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DAILY NEWS **ANALYSIS**

25 - JULY - 2022

FOREWORD

We, at Team Vedhik is happy to introduce a new initiative - "Daily Current Affairs_The Hindu" compilations to help you with UPSC Civil Services Examination preparation. We believe this initiative - "Daily Current Affairs_The Hindu" would help students, especially beginners save time and streamline their preparations with regard to Current Affairs. A content page and an Appendix has been added segregating and mapping the content to the syllabus.

It is an appreciable efforts by Vedhik IAS Academy helping aspirants of UPSC Civil Services Examinations. I would like to express my sincere gratitude to Dr. Babu Sebastian, former VC - MG University in extending all support to this endeavour. Finally I also extend my thanks to thank Ms. Shilpa Sasidharan and Mr. Shahul Hameed for their assistance in the preparing the compilations.

We welcome your valuable comments so that further improvement may be made in the forthcoming material. We look forward to feedback, comments and suggestions on how to improve and add value for students. Every care has been taken to avoid typing errors and if any reader comes across any such error, the authors shall feel obliged if they are informed at their Email ID.



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MC12 over, it's 'gains' for the developed world

India, which found itself on the losing side at the 12th Ministerial Conference of the WTO, needs to course correct



D. RAVI KANTH

Global trade negotiations are about striking bargains. You lose some and win some. So, who were the main winners and losers in the recently concluded 12th Ministerial Conference (MC12) of the World Trade Organization (WTO)? Even a cursory examination of the outcomes of the meeting leaves us in no doubt that the European Union (EU) and some other developed countries are the overwhelming winners, while India finds itself on the losing side.

The COVID-19 fight

The ministerial outcome on the so-called TRIPS waiver represents the biggest gain for the EU. It is relevant to recall the sequence of events. In October 2020, India and South Africa put forth a proposal seeking to temporarily suspend the protection of intellectual property rights such as patents, copyrights, industrial designs and

trade secrets, so that the production of vaccines, therapeutics and diagnostics could be ramped up to help overcome the crisis and fight the COVID-19 pandemic. The proposal garnered the support of almost 100 countries at the WTO. It also caught the imagination of many Nobel laureates, academicians, civil society organisations, former Prime Ministers of many developed countries, the former Secretary General of the United Nations and even Hollywood celebrities.

The opponents of the proposal, i.e., Germany, the United Kingdom, Japan, Switzerland and the United States, found themselves on the wrong side of the global opinion on this issue. In a guileful move, in June-July 2021, the U.S. gave its support to the proposal, but limited it to vaccines. In the process, it bought peace with its domestic constituents, including Bernie Sanders and Elizabeth Warren. Other developed countries, particularly Germany and the U.K., found themselves at the receiving end of the ire of their civil society organisations and prominent opinion makers.

Advantage EU

Pushed into a corner, the European Union (EU) unleashed its



masterstroke. It made a counter-proposal to undermine the proposal made by India and South Africa. This counter proposal provided a cosmetic simplification in certain procedural aspects of compulsory licensing in patent rules. With the active support of the WTO's Director-General, it also launched a process in December 2021 to reach a compromise. In a completely opaque process, by March 2022, India and South Africa were corralled into accepting the EU's proposal. This formed the basis of the final outcome at the MC12. The ministerial outcome adds very little to what already exists in the WTO rulebook. To make matters worse for developing countries, it adds stringent conditions that are not in the WTO rulebook.

The outcome of the TRIPS waiver has provided a facesaver to the

EU, as it can now look in the eye of its civil society organisations and confidently say that it has done its bit to save the world from COVID-19. The final outcome is almost unworkable; a big public relations victory for the EU.

The EU has also scored important gains in two other areas – WTO reform and environment issues. In the name of WTO reform, the EU sought to make fundamental changes to the institutional architecture of the WTO. It also sought to give a formal role to the private sector in WTO processes. And, it has secured both these objectives in the ministerial outcome. The EU has also managed to create a window to pursue negotiations on issues related to trade and environment at the WTO, an issue of concern for many developing countries.

No traction for India

Turning to India, the issue of a permanent solution to public stockholding was identified by the Indian Minister of Commerce and Industry, Piyush Goyal, as being its top most priority and nothing more important than it for the world. Despite having the support of more than 80 developing countries, this issue has not found men-

tion anywhere in the ministerial outcome. Instead, the WTO members have succeeded in diverting attention from India's interest by agreeing that food security is multi-dimensional, requiring a comprehensive solution.

India has also failed in many of its other objectives, such as securing the right to raise revenues by taxing electronic transmissions. In the area of fisheries subsidies, it gets two years to have suitable regulatory mechanisms in place to monitor fish catch and reporting. Otherwise, subsidies to traditional fishermen will be prohibited. Although it has secured a temporary reprieve to provide subsidies for enhancing its fishing fleets, it will have to fight an uphill battle on this issue in future negotiations. Further, the outcome on the TRIPS waiver bears no resemblance to its proposals.

Overall, the path ahead for India at the WTO is difficult. India's negotiators need to undertake soul searching to learn lessons from the dynamics at the MC12, and make course corrections.

D. Ravi Kanth is a journalist based in Geneva. He writes for several publications on global trade issues and developments at the World Trade Organization

A shot in the arm for rule of law

The Supreme Court's recent observations on indiscriminate arrests and the reluctance to give bail are pertinent



R.K. RAGHAVAN

In *Satender Kumar Antil v. Central Bureau of Investigation* (2022), the Supreme Court expressed its unhappiness with the current state of India's criminal justice system. The court said there was scant regard for the violation of basic human rights. It was categorical that indiscriminate arrests are indicative of a colonial mindset and create the impression of India being a "police state".

