

# Opinion

MONDAY, APRIL 22, 2019

## RESOLVING BRI CONCERNS

Wang Yi, foreign minister of China

Of course, there is a development process for the Belt and Road. You can't get there in one step, and it's unavoidable it will cause some worries during its development. So we welcome all sides to come up with constructive suggestions

## NEIGHBOURHOOD WATCH

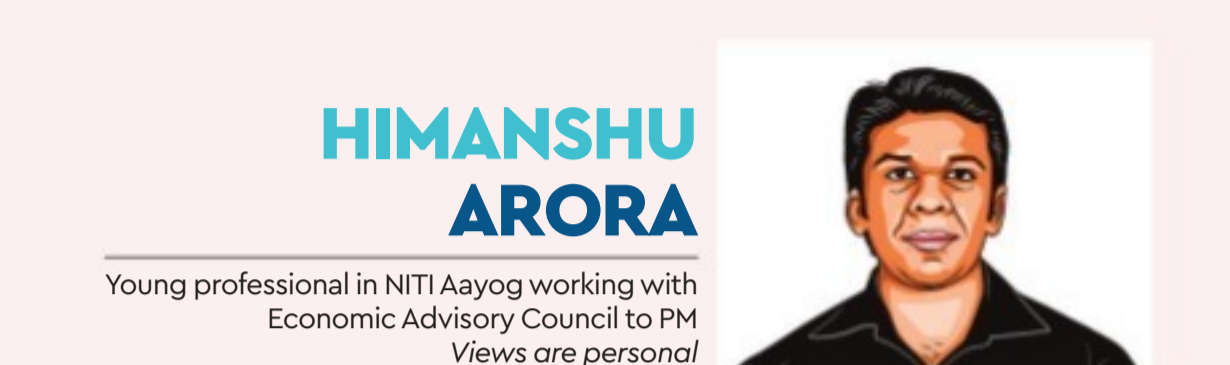
STRENGTHENING INDIA'S ECONOMIC FUNDAMENTALS MAY POTENTIALLY BE THE BEST ROUTE TO ENHANCE ITS INFLUENCE AS A STRONG ECONOMY IS A MAJOR DRIVER OF FOREIGN POLICY

# Getting India's geo-economics right

**I**N THE WAKE of the horrific terrorist attack on Indian forces in Pulwama, France, United Kingdom and the US have moved a proposal to designate Jaish-e-Mohammed (JeM) chief Masood Azhar under 1267 Al-Qaeda Sanction Committee. However, in a geopolitical move to safeguard its interests in Pakistan, China has vetoed India's bid to declare Azhar a global terrorist, for the fourth time. Back in 2009 as well, soon after the 26/11 Mumbai attacks, India had moved a similar proposal. In 2016, after the Pathankot attack, India had again moved the proposal at UN's 1267 Sanctions Committee along with P3 (USA, UK, France) to designate Masood Azhar as a global terrorist. In 2017, P3 nations moved a similar proposal yet again. On all such occasions, China blocked the proposal from being passed by the Security Council. The proposal, if passed, would have designated Azhar a global terrorist with his assets frozen, travels banned and imposed an arms embargo.

Why has China adopted such a stand? China's relationship with Pakistan can be understood within the context of its relationship with India. As China-India relations started to move southwards, its relations with Pakistan strengthened. China and Pakistan have long valued their alliance as a strategic hedge against India. Beijing's move to save terrorist organisations operating from Pakistan is part of its larger geopolitical plan. It has invested heavily in Pakistan and any move by India to declare it as a hub of terrorist activities will have major economic and strategic consequences.

Historically, China has relied on its military to influence its relations with Pakistan. China has played a major role in building Pakistan's defence capabilities, supplying missiles, aircrafts and radar equipment. However, as China's economic prowess has grown, so has its temptation to use economic power to advance its geopolitical goals. China has been playing the geo-economics game at a maestro level by relying on economic instruments to expand its influence. Chinese leadership has reached a



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Views are personal

consensus that instead of supplying fighter jets to Pakistan, it makes more sense to initiate a currency swap agreement between central banks—a move less likely to provoke a security response from US or India.

