The defenders of federalism invoke the Constitution, which is enough to silence all criticism. But, as with all shibboleths, what operates here is selective morality.

The States have the right to stall a well-meaning law like the Real Estate Regulation Act (RERA) that offers a measure of protection to the long-suffering home-buyer, but they are under no obligation to use grants from the Centre to do something about their doctorless hospitals and teacherless schools. Federalism seems to be about rights and not responsibilities.

The paradox of reform

Paradoxically, the latest salvo in support of federalism comes from BMS, the labour wing of the BJP. The union is unhappy that NITI Aayog is pushing through reform without consulting the States. Privatisation of the public sector is on top of the think tank's agenda. For trade unions this is an existential issue. Without the public sector their support base would simply vanish.

The second sticking point is the suggestion that workers should be offered a fixed tenure rather than permanent employment which, in its present form, has become a ma-

job block to employment generation in the formal sector.

We can understand the union's displeasure. What we cannot understand is its silence on some truly outstanding provisions of the reform package. Why are they not welcoming with the extension of social security to the informal sector? Why are unions not more nuanced in their assessment of labour reform? The provision of social security to 95 per cent of the workforce is surely worthy of some praise from those who speak for labour!

That indeed is the problem with the present discourse. We are being fed with shibboleths, defined by Webster's as "a word or saying used by adherents of a party, sect, or belief and usually regarded by others as empty of real meaning".

This perversion of ideas and concepts has been accomplished by parties and ideologues to suit their partisan purpose. They are throwing words at us hoping to convince us that what they are offering is an idea. If we don't sit up to this it is our fault.

The writer is a labour relations and HR consultant

OTHER VOICES

The New York Times

Donald Trump's insult to history

Chancellor Angela Merkel said, "We Europeans must really take our fate into our own hands." With that it became clear that the US is no longer the reliable partner Europe has long depended on. Since World War II, the US led the way in building a new international order rooted in NATO and the EU as well as a belief in democracy and free markets. This trans-Atlantic partnership is still vital. But how it will function as US leadership recedes is unclear. NEW YORK 30 MAY 2017



Banned groups on Facebook

Out of 64 organisations banned by the government, 41 have a presence on the platform, disseminating their ideologies through more than 700 pages and groups, aside from individual user profiles. Given the religious violence that has eviscerated Pakistani society, (this) is astounding. Witness how official authorities are hounding individuals for expressing views critical of the establishment, and demonised those professing 'secular' opinions. KARACHI 31 MAY 2017



Macron and Putin: pressing, not pushing away

When Peter the Great travelled to France, Louis XV was only seven. On meeting him, the tsar grasped the child king in his arms and lifted him up from the floor to kiss him heartily. But there was no such enthusiasm at this meeting. Macron treated diplomacy as a hard bargain — but at the same time offered Mr Putin a different path. Overall, he set a welcome tone for European dealings with Russia. LONDON 30 MAY 2017

LETTERS TO THE EDITOR

Send your letters by email to [bleditor@thehindu.co.in](mailto:bleditor@thehindu.co.in) or by post to 'Letters to the Editor', The Hindu Business Line, Kasturi Buildings, 859-860, Anna Salai, Chennai 600002.

Choking taxes

After giving up the battle to tax low-end commodities the Government has brought draconian tax rates on luxuries. Painting everyone with one brush is absolute high-handedness. It is important to maintain the balance in taxing goods and services and allow people to invest to create infrastructure that will improve supply and making every commodity cost effective. Anywhere in the world coercive taxation is responsible for loss of jobs, low investment and is sometimes inflationary.

RK Arya Faridabad, Haryana

Violating history

The State government's move to close three-fourths of a 350-year-old temple tank to favour a land developer in Bengaluru reeks of favouritism, nepotism and corruption. The government officials have also scandalously altered the

survey plan, shrinking its extent. The tank was built in the 17th century by Shivaji's father Shahaji Raje Bhonsle, and any attempt to encroach it will mean that a piece of history will be obliterated. The road building exercise is also against the Supreme Court order which bars roads or buildings from coming up on water bodies.

NJ Ravi Chander Bengaluru

Don't misuse ODIs

This refers to your editorial, 'Another half-measure' (May 31). The applicability of Indian KYC/AML and client due diligence norms should be made mandatory to both investors and beneficial owners, and it should be a continuous process. Especially since registration for investing in ODIs is not made mandatory for overseas investors which leads to concealing their identities. An ongoing risk assessment process will help track

changes in the ownership pattern of partnership firms, etc who invest in such instruments. Changes if any should be part of suspicious activity report shared with SEBI on periodical basis. It should also be ensured that ODIs are issued against derivatives only for hedging and are not misused for speculative activities.