It is not as if the court said something that has not been said before. But the vital message that agencies must be civilised towards both crime suspects and convicts was clear. The court's words were emphatic and practical. The highlights of the court's observations were the accent on safeguarding basic human rights, the emphasis on quickening the pace of trials and the suggestion for a new Bail Act, analogous to an existing U.K. legislation.

The court's role

The gravamen of the court's charge was that law-enforcement agencies make far too many arrests in violation of basic human rights. The fact, however, is that members of the lower judiciary often ask investigating officers why they did not arrest some suspects while arresting others. Often, courts suspect that the police lack integrity in discriminating between the accused. One often wonders whether a Magistrate or judge has the right to question police discretion in the matter, unless there is prima facie injustice to the person arrested. Caustic comments by courts evoke fear in the lower echelons of the police and drive them to take impulsive and questionable action even where arrests are not warranted. Judges sometimes go into the nitty-gritty of an ongoing investigation, which is undesirable if police action has to be balanced.

Arrest and confinement to police custody or judicial custody often smacks of vindictiveness. An average police officer invariably believes that it is only in the rigour of custody that a suspect will cough out the truth. This is unfortunate. It is distressing that the practice of arresting suspects at the drop of a hat remains the style of policing in our country. The need for a cultural change at all levels in the police has never been felt more than now. Justice Krishna Iyer had said in *State of Rajasthan, Jaipur V. Balchand alias*

Baliy (1977): "The basic rule is bail, not jail, except where there are circumstances suggestive of fleeing from justice or thwarting the course of justice or creating other troubles in the shape of repeating offences or intimidating witnesses and the like by the petitioner who seeks enlargement on bail from the court." That bail is the rule and jail the exception has been reiterated in several judicial and other forums. This has been violated by the police in cases where they enjoy discretion as well as by the lower courts, some of which are downright rude to those arraigned before them. The Supreme Court's latest order should awaken their conscience and make them understand that when they grant bail, they are not doling out charity but implementing the dictates of law.

The apex court's reference in the *Satender Kumar* case to the Bail Act of the U.K. is appropriate. The essence of that law is that arrests should be rare, and bail provisions should be uncomplicated even to the unlettered citizen. There is a provision for electronic surveillance of those released on bail. This is something novel, but practicable, at least in urban India. The court's recommendation that India should consider a similar enactment is welcome. One cynical view, however, is that existing legal provisions, especially those of the Criminal Procedure Code, are adequate to curb the overzealous practices of law enforcement agencies.

Problem of overcrowding

The Supreme Court also drew attention to the problem of overcrowding of prisons, which has attendant issues such as corruption, crime and hygiene within prisons. An overwhelming majority of the inmates are undertrials. There are two ills here. One, there is an insistence during trial on judicial custody, which is different from what prevails in many countries, especially the U.K., where grant of bail is much more liberal. And two, court proceedings are tortuous as a result of the collusion between principal players in the scene. This situation has been discussed with only a marginal impact.

Ultimately, it all boils down to a change of mindset, which cannot happen unless the political and bureaucratic leadership are convinced of the role of ethics, which is in short supply these days in public life, in shaping and administering the criminal justice system. The inescapable impression of a majority of Indians is that we have a system that is arbitrary and cruel and this must change.

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High alert as Delhi reports monkeypox

India's fourth case has no history of foreign travel

BINDU SHAJAN PERAPPADAN
NEW DELHI

Delhi confirmed its first case of monkeypox on Sunday, a day after the infection was declared a Public Health Emergency of International Concern by the World Health Organization.

The Health Ministry confirmed that a 34-year-old man from Delhi was isolated at Lok Nayak Hospital with monkeypox symptoms. The National Institute of Virology, Pune confirmed the diagnosis. The patient is recovering at the designated isolation centre in the hospital, it said. The close contacts of the case have been identified and are under quarantine in accordance with the guidelines of the Ministry of Health and Family Welfare (MoHFW).

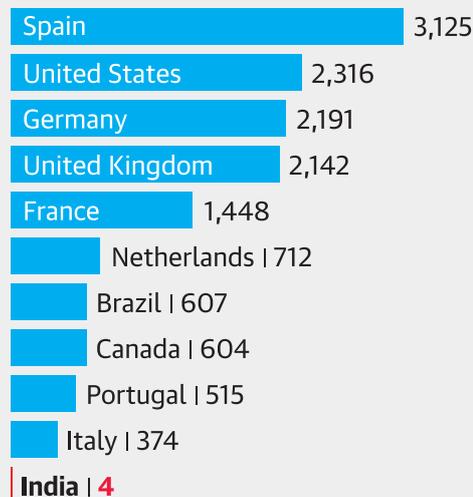
Further public health interventions such as the identification of the source of the infection, enhanced contact tracing, testing, and sensitisation of private practitioners are being carried out.

The patient has no travel history and was admitted some days ago with fever

Case count

The seven-day average of daily monkeypox cases worldwide crossed the 500-mark last week. Spain has reported the most number of cases with more than 3,000 reported infections. The graph shows infections in select high-burden countries and cases in India

CUMULATIVE CONFIRMED CASES



SOURCE: OUR WORLD IN DATA

and skin lesions.

A high-level review meeting of the situation was organised by the Director-General of Health Services (DGHS) on Sunday.

The WHO called upon countries in Southeast Asia to strengthen surveillance and public health measures for monkeypox.

Detailed study

Following the meeting, the National Centre for Disease Control (NCDC) has been directed to carry out a detailed epidemiological investiga-

tion of the positive cases.

Meanwhile, the National AIDS Control Organisation has been instructed to create awareness of preventive measures against the virus. Health facilities have been told to look for patients with unexplained rashes and a history of travel in the past 21 days to a country that has recently confirmed cases of, or has suspected cases of, monkeypox.

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High alert as Delhi reports monkeypox

Additionally, the “Guidelines on management of monkeypox disease” issued by the Centre states the transmission of the monkeypox virus happens primarily through large respiratory droplets, generally requiring prolonged close contact.