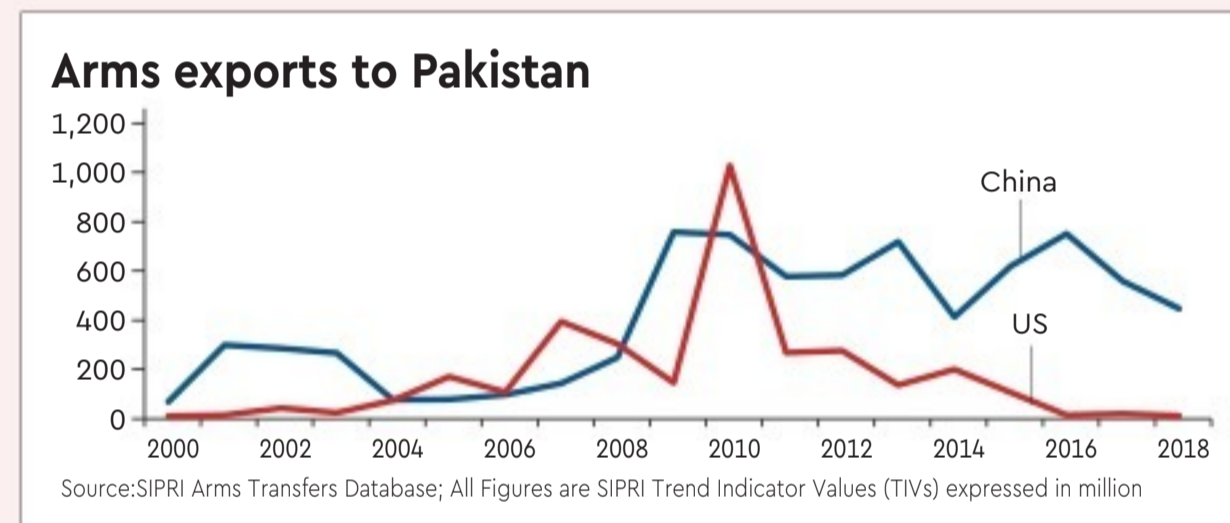
China's friendship with Pakistan is also influenced by the presence of a dominant third party—the US—making it a 3-player strategic triangle. China's strategic choices in Pakistan draw significantly from the fact that the US has limited its military relationship with Pakistan since 2011. For China, having strong ties with Pakistan is a considerable source of leverage over US. As long as Pakistan acts contrary to the interests of US by encouraging militant activity, providing safe havens for terrorists, and preventing peace efforts in Afghanistan, Pakistan remains an important source of leverage for China.

China's interest in Pakistan is also heightened by improving Indo-US ties. Since 2006, defence contracts worth more than \$18 billion have been signed between the two. The US has backed India's bid for a permanent seat on the United Nations Security Council and the two nations have signed an Agreement for Cooperation Concerning

Peaceful Use of Nuclear Energy in 2008, thereby ending decades of India's nuclear apartheid.

Chinese anxiety about consistently improving Indo-US ties is reflected in its investments in Pakistan. For instance, the China Pakistan Economic Corridor (CPEC), with a total investment of \$46 billion, is China's most ambitious effort to keep Pakistan under its influence. Once completed, almost one-fourth of China's foreign trade will pass through the CPEC. China has promised to build transport networks, highways, and Gwadar as a major international oil port, for enhancing trade. Gwadar and CPEC are the two most prominent examples of China's geo-economics in Pakistan. India views these initiatives with suspicion and has repeatedly reiterated that China wants to expand its influence in South Asia. China will use Gwadar as a base for its navy to oversee and expand its influence in the Indian Ocean.

China remains Pakistan's rescuer by responding to the infrequent crisis moments. The Chinese government had offered \$500 million in assistance to Pakistan during its 1996 balance of payments crisis. In 2008, Pakistan once



## India should beware of Aramco's billions

In a country at grave risk from climate change, whose cities are already choking on vehicle smog, reducing the reliance on imported fossil fuels is more than just an issue for the current account

**IT IS FUNNY** how friendly someone gets when they're trying to sell you something. Saudi Arabian Oil Co. is doing its best to make nice with one of its biggest customers. With the ink barely dry on the takeover of 70% of the country's chemical giant Saudi Basic Industries Corp. and the issuance of its first-ever corporate bond, Aramco is looking to buy a stake in the world's biggest oil refinery. Indian billionaire Mukesh Ambani's Reliance Industries Ltd. is seeking to sell as much as a quarter of its refining business for at least \$10 billion and is entertaining offers from Aramco and Abu Dhabi National Oil Co., people with knowledge of the matter told Bloomberg News this week.

That represents quite a prize. Reliance's Jamnagar refinery is about twice the size of the biggest US plant, Aramco-owned Port Arthur, and is so massive that maintenance work occasionally skews India's entire trade balance. Trade is also the reason India should be cautious of Aramco's embrace. The country has a dangerous addiction to imported crude, and it should be wary of getting too cozy with its dealer. For more than a century, the rise of major economic powers has been fuelled by petroleum. The US is both the world's biggest oil consumer and its biggest producer. The Soviet Union was built on its oilfields in the Caucasus and Siberia. While China has overtaken America as the biggest oil importer, it is also the biggest producer outside the Middle East after the US, Russia and Canada.

India is different. The US produces about 1.8 metric tons of oil a year per capita and even China manages 138 kilograms. India—at a far earlier stage of development than either country—ekes out just 30 kilograms. Production

peaked all the way back in 2010, and shows no sign of recovery. Industrialisation is an energy-intensive process. If India's development is going to be powered by crude oil, it is going to be buying a whole lot more from Aramco and its ilk. Such a future would pose some profound risks. Balance of payments crises are a recurring danger for emerging economies, and even at its current stage of development, oil typically accounts for about a quarter of India's imports. If prices spike higher—as, inevitably, they will from time to time—that is good news for Riyadh, but potentially devastating for New Delhi.