Srinivasan Velamur Chennai

Unfair charges

This refers to 'Customers could migrate their account if banks misuse autonomy' (May 31). In the case of SBI, the customer will think twice before migrating elsewhere, despite being dissatisfied with the services because this is the only bank that levies a hefty charge of ₹500 plus service tax for individuals for closure of an account. No other public sector or private sector bank levies such a charge for closing the account after a min-

imum period of one year.

S Ravindranath Coimbatore

Everyone's responsible

The charges framed by the special CBI court in the Babri mosque demolition case are not new. Thanks to the Supreme Court's intervention this case has been revived. It is no secret that the mosque was brought down as a result of frenzied activity for years by the right wing.

It is fallacious to say that only a certain group of people or a particular government was responsible for this. The blame has to be shared by all the governments that have ruled the country since Independence. However, the opposition parties should try to avoid the temptation to score brownie points as this would only benefit the ruling party.

K Ashok Kumar Kolkata

Tata Global clarifies

With regard to 'Tata Global recovers from losses; posts ₹84-cr profit in Q4' (May 31), the previous year's comparative numbers, as reported currently under Ind(AS), are reporting losses only due to a change in the Accounting Standard. In the consolidated financial results as well as in the standalone financial results, the profit and loss account for the quarter and for the full year are reported under Ind(AS). The net profits for the previous year as well as for the corresponding quarter of the previous year, as reported under previous GAAP, had profit on sale of non-core equity investments of ₹328 crore. For the purposes of Ind(AS), these profits have been de-recognised from the previous year's profit and loss account and have been accounted within Retained Earnings in the balance sheet.

Satya Muniasamy Corporate Communication



# A job at hand

Changing education to suit employment needs

BALAKRISHNA PISUPATI

Don't raise your eyebrows yet! This scenario will be with us by 2020. How many drone traffic managers do we have? Can we have more corporate disruptors? Are our microbial balancers on the job to solve major health problems? Can we have more urban shepherds, please? Unimaginable jobs and job descriptions that will be with us within the next few years.

**New approaches**  
"How do we create more jobs by 2030 not knowing which ones and sectors needing them?" was a question posed to a group of us by the Prime Minister of Malaysia in April 2017 during his State visit to India. He was presiding over the Global Science Innovation Advisory Council.

With two Nobel Laureates and CEOs of major companies as a part of the Council, we scrambled to answer him with two challenges — how to foresee employment generation and ready teachers and mentors who can train youngsters to take up these jobs.

India will fail to secure any of the above jobs given our current trends of teaching, innovations and job creation. The reason, simply put, is we will take another decade to get ready if we act now!

The information technology service sector churned out great opportunities to young India, irrespective of their academic backgrounds. Bankers, management specialists, science graduates, all thronged the portals of the companies ensuring their bank balances are secure and throwing away the very premise of learning for life to degrees for jobs. Skill development and self-learning are great ideas on paper where we are rolling out thousands of 'skilled' people who can earn just above the Indian average poverty line!

We need four fundamental changes in the way we prepare our youngsters to face the future.

First, our streams of education should change. We can no longer train lawyers who do not understand science and logic, we cannot award degrees to architects who cannot imagine Nature as a laboratory for design, we cannot train scientists who cannot communicate, we cannot afford to license doctors who do not see the relevance of integrative health care. We need inter-disciplinary approaches in education. But, our current regulatory systems do not provide this space though a large number of private universities are attempting to play the game.

Second, a lot is said about experiential learning. But we have not ensured that our teachers and research guides un-learn and re-learn how to impart such experiences. Mostly, these approaches stop at the level of advertisements. We need a system-wide change in the way we train our teachers.

Third, self-learning and peer-learning has to be promoted. Examination based education will compromise our abilities to design jobs for the future. This needs support from parents, teachers (read mentors), prospective employers and policymakers.

Finally, we need education and training that responds to societal needs and challenges. If artificial intelligence is to rule the science and technology world in the next few decades, we cannot be training students in age-old subjects.

If we need to prepare our younger generation for the future, the change should begin with us — educators — who need to think ahead of our times. I am sure Malaysia will be prepared for the challenge, but are we?