The incubation period of the virus is usually from six to 13 days and symptoms include lesions, which usually begin to appear within one to three days from the onset of fever, lasting for around two to four weeks, and are often described as painful, until the healing phase, when they become itchy.

“Monkeypox has been spreading rapidly and to many countries that have not seen it before, which is a matter of great concern. It is possible to curtail further spread of the disease with focused efforts among at-risk population,” Poonam Khetrpal Singh, Regional Director, WHO South-East Asia Region, said.

Globally, over 16,000 cases of monkeypox have been reported from 75 countries. In the WHO South-East Asia Region, four cases of monkeypox have been reported, three from India and one from Thailand. The cases in India are among nationals who returned home from the Middle East, while in Thailand, a foreign national living in the country has tested positive for monkeypox. She

said, “Importantly, our focused efforts and measures should be sensitive, devoid of stigma or discrimination.” The decision to term monkeypox a public health emergency of international concern (PHEIC) was announced by Tedros Ghebreyesus, Director-General, WHO, on July 23, a day after he convened yet another meeting of the International Health Regulations (IHR) emergency committee to review the multi-country outbreak.

“Though the risk of monkeypox globally and in the region is moderate, the potential of its further international spread is real. We need to stay alert and prepared to roll out intense response to curtail further spread of monkeypox,” Dr. Khetrpal Singh said.

Since the start of the outbreak, the WHO has been supporting countries in assessing risk, and initiating public health measures, while also building and facilitating testing capacities in the region. Engaging and protecting the affected communities; intensifying surveillance and public health measures; strengthening clinical management and infection prevention and control in hospitals and clinics; and accelerating research into the use of vaccines, therapeutics, are among the key measures that need to be scaled-up, she said.

EXPLAINER

A recap of the monkeypox outbreak

By declaring monkeypox a public health emergency of international concern, how does the WHO plan to tackle and contain its spread?

THE GIST

VINOD SCARIA
BANIJOLLY

The story so far: Monkeypox, an uncommon viral infection which was primarily restricted to some countries in western and central Africa as well as travellers to these countries has now spilled over driven by zoonotic events. The disease made headlines with its international spread with over 16,000 cases in over 75 countries to date, primarily driven by human to human contact, spreading predominantly among, but not exclusively in gay, bisexual and MSM (men who have sex with men) communities. On July 23, 2022, amid a rapid rise in monkeypox cases across the globe, Dr. Tedros Adhanom, Director General of World Health Organization (WHO) declared the disease outbreak a Public Health Emergency of International Concern (PHEIC).

What is monkeypox and what causes the disease?

First discovered in 1958, in monkeys at the Statens Serum Institute in Denmark, monkeypox is a zoonotic virus that can infect humans as well as other animals, including rodents and other primate species. Ever since the first case in humans was identified in 1970, in the present Democratic Republic of the Congo, the virus has become endemic in parts of Central and West Africa primarily driven by zoonotic spillovers. Despite being denoted as 'monkeypox', the actual origin and source of the disease are unknown and therefore a misnomer in many ways. The virus belongs to the same family of viruses as variola – the virus that causes smallpox. The disease presents with symptoms that are similar to those previously seen in smallpox patients, although it is less contagious and less severe.

Symptoms of monkeypox include fever, headache, muscle pain, and lethargy along with rashes and blisters commonly on the face, palms, feet, mouth, eyes or genitalia. These symptoms generally appear within two weeks since infection but can last for two to four weeks, with severe cases occurring mostly among children. In most cases, monkeypox is a self-limited disease that resolves spontaneously without any specific treatment. However, newborns,

young children and people with underlying immune deficiencies may be at a higher risk of developing more severe symptoms.

How is the virus transmitted?

The virus can be transmitted from both animals to humans and between humans. Animal-to-human transmission of the virus can result from close contact with blood, fluids or skin lesions of infected animals. Human-to-human transmission could happen through close contact, and through body secretions, skin lesions or contaminated articles of individuals infected with monkeypox.

Close human contact during sexual activities is believed to be a driver of the current spread of the disease, as evidenced by its predominant spread in gay, bisexual and MSM communities.

How is the current outbreak different?

Since its initial detection in humans in 1970 in Africa, the first outbreak of monkeypox outside of Africa was reported in 2003 in the U.S. where multiple cases were found to be linked to close contact with infected imported animals. Recently, in May 2022, several cases of the disease were reported from regions where monkeypox was not endemic, and most cases had a history of travel to Europe or North America and not Africa. Before the current outbreak, monkeypox was predominantly reported from Africa while all cases reported in patients from other countries were linked to travel to regions where the disease was commonly found or because of contact with imported animals. As of now, no links between these new cases of contact with infected animals have been established. The number of confirmed monkeypox cases increased more than 70% from late June through early July 2022, with a majority of the case burden being in Europe. There is, however, limited knowledge about the source and transmission routes of the 2022 outbreak as well as the changes in the virus that helped it infect humans more than before, making monkeypox a disease of global public health importance.

What does declaring monkeypox a health emergency entail?

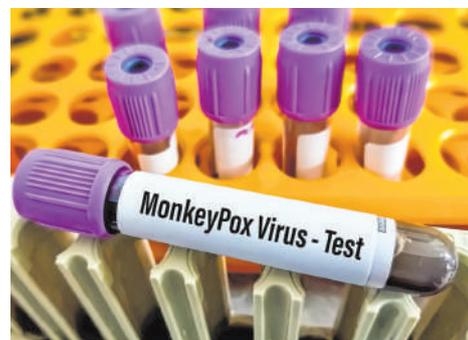
The WHO defines a PHEIC as a disease

outbreak that "constitutes a public health risk through the international spread of disease" which may require an immediate and coordinated international response. Since 2009, the WHO has made seven PHEIC declarations including the ongoing COVID-19 pandemic. This designation entails accelerating international efforts to contain the spread of the disease before it escalates into a pandemic. This would mean promoting countries to devise efforts to control transmission and coordinate sharing of key resources such as vaccines and therapeutics apart from heightened contact tracing, diagnosis and vaccination. While studies are underway to understand the epidemiology, transmission routes, and clinical presentations of the disease, the WHO will offer support to affected nations for developing an effective outbreak response and surveillance as well as prevention and therapeutic strategies against monkeypox.