When crude is averaging \$85 a barrel—roughly the level at which Saudi Arabia can balance its budget, according to the International Monetary Fund—oil imports would reduce India's gross domestic product by about 3.6 percentage points, according to a study this year by RBI. Higher prices will also push up inflation and weaken the government's fiscal position, the authors found. At present, that dynamic is somewhat mitigated by the fact that about a third of India's oil imports are re-exported as petroleum products, giving the country a natural hedge against rising prices. Jamnagar, for instance, produces almost exclusively for export, meaning that it probably makes a modestly positive contribution to the trade balance since oil products are more valuable than the crude they're made from.

Should domestic consumption grow faster than export refinery capac-

ity, though, India's oil dependence will start taking a deeper bite out of its current account. In a worst-case scenario, a spike in oil prices could drive the country toward a balance of payments crisis like the one it suffered in 1991, when a spurge on oil imports over the previous decade resulted in New Delhi pledging its gold reserves as security for bailouts from multilateral lenders. India is aware that its dependence on imported crude risks constraining growth. The government wants 30% of new cars and two-wheelers to be electric by 2030 and is already home to more than 1.5 million electric rickshaws. It has also adjusted tax policies to encourage that transition. In a country at grave risk from climate change, whose cities are already choking on vehicle smog, reducing the reliance on imported fossil fuels is more than just an issue for the current account.

That goal isn't an unrealistic one given the rock-bottom local cost of wind and solar. Still, no country has managed a low-carbon industrialisation on this scale before, so it won't be easy—and Saudi Arabia will be hoping it proves all but impossible. By promising to buy a chunk of Reliance and help fund a new \$44 billion Jamnagar-sized refinery in western India, Aramco is counting on the country being unable to kick its self-destructive oil habit. Indians should hope that it is wrong.

*This column does not necessarily reflect the opinion of the editorial board or Bloomberg LP and its owners*

again found itself at the verge of an economic crisis. With its traditional allies US and Saudi Arabia in the grip of the global financial crisis and refusing to grant concessions, the then president approached Beijing for help and the latter obliged by granting \$500 million. Another important variant of China's geo-economics strategy was directly aimed at India when, in 2009, China blocked £2 billion of multilateral assistance to India at the Asian Development Bank amid tensions surrounding a border dispute in Arunachal Pradesh.

Today, China holds much more influence in Pakistan than any other country ever has in history. Pakistan and China share a symbiotic relationship. Pakistan is dependent on China for its economic, political, military and diplomatic support and China is dependent on Pakistan for its strategic and geopolitical objectives. If China does not want to lose a strategically and funds it has invested in CPEC and Gwadar, it must provide economic and diplomatic assistance to Pakistan like the one at the United Nations (UN).

Finally, to counter China and Pakistan, India on its part must become an equally active player in this geo-economic game. Strengthening its economic fundamentals may potentially be the best route to enhance influence. A strong economy is a major driver of foreign policy. India must strengthen its economic ties with neighbouring countries. The revival of SAARC can be a good starting point. India must fill the geopolitical vacuum in South-East Asia due to China's masculine foreign policy. Most South-East Asian nations are aghast by China's moves in the South China Sea and India can strengthen its ties with such nations by promoting trade and investments through regional trading agreements. This would act as a counter to China's influence. We must prioritise our economic relations with US and its allies amid the growing concern of a China-US trade war. The only feasible option we have in order to sideline China diplomatically at the UN is forming stronger economic ties with US, UK, Russia and France.

## LETTERS TO THE EDITOR

### Less tick, more talk

While social media platforms with a large consumer base are proving to be a breakthrough in message transmission and broadcasting of information across the globe, it is important that owners of non-compliant products/applications disable access to questionable features for existing users and disallow access to new/potential users. Moreover, it is important to regulate the content and ensure that technology is not misused to promote unethical behaviour and encourage false propaganda. The credibility of messaging platforms has been under scanner time and again. It is therefore only a fair expectation that the data-intensive e-commerce firms co-operate and participate in the goodwill-building exercise. Traceability of messages over social media platforms in conjunction with robust underlying encryption/security is a prerequisite to promote transparency/integrity and relevant user-participation. Further, adherence to information security/financial standards is a must to protect consumer interests, keeping in view the multitude of services on offer

— Girish Lalwani, Delhi

### No law in place

It is really condemnable that an IAS officer was suspended by the Election Commission for checking PM Narendra Modi's helicopter in Odisha's Sambalpur on Tuesday. Narendra Modi is not the first prime minister whose chopper was checked and, before him, former PM Manmohan Singh's chopper was also carried out to such a confirmation process. As it is a fact that there is no rule that exempts anyone from such checks during polls, the Election Commission should take back its hard decision

— Md Azim Sheeher

Write to us at feletters@expressindia.com

## The surprise about Jet was that so few saw it coming

The economy can't sustain a full-service airline, but no banker acted in time; Jet's staffers never looked for jobs either

**E**VEN IN LATE 2017, ratings agency CRISIL had sounded a warning on the aviation industry, pointing out that rising fuel prices could hurt airlines. Even otherwise, it has become evident over the last few years that the country simply does not have enough purchasing power to be able to sustain full-service carriers; in fact, there have been quarters in which even the well-run no-frills airline Indigo has posted losses. Which is why, it is surprising the banks were not more alert about their exposure to Jet Airways and didn't push the management to pull up its socks. They did in the end and, whatever the reason, whether the fear of the 3Cs—CVC, CBI and CAG—or of losing more money, it was a good decision to not pump in more money; and the government did well to not pressurise PSU banks to do so.