The writer is Vice Chancellor of TransDisciplinary University, Bengaluru. Views are personal



# AMRUT can transform urban reforms

With its five-pronged assessment, the Atal Mission for Urban Transformation adopts an impact-oriented approach

RAVI PODDAR

India's tryst with comprehensive urban reforms started with the 74th Constitutional Amendment Act in 1992 to empower cities. Thirteen years later, in December 2005, the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) was launched, scripting a comprehensive agenda for seven years through 23 reforms (13 mandatory and 10 optional), to be implemented by States and urban local bodies (ULBs).

But an evaluation of JNNURM in 2013 found States and ULBs unable to stick to reforms, delays in release of additional central assistance and manifold hindrances to project completion. Then in June 2015, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) programme was launched by the Ministry of Urban Development (MoUD), which included 11 reforms dotted with 54 milestones, to be implemented by all 500 mission cities in four years.

## Five major reforms

Recently, MoUD modified the AMRUT reform matrix, creating a template that enables States and cities to go beyond incrementalism and implement transformational changes over three years. The template spells out five major reforms, such as 'Trust and verify', which will have 40 per cent weightage, 'Professionalisation of municipal cadre' (25 per cent), 'Land titling law' (15 per cent), and 'Credit rating' and 'Value capture finance' (10 per cent each).

The takeaway from JNNURM and the initial phase of AMRUT was that comprehensive and overarching reforms are difficult to pull off in one big sweep. So AMRUT alters the approach in two ways: First, the number of reforms aimed at has been reduced and separated from project assistance. Second, shifted focus from penalisation to incentivisation.

AMRUT now sets aside 10 per cent of funds for incentives to be given based on self-assessment by ULBs and corroborated by State-level high-powered steering committees based on the report of independent monitoring agencies.

While AMRUT cascades the autonomy to design, monitor and approve projects to states and civic bodies, it also persuades local stakeholders to put more skin in the game by participating in execution.

And the corpus of the Reforms Incentive Fund, accessible to those adhering to mandates and milestones, has been increased five-fold to ₹3,300 per annum for the next three years.

## Focus on impact

The Centre is also increasingly looking at impact-oriented urban programmes where States and ULBs take more responsibility for implementation and sustaining urban infrastructure. So traditional grant-based programmes are being embedded with impact and outcome milestones.

Under AMRUT, professionalisation of municipal cadre, land titling law and policy for value capture finance are State prerogatives and have far-reaching impact on the local landscape. And all this comes at a time when expectations of citizens on livability standards across cities are growing fast.

History shows that reforms succeed when stakeholders take the ownership. That's why the *Economic Survey* last fiscal reiterated 'cooperative and competitive federalism' as India's unavoidable future. It argues for cities to be entrusted with responsibilities, empowered with resources, and encumbered by accountability to transform into vehicles of competitive federalism. In that context, AMRUT rightly puts states and ULBs in the driver's seat.

JNNURM was considered to have big city bias. AMRUT has cast the net wider, reaching all urban



City and beyond Urban reforms need a new focus MUKESH TRIVEDI

centres with a population of one lakh and more. Under the programme, the number of reforms expected from States and ULBs has decreased, but the number of cities expected to adhere to reforms have increased.

While higher fund allocation to transform urban agenda is certainly a key part of the urban revival mission, there is a growing acknowledgement that cities that sustain themselves through enhanced revenues, less capital transfers, and efficient internal systems become the beacons of the new urban agenda.

And above all, financing remains a multi-trillion-rupee question. A high-powered expert committee of the MoUD had in 2011 estimated total capital investments in urban infrastructure at about ₹39 lakh crore over 20 years. The Smart City Mission and AMRUT have outlays of ₹48,000 crore and ₹50,000 crore, respectively. That means humongous investments have to be mobilised.

Earlier, several committees have elaborated upon various tax

and non-tax revenue improvement measures for municipalities. Looking at the track record of urban reforms and estimates to fill service gaps, one of the recommendation relates to ULBs resorting to market borrowings (pooled finance, municipal bonds and institutional finance) and project execution mechanisms such as public-private partnerships and financing instruments.

## The way ahead

The ability to access alternative finance requires procedural reforms, changes in taxation and user charges, and appropriating a part of appreciation in the value of land. Two out of the five reforms under AMRUT relate to credit rating and value capture financing. Credit ratings have already begun for all AMRUT cities. Cities with investment grade rating will be encouraged to float municipal bonds and those below the rating will continue working on improving their ratings.