There are a few factors that are advantageous. Firstly there is a wealth of information on the virus and methods to contain the spread, as well as management of the disease, thanks to researchers from Africa who have been able to contain outbreaks for decades. Additionally there is availability of a fairly effective vaccine, despite the logistical issues along with a widely available infrastructure for molecular diagnosis, thanks to the COVID-19 pandemic. Genomic surveillance of the pathogen provides a unique opportunity to trace the contact networks as well as evaluate the continued evolution of the virus. While it is heartening to note that a large number of genomes of monkeypox from the present outbreak has been available in public domain, there is a significant disparity in the numbers from developing countries, especially from Asia including India.

What are the current prevention and treatment options against monkeypox?

There are no specific treatments available for monkeypox. Clinical management of monkeypox includes relieving symptoms and managing complications and preventing long-term effects. It is also not currently understood if a previous monkeypox infection lends protective immunity against future infections. However, due to the



genetic similarities of smallpox and monkeypox viruses, vaccines and antiviral agents used for the worldwide eradication of smallpox can also protect against monkeypox. The WHO reports that vaccination against smallpox is approximately 85% effective in preventing monkeypox and thus prior immunisation against smallpox may lead to mild disease. Although the original smallpox vaccines are not available to the general public, newer vaccines have been developed of which one was approved in 2019 for monkeypox prevention. Studies are now being conducted to understand the effectiveness and feasibility of vaccination in preventing monkeypox.

While the world discusses the nuances of why Dr. Tedros declared monkeypox as a global health emergency despite the committee voting against it almost a month ago, it is possibly time for the world to realise that with global warming, increasing human-wildlife conflicts across the globe and ubiquitous global travel, efforts for global public health co-operation and sharing of resources never had a better time. As we come out of a global pandemic, there is never a better time to be prepared for newer challenges.

The authors are researchers at the CSIR Institute of Genomics and Integrative Biology (CSIR-IGIB), Delhi

5G spectrum auction from tomorrow

Reliance Jio, Adani Data Networks, Bharti Airtel and Vodafone Idea to participate in the bidding

YUTHIKA BHARGAVA
NEW DELHI

The much-awaited auction for telecom spectrum, including for 5G airwaves, will begin on Tuesday. However, analysts do not anticipate aggressive bidding, given the sufficient availability of spectrum and limited number of participants.

A total of 72,097.85 MHz (or 72 GHz) of spectrum with a validity period of 20 years will be put on the block. Airwaves across low (600 MHz, 700 MHz, 800 MHz, 900 MHz, 1800 MHz, 2100 MHz, 2300 MHz), mid (3300 MHz) and high (26 GHz) frequency bands, valued at ₹4,316 billion (\$56 billion) at least, will be put up for bidding.

It is expected that the mid- and high-band spectrum will be utilised by telecom service providers to roll out 5G services, wherein speeds would be 10 times higher than what is possible through the current 4G services.

“The highest amount of

Dialling up | A total 72 GHz of spectrum worth at least ₹4.3 lakh crore will be put on the block during the 5G auction, scheduled to begin on July 26. Earnest money deposits (EMD) – reflective of the quantity of airwaves a company can bid for in the auction – of all the four applicants seeking 5G radiowaves add up to ₹21,800 crore. Eligibility points are also assigned based on EMD.



| Company | Reliance Jio | Bharti Airtel | Vodafone Idea | Adani Data Networks |
|---|--------------|---------------|---------------|---------------------|
| EMD | 14,000 | 5,500 | 2,200 | 100 |
| Potential worth of bids on auction day | 1.27 lakh | 48,000 | 20,000 | 700 |
| Eligibility points assigned for auction | 1,59,830 | 66,330 | 29,370 | 1,650 |
| Net worth | 1,97,790 | 75,886.80 | -80,918 | 4,979 |
| Last year's EMD | 10,000 | 3,000 | 475 | - |
| Worth of spectrum picked up last year | 57,122.65 | 18,699 | 1,993.40 | - |

ALL FIGURES IN RUPEE CRORES

SOURCE: PTI

spectrum available per player for 5G bands on a pan-India basis will be worth ₹489 billion (\$6.1 billion). Assuming both Reliance Jio and Bharti Airtel bid to the maximum extent allowed, there will still be enough spectrum left to satisfy the maximum amount that the other two players can bid,” Morgan Stanley said in a recent note.

Likewise, Motilal Oswal noted that there is no risk of

overbidding as unlike previous auctions, there is abundant spectrum, limited participants and a cap on spectrum bidding to limit the bidding space to three-to-four sizeable players across 5G bands (700MHz, 3300MHz, and 26GHz).

Earnest money deposit

Four bidders will be participating in the upcoming auction – Reliance Jio, Adani Da-

ta Networks, Bharti Airtel and Vodafone Idea. As per official data, while Reliance Jio has made a ₹14,000-crore earnest money deposit (EMD), the deposit amount for Adani Data Network stood at a modest ₹100 crore, Bharti Airtel at ₹5,500 crore and Vodafone Idea at ₹2,200 crore.

The EMD provides an indication of the maximum quantity of airwaves a com-

pany can bid for in the auction. Typically, the maximum auction participation is eight to 10 times of the EMD.