To be sure, the value of Jet Airways falls further every day that it does not fly, but it is not going to be easy to get any buyer to cough up much money for the airline. A newly-licensed carrier can easily pick up slots and bays, there are enough planes to be leased, and more than enough pilots to fly them. To be sure, Jet has international slots and alliances, but paying off ₹15,000 crore of loans—or half of it if bankers take a 50% haircut—and taking on 22,000 employees may not be worth it for most investors.

There are lots of lessons to be learnt from the closure of Jet Airways. First, bankers need to be far more vigilant about their loans and strict with their borrowers. Employees, for their part, need to be far less demanding. While it is unfortunate that so many people have lost their jobs—not just those with Jet, but in other companies that have been wound up—the unions and officers' associations must accept some of the responsibility since their demands are often unreasonable and their rigid stance, on salaries and increments for example, have been a contributing factor to businesses getting destroyed.

Unions in the government sector, of course, get away with virtually anything since the hapless taxpayer is there to foot all bills. Salaries in state-owned banks, for instance, are renegotiated upwards without any commensurate commitment to an increase in productivity. Employees in public sector enterprises, such as Air India and BSNL, have taken it for granted that the government will continue to support these businesses even if they are loss-making and unviable. One reason why there were no takers for Air India—and there may never be—is because the government would not allow employees to be laid off, nor was it willing to write off most of the debt. Indeed, going by the reported offers for Jet Airways—buyers are understood to have asked for an 80% haircut on the loans—the government should be grateful if some buyer even agrees to run Air India without paying a penny and with even half its employees. The carrier may become viable if it is run very efficiently. This way, it can ensure there is enough flying capacity and protect thousands of jobs as well. There are those who will argue that the government itself can run the carrier if it can pare the workforce by 50%, but when an enterprise is owned by the government, there is always the pressure to interfere in the operations and to recruit more people; also, thanks to PSUs being considered an 'instrumentality of state', decision-making tends to be more sluggish even if the government has a completely hands-off policy and allows professionals to run the company. Handing over Air India to a private sector entrepreneur—easier said than done, and unlikely in the near future—will keep the airline going without constantly burdening the taxpayer.

## Getting investment back

CMIE estimates new investment proposals are at a 14-year low

**T**HE STATE OF the economy, not surprisingly, is the last thing on the mind of the government right now, but given how rapidly GDP growth is slowing, and the continued collapse in private sector investment, reviving this has to be the next government's—whether it is the Narendra Modi one or another one—top priority. While even CSO data shows a consistent decline in investment levels, from 34.3% of GDP in FY12 to 26.8% in FY18, CMIE data on new investment proposals in FY19 indicates that, at ₹9.5 lakh crore, this is the lowest in the last 14 years; between FY07 and FY11, CMIE says, this averaged around ₹25 lakh crore a year. And within this, the share of the private sector has collapsed. In the 2006-2011 boom, the average share of the private sector in total investments was around 62%; this was down to around 47% in 2014-16.

While the government has to find ways to revive investment, getting back to earlier levels is going to be very tough. For one, a large part of the investment boom was driven by demand from the global boom and, within India, by the rush to complete projects via public private partnerships (PPPs). While the global boom has been replaced by gloom, the PPP model came unstuck several years ago and, to the extent PPPs are limping back in the road sector, these are very different since the bulk of the risk is now being taken on by the government. More important, as the pileup of NPAs shows, the investment boom was unsustainable, and probably fuelled by the fact that bank loans were easily available and, at that time, most investors knew that defaults weren't going to be taken as seriously as they are now.

Even so, there are obvious areas that the government needs to work upon. This newspaper has documented how, even before RJio's low-price assault, the telecom sector was reeling under the burden of high government levies—the levies made sense when spectrum was given free, but made no sense when spectrum was bought at market prices. In the oil and gas sector, the government's policy has been one of big flip-flops and, in the case of mining where there is a lot of investor interest, the policy hasn't been welcoming; indeed, in the coal sector, despite announcing commercial mining of coal, this has still not been acted upon for several years. In the power sector, with the government unable to ensure commercial prices are paid for power, huge state electricity board (SEB) dues have crippled power plants; and the precarious finances of these SEBs have ensured they are not signing contracts with power producers. Both power and telecom are the next sources of big NPAs for the banking sector. In the sugar sector, similarly, bad government policy has crippled fresh investment. And, despite the sharp increase in FDI in areas like e-tail, the fact is that, as a proportion of GDP, overall FDI is down from 1.9% in FY16 to 1.2% in the first three quarters of FY19; that is not surprising, given the U-turn in the e-tail policy or the fact that nothing has happened to reverse the UPA's retrospective tax, etc. The new government, though, has to bring in the changes in policy very soon, since leaving it to later is the surest way of ensuring that very little gets done.