The *Economic Survey* this year made a strong case for empowering ULBs financially. Data show municipalities that generate more resources deliver more basic services. It makes a strong case for empowering cities to levy all feasible taxes, make the most of their existing tax base, and look at alternative options such as issuance of municipal bonds.

Under the new AMRUT reforms, in the initial year, States are also expected to formulate value capture financing policy, tools and rules for all cities with a million plus population. In the subsequent years, they will have to operationalise and implement it.

The list of reforms needed to overhaul cities is exhaustive and the determination of ULBs to walk the talk varies significantly. But by prioritising five core areas, AMRUT sharpens focus in the right areas. The Reform Incentive Fund also stokes competitive federalism.

The writer is a director and practice leader-urban at CRISIL infrastructure advisory

## 5 THINGS to WATCH OUT for TODAY

**Farmers** in Maharashtra are to go on their first strike ever, and will not sell their produce in markets unless farm loans are waived off and a Minimum Support Price is guaranteed. Despite desperate attempts by CM Devendra Fadnis, farmers' body Shetkari Sanghatana has urged all farmers to participate in the strike.

**Fiat India** Automobiles will roll out its first 'Made-in-India' Jeep Compass production vehicle from Ranjangaon, Pune. India will be one of the four global manufacturing hubs for the Compass and will join Brazil, China and Mexico in this endeavour.

**Starting** today six more airports in India will do away with the practice of tagging and stamping domestic passengers' hand baggage. The new airports are: Jaipur, Guwahati, Lucknow, Thiruvananthapuram, Patna and Chennai. This system is already in place at seven airports: Delhi, Mumbai, Kochi, Bengaluru, Hyderabad, Kolkata and Ahmedabad.

**Motorola** will announce its next phone today, in Canada. The handset is likely to be a successor to the Moto Z Play. The Moto Z and the Moto Z Play that were launched in India in October 2016 support modular attachments that can add a slew of features.

**China's** new cybersecurity law comes into force today. Under the law, online service providers are banned from collecting and selling users' personal information. Online service users will now have rights to ask service providers to delete their information if such information is abused.

## God, the games that Artificial Intelligence plays!

VENKY VEMBU

### THE CHEAT SHEET

#### Sounds like you've found religion...

Not I, but Ke Jie, the world's top-ranked player of the Chinese board game Go, or *weiqi*, who was defeated last week by AlphaGo, an artificial intelligence (AI) program devised by Google's subsidiary DeepMind Technologies. According to him, until last year, AlphaGo's game was human-like, but this year, he said, it played "like the God of Go."

#### That's high praise.

Yes, and more generally, futurists see AlphaGo's victory as a milestone moment in the evolution of AI, when it became God-like in the way it harnesses machine learning techniques and mimics human creativity, rendering humans redundant in the incremental learning process.

#### That sounds hyperbolic.

Not really. Go is arguably one of the most complex board games. Given its 19x19 grid, there are a

sexquinquagintillion moves: that's 1 followed by 171 zeroes. (In Europe, that ginormous number is called octovigintilliard.) In many ways, Go is more complex than chess, which is played on an 8x8 grid; no wonder the super-computer Deep Blue beat chess wizard Garry Kasparov as far back as in 1997. And, of course, computers have long mastered 'noughts and crosses' and checkers and even Atari games.

#### But machines could always compute faster than humans.

Yes, but more important, mastery in Go requires intuition and creativity, not just calculating prowess. And AlphaGo's architecture rests on deep neural networks, which is the nearest simulation of the human brain and the nervous system. Which means AlphaGo adapts to the game in real time, and improves by 'learning from itself'. And that, to some, feels like the 'Frankenstein moment'.

#### They must be technophobe Luddites.

Not unless you think of Stephen

Hawking, Bill Gates and Elon Musk as Luddites. Hawking says he fears AI "could spell the end of the human race". Gates says he is "concerned about super intelligence." And Musk thinks of AI as "our biggest existential threat."

#### But surely it's not all doom and gloom?

Not at all. The machine learning algorithm that underlies AlphaGo will be channelled to address real-world issues through,

for instance, complex disease analysis and climate modelling. And as Ajay Agarwal, Joshua Gans and Avi Goldfarb, at the University of Toronto, point out in an HBR paper, 'The Simple Economics of Artificial Intelligence', as machine intelligence improves, the value of human prediction skills will decrease, but the value of human judgement skills will increase. In fact, scholars see the evolution of AI rewriting some foundational economic theories as well.