“Even if Reliance Jio (looking at its aggressive EMD) or any other player bids aggressively, a) it may not move the reserve price materially, and b) it will still leave sufficient room for all players to acquire spectrum, either in this or subsequent auction,” Motilal Oswal said.

However, it added that telcos have offered a sizeable EMD in a bid to create a reasonable war chest to combat any aggression ahead of the 5G auction.

Research agency Nomura noted that with Adani group submitting a modest EMD, the concerns on its entry into the telecom sector has significantly eased now.

For Reliance Jio, it estimates potential outlay at about ₹405 billion-₹600 billion, while for Bharti Airtel the overall outlay could be ₹394 billion and for Vodafone Idea, about ₹184 billion.

Weighing in on India's investment-led revival

Prospects of sustaining investment recovery are likely to get harder with a depreciating rupee and rising inflation



R. NAGARAJ

The Finance Minister, Nirmala Sitharaman, said recently that India's long-term growth prospects are embedded in public capital expenditure programmes. She added that an increase in public investment would crowd in (or pull in) private investment, thus reviving the economy. The Minister was speaking at the third G20 Finance Ministers and Central Bank Governors (FMCBG) meeting hosted by Indonesia in Bali.

Lag in investment

Public investment-led economic growth has a respectable academic pedigree, and forms a credible strand of explanation for India's post-Independence economic growth. Here is an illustration. When it was faced with a slowdown after the Asian financial crisis of 1997, the Atal Bihari Vajpayee led-National Democratic Alliance government initiated public road building projects. In the form of the Golden Quadrilateral (to link metro cities using a high-quality road network) and the Pradhan Mantri Gram Sadak Yojana (to 'provide good all-weather road connectivity to unconnected habitations'), these initiatives sowed the seeds of economic revival, culminating in an investment and export-led boom in the 2000s; GDP grew at 8%-9% annually.

In comparison, the investment record during the 2010s has been dismal. However, a recent uptick is evident in the real gross fixed capital formation (GFCF) rate – the fixed investment to GDP ratio (net of inflation). The ratio recovered to 32.5% in 2019-20 from a low of 30.7% in 2015-16 (figure).

Ms. Sitharaman has claimed that the Government sustained the investment tempo even during the

Will the investment uptick insulate India?

A fall in industry and agriculture's shares, despite an investment turnaround, could constrict the response to current external exigencies



TABLE: SHARES OF GROSS CAPITAL FORMATION/GDP

| Year | Agriculture | Industry | Manufacturing | Services | Transport | Road |
|---------|-------------|----------|---------------|----------|-----------|---------|
| | (1) | (2) | (2.1) | (3) | (3.1) | (3.1.1) |
| 2011-12 | 8.5 | 38.1 | 19.2 | 47.3 | 8.1 | 3.7 |
| 2014-15 | 7.7 | 33.7 | 17.6 | 49.0 | 6.1 | 1.9 |
| 2019-20 | 6.4 | 32.5 | 16.5 | 52.3 | 12.9 | 3.1 |

Note: Gross fixed investment rate is defined as gross capital formation excluding "valuables" (read gold) and inventories. For this reason, the items (1), (2) and (3) do not add up to 100. | SOURCE: NATIONAL ACCOUNTS STATISTICS, 2021

novel coronavirus pandemic (2020-21 and 2021-22). As in the June edition of the Ministry of Finance's Monthly Economic Review, the fixed investment to GDP ratio was 32% in 2021-22. However, there is need for caution in reading the most recent data, as they are subject to revision. Moreover, the budgetary definition of investment refers to financial investments (which include purchase of existing financial assets, or loans offered to States) and not just capital formation representing an expansion of the productive potential.

On gross capital formation

The National Accounts Statistics provides disaggregation of gross capital formation (GCF) by sectors, type of assets and modes of financing; over 90% of GCF consists of fixed investments. The upturn in the investment rate is welcome, though its productive potential depends on its composition. Contrary to Ms. Sitharaman's contention, the investment distribution has hardly changed over the last decade, with the public sector's share remaining 20%.

The table shows the distribution

of GCF by agriculture, industry and services (columns 1 to 3); within services transport (column 3.1) and within transport, roads (the single largest expenditure item; column 3.1.1).

Between 2014-15 and 2019-20, the shares of agriculture and industry in fixed capital formation/GDP fell from 7.7% and 33.7% to 6.4% and 32.5%, respectively. Services' share rose to 52.3% in 2019-20 compared to 49% in 2014-15. The rise in the services sector is almost entirely on transport and communications. The share of transport has doubled from 6.1% to 12.9% during the same period. Within transportation, it is mostly roads.

As roads and communications are classic public goods, investment in them is welcome. But over-emphasising it may be lop-sided. For healthy domestic output growth, there is a need for balance between "directly productive investments" (in farms and factories) and infrastructure investments. And this balance was missed. Moreover, the share of agriculture and industry shrank even as the economy's gross capital formation rate trended down-

wards (see figure).

Import dependence grew

The case of manufacturing is distressing. Its share in the investment ratio (column 2.1) fell from 19.2% in 2011-12 to 16.5% in 2019-20. It is not surprising that 'Make in India' failed to take off, import dependence went up, and India became deindustrialised. Import dependence on China is alarming for critical materials such as fertilizers, bulk drugs (active pharmaceutical ingredients or APIs) and capital goods. This became acute during the COVID-19 pandemic, as China imposed export restrictions – prompting the Prime Minister to announce the 'Atmanirbhar Bharat' campaign.

Instead of boosting investment and domestic technological capabilities, the 'Make in India' campaign frittered away time and resources to raise India's rank in the World Bank's (questionable and contested) Ease of Doing Business Index. India's position did go up, from 142 in 2014 to 63 in 2019, but it failed to boost industrial investment, let alone foreign investment.