## PriceGains?

Controlling stent prices may show benefits in the short-run, but does long-term damage

**A**NEW STUDY by doctors and policymakers at public hospitals posits that the price cap on coronary stents may have helped a larger number of patients from lower-income groups undergo life-saving angioplasty since their money went up sharply after the price-regulation move. The study, led by Dr Bhanu Duggal, head of cardiology at AIIMS, Rishikesh, found that the number of patients who underwent procedures involving stents in Maharashtra rose by 43% after the state reduced prices of drug-eluting stents in 2014—while only 40.7% of the patients could afford the high-end stents in 2013, the number jumped to 71.3% in 2015.

All that said, the price-control regime was a bad idea then and is a bad idea now. The effect that the study describes could most likely be temporal, since drug-eluting stents are mostly manufactured by medical-device MNCs, and post 2017, many have either pulled out their state-of-the-art stents from the Indian market or have announced plans to do so. The capping slashed the price of drug-eluting stents by as much as 70%. While a company offset a hit on margins in Maharashtra because of pricing freedom in other stents, post 2017, it is a changed reality for medical-device makers. Top-run MNCs pulling their products out of the Indian market also has serious implications for patients in the country. The move is likely to deprive them of access to the best, and perhaps the most appropriate, stent technology in the long-run. In any case, if the government felt that there was a problem of lower-income patients being more likely to opt out of life-saving procedures because of high stent costs, it could have defrayed the costs by subsidising stents at public hospitals based on income. The lack of pricing freedom in medical devices sends out signals to the international investing community that regulatory action in India could be a potential threat. It was, therefore, a sane decision when the NPPA decided to hike stent prices in its latest move.

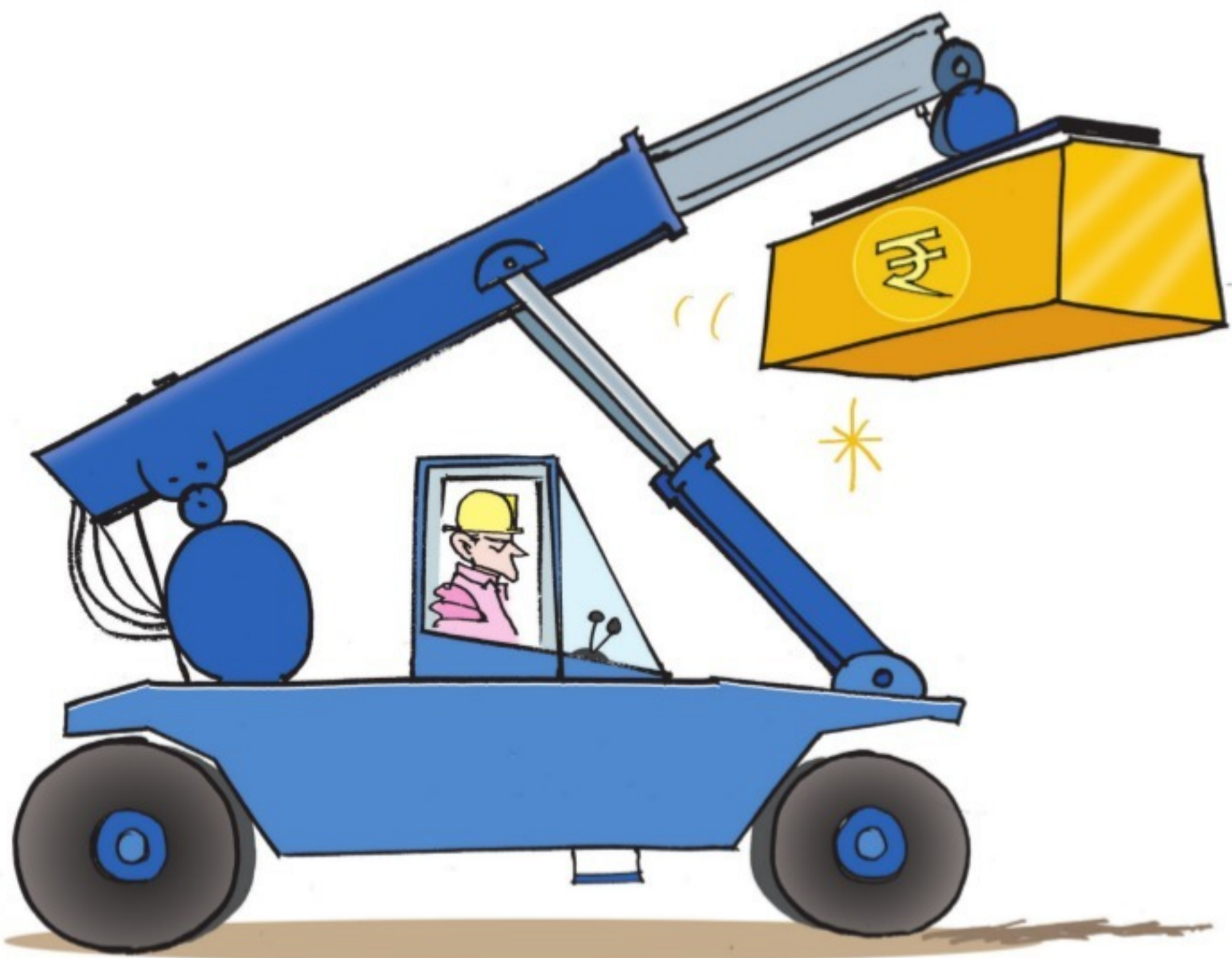


ILLUSTRATION: ROHNIT PHORE

## V SHUNMUGAM & TULSI LINGAREDDY

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### FINANCIALISATION OF GOLD