#### How so?

Well, economic theory has long held that humans make rational

decisions from out of the options they've been given. Building on Adam Smith's theory about the "self-interest" motivations of "individual agents", economists conceptualised the idea of *homo economicus*, or the "economic man" who is "perfectly rational".

#### But humans aren't always rational, are they?

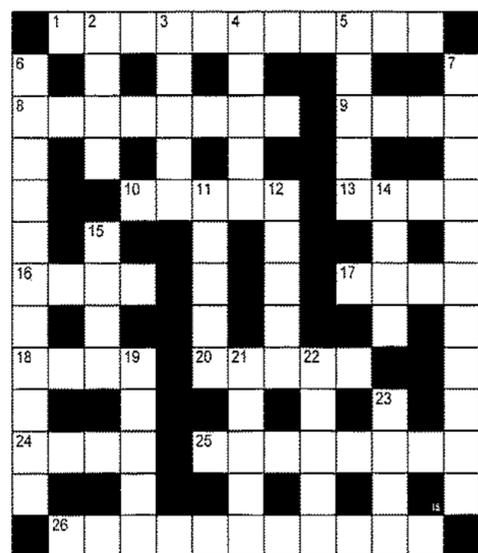
As David C Parks at Harvard and Michael P Wellman at the University of Michigan posit in a 2015 paper in *Science* on 'Economic Reasoning and Artificial Intelligence', *homo economicus* is a mythical construct. But AI research is similarly drawn to rationality concepts, and AI strives to construct *machina economicus*, the perfectly rational machine.

#### Is that dream realisable?

The authors conclude that "absolutely perfect rationality" may be unachievable with finite computational resources. But that final frontier may yet be breached some day — and, perhaps, faster than we foresee today.

A weekly column that helps you ask the right questions

## BL TWO-WAY CROSSWORD 862



## EASY

### ACROSS

- The 'blue-blooded' class (11)
- Knowing the latest developments (2-2-4)
- Trademark design, identifying symbol (4)
- Signifies (5)
- Legal or formal document (4)
- Greek god of spring, love (4)
- Rise high in the air (4)
- Cleanser (4)
- Beams for spreading square sails (5)
- Charge on currency exchange (4)
- A wrong or unsuitable name (8)
- Freezing, cooling agent (11)

### DOWN

- Mechanical memory, repetition (4)
- Move ingratiatingly (5)
- Frequently (5)
- Let, grant (5)
- Person involved in commerce (11)
- Academic cap; plasterer's hawk (11)
- Be a pest (5)
- One who puts money by (5)
- Space (4)
- 'Tail' of musical movement (4)
- Printer's trial print (5)
- Flying, on the wing (1-4)
- One taking principal meal (5)
- So let it be (4)

### SOLUTION: BL Two-way Crossword 861

ACROSS 1. Bar-graph 4. Chop 8. Aim 9. Sauce 10. Rum 11. Condole 12. These 13. Controversy 17. Later 18. Lookout 20. Nil 21. Argon 22. Imp 23. Sand 24. Strangle  
DOWN 1. Branch 2. Roman 3. Plume 5. Harness 6. Pamper 7. Settle down 9. Shortbread 14. Ortolan 15. Planes 16. Staple 18. Light 19. Owing

## NOT SO EASY

### ACROSS

- The highest class of carry-cot is a different form of it (11)
- At university, to take a girl out may be considered modern (2-2-4)
- Letterhead device of record of voyage comes to nothing (4)
- The averages of financial resources (5)
- Don't quite be the author of a legal document (4)
- Love god got up tail-first (4)
- Fly high, but sound irritated (4)
- As an ongoing TV drama, it will wash (4)
- Measures the areas by the houses (5)
- Price charged for changing silver one has, nothing more (4)
- It is wrong to call it 'M' in Morse maybe (8)
- Right to be ferreting about with a liquid in cooler (11)

### DOWN

- Was an author, one is told, learning by repetition (4)
- Make a furtive move to include

- local leader in the team (5)
- It is not seldom one is wrong about a newspaper (5)
- Permit everybody to be endlessly in the red (5)
- One in commerce might get in a mess with buns (11)
- Hawk some topping wear for an academic (11)
- To say No any way will be a nuisance (5)
- One who puts by part of his average earnings (5)
- Tie up and get over to part of the house (4)
- End of movement Vasco da Gama revealed (4)
- It convinces one of the strength of whisky, say (5)
- In flight come first in silver (1-4)
- One having the meal is doubled up in the middle (5)
- 'I had most need of blessing, and '— stuck in my throat' (Macbeth) (4)