The contribution of foreign cap-

ital to financing GCF fell to 2.5% in 2019-20 from 3.8% in 2014-15 (or 11.1% in 2011-12). With declining investment share, industrial output growth rate fell from 13.1% in 2015-16 to a negative 2.4% in 2019-20, as per the National Accounts Statistics.

Public investment

The Finance Minister has claimed that public investment is the pivot of the ongoing investment-led economic revival. The recent upturn in the aggregate fixed capital formation to GDP ratio is positive, though the rate is still lower than its mark in the early 2010s. The claim that the investment revival is public sector driven is not borne out by facts. The jury may still be out on the suggested rise in public investment during the COVID-19 pandemic. The budgetary figures refer to financial investment, not estimates of capital formation, indicating expansion of the economy's productive capacity.

During the 2010s, the investment shares of agriculture and industry fell but rose sharply in services. The percentage share for roads has doubled. The expansion of roads and communications is surely welcome. Considering such a skewed investment priority, the 'Make in India' strategy failed to take off, accentuating India's import dependence, especially on China, leading to deindustrialisation.

The lack of domestic capacity for essential raw industrial materials and capital goods could prove costly. It will likely test India's ability to withstand external economic challenges. With a depreciating currency and rising (imported) inflation, prospects of sustaining investment recovery are likely to get harder. The deficit on balance of payment is already well above policy makers' comfort level of 2.5% of GDP.

R. Nagaraj is with the Centre for Development Studies, Thiruvananthapuram. The views expressed are personal

Wind power rates may bottom out

Centre to stop ‘reverse auctions’

JACOB KOSHY

NEW DELHI

Last week, the Ministry of New and Renewable Energy (MNRE) said it would be doing away with the practice of reverse auctions – when companies bid to offer the lowest price – while awarding contracts for setting up wind-energy projects. However, wind industry experts say this alone will not necessarily improve the sector’s fortunes.

India has committed to installing 60,000 MW of wind power projects by 2022, but has met only two-thirds of the target.

“An in-principle decision has been taken. There were complaints from the industry that e-reverse auctions are leading to tariffs being artificially lowered leading to unhealthy competition,” Indu Shekhar Chakravarty, Secretary, MNRE, said at a conference organised by Confederation of Indian Industry (CII).

While reverse auctions were the norm for all renew-



There is limited availability of sites favourable for cost-efficient wind projects.

able energy projects, including solar and wind projects since 2015, the government’s change of stance signals that the rock-bottom prices associated with clean energy projects – per unit solar power costs have fallen to ₹2.40 a unit – do not reflect the true costs of renewable energy.

Reason for dip in health

The cost of large tracts of land required to install wind turbines is among the reasons cited for the dwindling health of the sector.

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Wind power rates may bottom out

The other reasons are limited availability of prime sites that are favourable for cost-efficient wind power projects and the poor financial health of State electricity distribution companies, which pay wind power project developers for every unit of power sold to them, are among the reasons cited for the dwindling health of the sector.

Francis Jayasuriya of the Global Wind Energy Council, an international trade council, said that there was yet no clarity on what would replace the existing policy. “Prices were going below ₹2.50 a unit and in fact, the government had to intervene and put a ceiling on how low this could go,” he told *The Hindu*.

The reverse auction system replaced a system of feed-in tariffs where companies placed closed bids for a chance to develop a wind power project at a site in return for a fixed revenue for a fixed period.

While this led to a boom in the sector in Tamil Nadu and Gujarat, per-unit prices for wind power varied widely from State to State.

Frequently, those who

bid for wind power projects wouldn't know the sites at which their potential projects would be located and once they began developing the sites, they would encounter challenges. This would lead to projects being abandoned that ultimately hindered the development of the sector, explained Vibhuti Garg, energy economist and India-lead at the Institute for Energy Economics and Financial Analysis

Arul Balan, Director, CALS Renewable Energy India Pvt Ltd, which develops wind and solar projects in Tamil Nadu said that the existing policy for wind power projects is a “disaster” for entrepreneurs. Regions that had suitable sites for developing wind farms are usually unconnected to the electricity grid and there are substantial costs involved in ensuring that electricity from the wind farm made it to the grid.

“The only way forward for the growth of the sector, especially if it is to be fair and not cornered by a few big companies, is if the true price of a project is transparently captured in the bid price,” he told *The Hindu*



CACHE

The challenges of fiberisation ahead of India's 5G deployment

Why are optical fibre cables necessary for accessing 5G technology?

THE GIST

■ The process of connecting radio towers with each other via optical fibre cables is called fiberisation. It helps provide full utilisation of network capacity, and carry large amounts of data once 5G services are rolled out.

■ Indian Prime Minister Narendra Modi, in his 2020 Independence Day speech, laid out the vision to connect every village in the country with optical fiber cable (OFC) in 1,000 days. To reach the targeted level of fiberisation, India requires about ₹2.2 lakh crore of investment to help fiberise 70% towers.

■ Satellite communication also can facilitate 5G broadband connectivity to areas where it is not feasible to deploy terrestrial infrastructure like remote villages, islands or mountainous regions.

ABHISHEK CHATTERJEE

The story so far: India is preparing to auction off about 72 Ghz of airwaves to rollout 5G services in the country. However, the infrastructure needed for such a rollout requires existing radio towers to be connected via optical-fibre cables. The work of connecting the towers could prove to be a huge challenge for the country.

What is fiberisation?

The process of connecting radio towers with each other via optical fiber cables is called fiberisation. It helps provide full utilisation of network capacity, and carry large amounts of data once 5G services are rolled out. It will also aid in providing additional bandwidth and stronger backhaul support. The backhaul is a component of the larger transport that is responsible for carrying data across the network. It represents the part of the network that connects the core of the network to the edge. As a result, fibre backhaul remains an important part of transport across all telecoms, Sajjan Paul, Managing Director & Country Manager, India & SAARC, Juniper Networks, a telecom infrastructure company, told *The Hindu*.