# The gold standard for gold reserves

A comprehensive gold policy, ensuring quality standardisation through Good Delivery Rules in tune with global standards, mandatory hallmarking of jewellery, transparent pricing, institutional enablement for accreditation and regulation of vaults, and well-functioning electronic spot market platforms will reduce gold imports through financialisation, and also boost jewellery exports

**WITH ₹51,053 CRORE** of household savings being invested in gold assets as per the National Accounts Statistics (2018), India is the second largest consumer of the gold in the world with an annual average demand of about 732 tonnes during the past three years. Close to 90% of this demand is met through imports, adding to the country's current account deficit. Gold imports, estimated at \$24.7 billion (Q1 to Q3, FY19), accounted for 6.25% of total imports and 17% of total trade deficit, also referred to as gold deficit. This, in turn, adds more to India's current account deficit, which stood at 2.6% of GDP during the first nine months of 2018-19. On the contrary, China, with a trade surplus of 1.25% of GDP in the last three years, had an average demand of 950 tonnes. Adding to the fact that China's domestic market capitalisation

with all the foreign participation limitations is \$8.71 trillion compared with India's estimated at \$2.33 trillion (end-2017), it shows that there is a dire need to financialise the gold-based saving and investment needs by turning them into financial instruments.

Being an investment commodity, gold has trivial consumption use, largely owing to its scarcity. This led to a debate around productivity of investments in gold given that, in today's digitally-connected world, Indian savers have access to far more high-yielding, liquid and low-risk productive equity and debt instruments. Secondly, with lower domestic production/recycling and partially-convertible economy, any spurt in demand for gold puts pressure on forex reserves and hence the commodity markets.

At the same time, Indian households and religious institutions are estimated to be holding about 25,000 tonnes of gold (World Gold Council, 2017)—the

largest gold stocks above the ground. It prompts for immediate steps to reduce the import burden through raising domestic supply of gold by promoting mine production and recycling of gold as well as promoting financialisation of gold for investment purposes. The domestic annual mine production of gold in India stood at 2 tonnes compared to 450 tonnes in China, despite the fact that there is an estimated 484 million tonnes of gold ore under resource category (Indian Bureau of Mines, 2018), suggesting the potential for a significant increase in domestic gold production. A friendlier mining policy towards promotion of exploration will go a long way in reducing the import burden and hence the forex outgo.

The other potential way of reducing import dependence and increasing domestic supplies is by recycling the substantial but idle holdings of gold with Indian households and religious institutions through an attractive monetisation scheme. While efforts started two decades ago (the 1999 Gold Deposit Scheme—subsequently the Gold Monetisation Scheme, or GMS, in 2013), monetisation of gold in the country has not yet gained the desired momentum. Policy measures to encourage religious endowments and trusts are critical in converting a large quantity of physical gold held by them into digital/demat format, and should be taken up to facilitate monetisation of gold held by them. Establishing Good Delivery Rules in line with global benchmarks asserting uniform quality standards and transparency with necessary infrastructure and policies are critical in ensuring the trust of the market participants in any gold monetisation measures we take.

As far as Good Delivery Rules are concerned, these were set by the London Bullion Market Association (LBMA) and are widely accepted as the necessary guidance for refiners seeking accreditation and the list of refiners certified by LBMA are known as the 'good delivery list'. The first London Good Delivery List was set up by the Bank of England in 1750, recognising the refineries that produced mandated standard of gold acceptable to enter London markets. This list eventually became globally-accepted accreditation for wholesale gold bars traded in the bullion market, which is now overseen by LBMA following its setting up in 1987.

At present, there are 68 gold refiners in LBMA's Good Delivery List across the world. Although 29 of them are in Asia, only one (MMTC-PAMP) such gold refiner is in India; in China, nine such refiners are already operating and more are in the pipeline to be certified. In addition, the Shanghai Gold Exchange (SGE), an electronic spot gold trading platform

launched in 2002 by the People's Bank of China, has also set up 'standard gold' rules for domestic refiners that can enter into the SGE-designated vaults. The radical transformation of the Chinese gold ecosystem in the past 15 years was brought about by establishing uniform quality standards and bringing transparency into the gold markets, primarily through SGE. Essential components of LBMA Good Delivery model comprise of establishing accredited refiners (good delivery list); vaults providing secure storage and ensuring the quality of the bars as specified in terms of weight, dimensions, fineness along with serial number marks; governance through compliance panel and physical committee for responsible sourcing of gold ensuring compliance, risk management, transparency, information sharing and business conduct; and connecting to institutions such insurance and secure carrier service providers for ensuring quality and quantity during storage and transit of gold. Implementing Indian Good Delivery standards similar to the above will win the trust of market participants and connect Indian markets with their global counterparts, besides enriching the refining ecosystem. In conjunction with the Good Delivery Rules, it is vital to formulate and implement guidelines for vault accreditation through notifying gold and silver under WDR. The e-NWRs issued by the vaults under a regulated scenario also provide gold better connect with the financial markets.