Fibre-based media, commonly called optical media, provides almost infinite bandwidth and coverage, low latency and high insulation from interference. With 5G, it will also be necessary to increase the density of mobile towers to provide better coverage to consumers and businesses. This calls for increased requirements for fibre deployment, Mr. Paul said.

Where does India stand with respect to tower fiberisation?

To transition into 5G, India needs at least 16 times more fibre, according to estimates by STL, a technology company specialised in optical fibers and cables.

In India, currently only 33% of the towers are fiberised, compared to the 65%-70% in South Korea and 80%-90% in the U.S., Japan and China, according to a 2021 report by India Infrastructure Research. The fibre kilometer (fkm) per capita in India is lower than other key markets. Ideally, a country needs 1.3 km of fibre per capita to ensure good fiberisation. India's fkm is just .09 compared to 1.35 in Japan, 1.34 in the U.S. and 1.3 in China, the report noted.

There is also a need to increase data capacity in the fiberised towers. These tower sites which are connected via fibre cables are called fibre point of presence (POP). Currently these fibre POPs at a

tower site can handle data at one to five Gbps speed, Nitin Bansal, managing director, India & head - Networks, Southeast Asia, Oceania & India, Ericsson, told *The Hindu*.

What are the challenges?

To reach the targeted level of fiberisation, India requires about ₹2.2 lakh crore of investment to help fiberise 70% towers. About ₹2.5 lakh crore will be needed to set up 15 lakh towers in the next four years, according to estimates by the National Broadband Mission and Cellular Operator Association of India (COA).

Government programmes like BharatNet and Smart Cities will further add to the demand of fibre deployment, necessitating a complete tower fiberisation. Indian Prime Minister Narendra Modi, in his 2020 Independence Day speech, laid out the vision to connect every village in the country with optical fiber cable (OFC) in 1,000 days. To achieve that vision, cables must be laid at a speed of 1,251 km a day, around 3.6 times the current average speed of 350 km a day, according to a report by EY, a global professional services company.

One of the biggest issues in the way of fiberisation remains the Right of Way (RoW) rules. The Indian Telegraph RoW Rules 2016 were gazette notified by the Department of Telecommunications (DoT), Govt. of India on November 15, 2016. The rules aim to incorporate nominal one-time compensation and uniform procedure for establishment of Overground Telegraph Line (OTL) anywhere in the country.

While all States/UTs are required to implement these rules, they are not in complete alignment and still require certain amendments to align, the EY report pointed out. Further, several districts and local bodies have not agreed to the RoW policies as notified in those respective States. These places are following their own bylaws overriding the State RoW policies aligned with the RoW rules, 2016, EY said.

Other central Ministries like the Ministry of Road Transport and Highways, National Highway Authority of India, Ministry of Environment and Forests, Ministry of Railways, Ministry of Defense, Ministry of Civil Aviation, Department of Post, etc. have not yet adopted these Rules, citing their own departmental rules, EY said.

Global network intelligence firm Ookla highlighted the DoT's GatiShakti Sanchar online portal as a way to simplify RoW approvals and help deploy cables for 5G. "This initiative will enable centralisation of RoW approvals for

telecom infrastructure projects, including 5G and help operators to deploy required infrastructure for the upcoming 5G rollout in a timely manner," Sylwia Kechiche, Principal Analyst, Ookla, said to *The Hindu*. In October 2021, the DoT revised the RoW rules, making it easier to install aerial optical fiber cable in the country. This can enable infrastructure providers to deploy cables overhead via street light poles and traffic light posts.

Pilot projects are underway in a few locations like the Delhi airport. The Telecom Regulatory Authority of India has also published a consultation paper on using street furniture for small cell and aerial fiber deployment. This along with the findings from the pilot projects will help to inform the regulatory and policy framework, Ms. Kechiche added.

Can satellite communication help in 5G deployment and improve network backhaul?

Processing power needs to be distributed from centralised data centres to edge servers closer to users.

Satellite communication can provide high-capacity backhaul connectivity to large numbers of edge servers over wide areas, thereby complementing the terrestrial network with cost-effective scalability, according to a report by Intelsat, a satellite service provider.

Satellite communication can facilitate 5G broadband connectivity to underserved areas where it is not feasible to deploy terrestrial infrastructure like remote villages, islands or mountainous regions. Satellite-based networks are the only means for delivering 5G broadband to users on board moving vessels, including cars, ships, airplanes and high-speed trains. In addition, space-based broadcast capabilities support over-the-air software updates for connected cars anywhere in the world, the Intelsat report said.

Space-based backhaul will also provide disaster relief services, support emergency response teams as well as deliver broadband connectivity for one-off entertainment or sports events anywhere in the world, Intelsat said.

The low-Earth Orbit (LEO) satellites will be well-suited to offer not only backhaul, but also direct connectivity. As the 5G standard is adopted, new markets will open up for satellite operators, including IoT, private 5G, and cellular backhaul for densification to enable more cell sites and edge devices, Ms. Kechiche added.

China launches second space station module

Wentian to host space for experiments, serve as short-term living quarters

REUTERS
BEIJING

China on Sunday launched the second of three modules to its permanent space station, in one of the final missions needed to complete the orbiting outpost by year's end.

A live feed on state broadcaster CCTV showed the 23-tonne Wentian ("Quest for the Heavens") laboratory module launching on the back of China's most powerful rocket, the Long March 5B, at 2:22 p.m. (0622 GMT) from the Wenchang Space Launch Centre on the southern island of Hainan.

Space agency staff, seen on the live feed observing the progress of the launch from a control room, cheered and applauded



A Long March-5B Y3 rocket, carrying the Wentian lab module. ■REUTERS

when the Wentian separated from the rocket about 10 minutes after the launch.