Apart from gold bars, standardisation of domestic gold jewellery would have to be mandated through the current hallmarking mechanism, taking a leaf out of the UK markets where jewellery hallmarking is mandatory. Globally, hallmarking is a widely accepted standards system to indicate purity and fineness of gold jewellery, and it aids in effective recycling. While the historical reference to hallmarking of gold jewellery dates as far back as to 13th century, a group of European countries signed the "Vienna Convention on the control of the fineness and the hallmarking of the precious metals" in 1972 introducing the Common Control Mark (CCM) and the member countries accept of jewellery marked with CCM. India is the fourth-largest exporter of jewellery accounting for about 10% of world jewellery trade. A large potential for exports will open up if India takes measures to become a member of the Vienna Convention. This will significantly expand potential new export destinations for Indian jewellery and help to achieve the target of doubling jewellery exports by 2022.

The third and the most practical strategy to reduce the burden of gold imports is to divert the investment demand for physical gold to paper gold through financial products such as exchange traded funds (ETFs) based on gold futures, sovereign gold bonds and gold savings accounts. Domestic annual investment in physical gold, in the form of bars and coins along with ETFs, during the past five years on an average stood at around 230 tonnes, accounting for about 25% of total gold demand in the country. A substantial part of this investment demand for gold may be diverted to financial products from physical through suitable regulatory and policy measures. In addition to the necessary policy and regulatory measures, there is a need for creating awareness among the gold investors about the merits of investing in financial products over physical gold, such as ease of buying and selling, cost savings on storage, insurance, etc.

A comprehensive gold policy, ensuring quality standardisation through Good Delivery Rules in tune with global standards, mandatory hallmarking of jewellery, transparent pricing, institutional enablement for accreditation and regulation of vaults, and well-functioning electronic spot market platforms will not only reduce gold imports through financialisation and monetisation of gold, but will also boost jewellery exports by establishing India as the global benchmark source for standard gold and jewellery, thereby contributing to employment and value addition than just being a forex burden.

### EARTH DAY

## Towards a lower GHG future

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The Kigali Amendment is a significant opportunity for us to live up to the promise of better environment

**WITH EFFORTS BEING** made globally to preserve ozone layer, the primary question remains unanswered. "How can we succinctly respond to address global warming and its impact on climate change?" A number of factors are causing climate change and the efforts to address them have been manifold. Large-scale use of environmentally damaging refrigerants is one of the key areas identified, with a direct impact on the depletion of the ozone layer and subsequently on global warming.

India was part of a historic global climate deal that was reached in Kigali, Rwanda, at the 28th Meeting of the Parties (MoP28) to the Montreal Protocol, on substances that deplete the ozone layer. The Kigali Amendment, an amendment to the 1987 Montreal Protocol, aims to phase out high-global-warming-potential hydrofluorocarbons (HFCs), a family of potent greenhouse gases (GHG), by late 2040s. Under this amendment, 197 countries, including India, agreed to a timeline to reduce the use of HFCs by 80-85% of their baselines over the next several decades.

HFCs have many everyday applications. These include refrigerants to cool cars, appliances and buildings, foam-blowing agents that create cushioning and insulating foam, solvents used in manufacturing to clean and sanitise, and certain specialty propellants used in products like aerosols. When HFCs are released into the atmosphere, they trap GHGs with significant global-warming-potential (GWP) and take years, sometimes decades, to break down in the atmosphere—thus contributing to the overall warming of the planet. HFCs have high a GWP. For example, HFC-134a, the

commonly used automobile refrigerant, has a GWP of 1,300, which means its impact on global warming is 1,300 times that of carbon dioxide (CO<sub>2</sub>). Replacing high GWP HFCs with low-GWP HFO alternatives could help avoid up to 0.5°C of warming by the end of this century.

This background triggers an opportunity, as well as a set of challenges for the industry at large to develop new technologies and transition to the use of more environmentally preferable alternatives. There has been a continuous effort globally to cut down the use of high-GWP HFCs ever since we decided to shift from chlorofluorocarbons to HFOs. Thus, the journey to explore alternatives continues, to meet the diverse requirements of industry.

Addressing the implications for India

India is the world's fourth-largest emitter of CO<sub>2</sub>. According to a report by the International Energy Agency (IEA), the share of space cooling in peak electricity load is projected to rise sharply in India, from 10% today to 45% in 2050. Given the estimations of India's rapid economic growth, the government has recognised the importance of lowering the country's GHG emissions as part of an international effort to limit global warming. Along with the NITI Aayog, the government is working towards an India Cooling Action Plan, meant to meet the country's growing cooling needs in a climate-friendly manner. One of the key focus areas in the Action Plan is in-room air conditioners (ACs). The Lawrence Berkeley National Laboratory (LBNL) estimates that if by 2030, India's AC stock improves in average efficiency by 30% from 2015 levels, annual CO<sub>2</sub> emissions will decrease by approximately 80 million metric tonnes per year.

The Kigali Amendment is a significant opportunity for us to live up to the promise of better environment. Successful implementation of the amendment will require a high level of national cooperation from our government, along with industry, research institutes and regulators coming together in sustaining efforts. While daunting in several ways, the positive prospect of technology cost reductions, a cleaner and healthier environment, along with improvements in quality of life, can all support a world of increasing action on climate change. India has been a key partner in the quest for reducing emissions and should continue to take the lead in efforts to protect the planet from climate change.

**MUCH OF THE** controversy around management being art or science is based on description of the fact that the earlier leaders of industry used intuition, hunches, common sense and experience in managing organisations. They were not well-educated, they were not trained professional managers, but they managed their businesses brilliantly. However, common sense and science differ considerably in solving the problems. Examples are Dhirubhai Ambani, Jamsetji Nusserwanji Tata and Ghanshyam Das Birla... the list is long. In 1919, GD Birla was in no better position. He had fought hard with his family and the colonial establishment to start a jute mill. World War I broke out before he could place orders for machinery. He had based his projections on ₹6,000 per loom. The price shot up to ₹16,000. He went ahead. In 1950, aged 17, Dhirajlal Hirachand Ambani sailed in a steerage class of ship to Aden to search for a job. For eight years, he sweated it out. Later in his life, without a single educational degree, he created an empire called Reliance Industries. Management is science because of several reasons—it has universally accepted principles, it has cause and effect relationship, etc., and at the same time it is art as it requires perfection through practice, practical knowledge, creativity, personal skills, etc. Management is both art and science. Artistic application of management

## Why management is both art and science

Management is science as it has universal principles. It's also art as it requires perfection through practice

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know-how is a must for solving complex situations in organisations. It is understood that managing is doing things artistically in the light of the realities of a situation. Human skills cannot stand alone; they need to be aligned with conceptual skills and technical skills. Therefore, theoretical knowledge of management is not adequate or relevant for solving problems. A manager gains experience by continual application of management knowledge and facing new experiences. By solving many problems, a manager develops skills for translating knowledge into practice. Application calls for innovativeness and creativity; Larry Page of Google is one such example of a businessperson who can endure a challenge, while also face criti-

cism. Larry and his business have faced much criticism and received ample praise over the years for his company's actions. But whenever he was caught in the midst of the storm, he never let what others think influence him from pursuing the course for his company that he considered the best. The art of management is in knowing how to accomplish the desired results.

Art may be defined as personalised application of general theoretical principles for achieving best possible results. Apple's Tim Cook is often compared to Steve Jobs. It is difficult to follow Jobs, but Cook is doing a tremendous job. Rather than attempt to match the consumer-facing innovations Jobs was known for, Cook is forging into the future with his own new



advances, such as Apple's newest original inventory management techniques.

Traditionally, creativity was linked with people in artistic professions such as writers, painters or musicians. But in today's competitive business world, the need for creativity has transitioned into the business world. It has become increasingly important for organisations to rely on creative thinking, in an effort to distinguish themselves from competitors. Jeff Bezos of Amazon prefers focus on the customer. It is famous that in every meeting he leaves an empty seat for a customer to represent them. He considers the customer to be the most important person in the room, even if there is no customer present physically in the room. Bezos has made the customer

a key component of his business strategies; customers find him very inspiring. He always portrays through his strategies that at the centre of his business are his customers. Amazon grew in leaps because of cultivated customer value.

Most science and engineering students are good at managing business because they are good at analysis and solve problem in the real world specifically based on their subject. Businesses need engineering managers to oversee projects, product design and development, operations; create strategic plans; handle budgets, costs and financing; interface with marketing.

Frederick Winslow Taylor was one of the first management thinkers. He advised to scientifically select, train and develop

each worker rather than passively leaving them to train themselves. Taylor concentrated more on productivity, and wages to be paid based on productivity. He stressed on time and motion study and other techniques for measuring work. Apart from this, in Taylor's work, there also runs a strongly humanistic theme. He felt ideally that the interests of workers, managers and owners should be synchronised.

Henri Fayol was a French coal-mine engineer, director of mines and modern management theoretician. His scientific management theory was formed on the bases of business administration and business management. He introduced the 14 principles of management. In the academic world, this is also known as Fayolism.

Management science theory is based on the thought that a contemporary approach to management focuses on the use of rigorous quantitative techniques that help managers make maximum use of organisational resources to produce goods and services. It is also known as the mathematical or quantitative approach. In quintessence, this theory is a contemporary extension of scientific management, which, as developed by Taylor, also looks at quantitative approach to measuring the employee and his task in order to raise efficiency. The art to get maximum productivity is to use permutations and combinations as per employee's strength, desire to work, desire to learn and the motivation techniques used by the management.