'Complete success'

The launch was "a complete success", CCTV reported shortly after.

China began constructing the space station in April 2021 with the launch of the Tianhe module, the main living quarters, in the first of 11 crewed and uncrewed missions in the undertaking.

The Wentian lab module, 17.9 m long, will provide space for experiments, along with the other lab module yet to be launched – Mengtian ("Dreaming of the Heavens").

Wentian features an airlock cabin that is to be the main exit-entry point for extravehicular activities when the station is completed.

It will also serve as short-term living quarters for astronauts during crew rotations on the station, which is designed for long-term accommodation of just three

astronauts.

Mengtian is expected to be launched in October and, like Wentian, is to dock with Tianhe, forming a T-shaped structure.

'Source of pride'

The completion of the structure, about a fifth of the International Space Station (ISS) by mass, is a source of pride among ordinary Chinese people and will cap President Xi Jinping's 10 years as leader of China's ruling Communist Party.

On board the space station are Shenzhou-14 mission commander Chen Dong and team mates Liu Yang and Cai Xuzhe. They are slated to return to Earth in December with the arrival of the Shenzhou-15 crew.

Kovind highlights climate crisis

We must take care of our environment for the sake of our children, he says

SPECIAL CORRESPONDENT
NEW DELHI

President Ram Nath Kovind, in his farewell address to the nation on Sunday, urged the youth to be mindful of their roots in villages and towns, and made a strong appeal to countrymen to take care of the environment.

“Mother Nature is in deep agony and the climate crisis can endanger the very future

of this planet,” Mr. Kovind said.

“As the first citizen, if I have to give one advice to my fellow citizens, it is this,” he added.

Mr. Kovind, India’s 14th President, completes his term on Sunday, and his successor, Droupadi Murmu, will be sworn in on Monday.

In his customary remarks on the eve of demitting of-

office, he said that in his five-year term, he had discharged his responsibilities to the best of his abilities, and he had tried hard to be a worthy successor to great Presidents such as Rajendra Prasad, S. Radhakrishnan and A.P.J. Abdul Kalam.

“My predecessor, Shri Pranab Mukherjee, also shared his wise counsel with me,” Mr. Kovind said.

However, during times when he felt he needed to think over a certain path of action, he would remember Mahatma Gandhi’s talisman, which enjoined that whenever in doubt over a course of action, one need only to ask whether that action would help the poorest person around.

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Ram Nath Kovind highlights climate crisis

“I would urge you all to spend some time every day going over Gandhi-ji’s thoughts and words,” he said.

Mr. Kovind said some of the most unforgettable parts of his Presidency for him had been to visit his ancestral village near Kanpur, and reconnect with and take blessings of the elderly teachers there.

“To think of occupying any Constitutional post or even to conceive of what it meant was quite beyond the scope of my imagination as a child or of those around me, but our democracy has given ways and means for people to find ways of contributing to serve the country,” he said. He urged young people to stay connected to their roots in villages and towns and their teachers and elders.

He remembered the final speech of B.R. Ambedkar before the Constitution was adopted. He pointed out that Dr. Ambedkar had said

that mere political democracy was not enough, that social democracy, embodied in the phrases liberty, equality and fraternity, should underlie political democracy. “These values must not be mistaken for abstractions,” he said.

He praised the New Education Policy as making it possible for young Indians to connect with their heritage and also find their feet in the 21st Century.

He signed off his speech with a strong appeal to take the climate crisis seriously. “Mother Nature is in deep agony and the climate crisis can endanger the very future of this planet. We must take care of our environment, our land, air and water, for the sake of our children. In our daily lives we must be more careful to protect our trees, rivers, seas and mountains as well as all other living beings. As the first citizen, if I have to give one advice to my fellow citizens, it is this,” he said.

Study on snow leopard and its prey

Strong link between habitat use by mountain cat and Siberian ibex, blue sheep

SHIV SAHAY SINGH
KOLKATA

A recent study by the Zoological Survey of India (ZSI) on snow leopard (*Panthera uncia*) has thrown up interesting insights on the elusive mountain cat and its prey species.

The study under the National Mission on Himalayan Studies revealed a strong link between habitat use by snow leopard and its prey species Siberian ibex and blue sheep.

Scientists used camera traps and sign surveys to evaluate the co-occurrence

patterns of snow leopards and its prey species in Spiti Valley of Himachal Pradesh. Details of the study have been published in the journal *Plos One*.

“We found that the snow leopard detection probability was high if the site was used by its prey species – ibex and blue sheep. Whereas, in the case of the prey species, the probability of detection was low when the predator was present and detected. Besides this, our results suggested that both species were less likely to be detected together than ex-

pected ...,” it states. Lalit Kumar Sharma, lead author of the publication, said that snow leopards use rugged mountainous areas or non-forested areas covering an altitude between 3,200 metres to 5,200 metres.

Dr. Sharma, who heads the GIS & Wildlife Section of the ZSI, said that the study suggested that habitat covariates such as barren area, grassland, aspect, slope and distance to water were important drivers of habitat use for the snow leopard as well as its prey species. He added that the Spiti Valley

possessed a good habitat in and outside the protected areas which could support a viable population of both threatened snow leopard and its prey species.

Classified as ‘Vulnerable’ by the International Union for Conservation of Nature Red list and listed in Schedule-I species of the Indian Wildlife (Protection) Act, 1972, snow leopards are elusive mountain cats.

Dhriti Banerjee, Director, ZSI, said that protecting snow leopards may result in a cascade of benefits to the ecosystem as a whole.

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| D | Post-independence consolidation and reorganization within the country; |
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| H | Effects of globalization on Indian society; |
| I | Role of women and women's organization; |
| J | Social empowerment, communalism, regionalism & secularism |
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| Q | Urbanization, their problems and their remedies |
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