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GS 3: INDIAN ECONOMY

THE HINDU PAGE: 8

The solution to the falling rupee lies in diplomacy

The sudden decline in the value of the rupee has somewhat shaken the people and the markets. They wonder why this is happening when the economy is doing well, characterised by a good growth rate, low inflation, and a modest current account deficit.

India's growth rate in the current year is estimated at 7.4%. Inflation has been subdued with CPI inflation ending the year 2025 at 1.33%, below the Reserve Bank of India (RBI)'s lower target band for the fourth consecutive month. The current account deficit as a percentage of GDP in the first half of 2025-26 is only 0.76 compared to 1.35 in the previous year. The fall in the value of rupee since April 2025 is about 6%.

The villain of the piece

Since the trade deficit (merchandise and services), which was \$96.58 billion in April-December 2025 compared to \$88.43 billion in the same period last year, is not that large, the main villain in the piece is capital outflows. There has been a steady outflow of capital since U.S. President Donald Trump took an adverse view on India and imposed 50% import duty on Indian exports. Initially, the U.S. imposed a 25% tariff on 'reciprocal' basis and then another 25% because India was importing crude oil from Russia. Now, it is threatening to impose an additional 25% tariff on countries that are doing business with Iran. This includes India, although trade with Iran is only 0.15% of the country's total trade.

Net capital inflows in April-December 2024 were \$10,615 million. In the same period in 2025, they turned negative, with a net outflow of \$3,900 million. Despite months of negotiations with the U.S., no agreement has been reached yet. There seem to have been issues that could not be resolved easily. If this stalemate continues, the rupee will continue to fall.

We have to note that in the changed context, capital outflows are caused not by strict



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Capital outflows are hitting the rupee. These outflows will continue to take place until India and the U.S. come to an understanding

economic factors but by fears generated by the 'hostile' attitude of the U.S. In 2022, the rupee depreciated by almost 10%. That had some economic explanation, such as the Federal Reserve's sharp hikes in interest rates. But this time, there is no clear economic explanation. Thus, the situation has shifted from the economic arena to the diplomatic platform. When tariffs are getting weaponised for geopolitical reasons, diplomacy is the major route for a solution.

RBI intervention

India's exchange rate regime underwent a change in 1993 when it moved to a market-determined exchange rate regime. But the new system did not rule out the RBI's intervention in the foreign exchange market. Since 1993, all RBI Governors have made it clear that the intention is not to use intervention to peg the value of the rupee, but to reduce its volatility.

However, the word 'volatility' was never defined. We can deduce from the actions of the RBI that reducing volatility means not only reducing fluctuations around a prevailing level, but also 'moderating' the fall in the value of the rupee when it happens. Shocks from rupee fluctuations have a cost. It is only to minimise the impact of such sudden shocks that there is intervention. Even then, it is not the intention of the RBI to prevent the fall, but to let it slide smoothly to whatever level it has to fall. It may be best for the RBI to clarify that reducing volatility also includes moderating the fall in the value of the rupee. After all, intervention, especially if it is asymmetric, does affect the level of exchange rate while minimising its volatility. The present situation adds another element – non-economic pressures acting on the value of the rupee. In fact, if India and the U.S. come to an understanding, the rupee will appreciate.

Why devaluation is not the remedy

Will a fall in the value of the rupee have any

beneficial effects? The import content of India's exports is rising. As a result, the stimulus to exports provided by devaluation will be moderated in the changed context. Further, given the high tariffs in the U.S. market, India's exporters are unlikely to gain significant access there. On the import side, most of India's imports are essential goods, with crude oil alone accounting for about 25% of total merchandise imports. A fall in the rupee would raise their prices, fuelling inflation.

India's inflation is not higher than the inflation in developed countries in the West. Devaluation is called for when there is wide disparity in inflation. That is when we need to focus on Real Effective Exchange Rate (weighted average of a country's currency relative to a basket of major trading partners, adjusted for inflation). It is true that some countries such as China have tried to keep the value of the currency undervalued. But this is currency manipulation, which is controversial.

The fall in the value of the rupee in the last one month has been caused by the fears engendered by the imposition of 50% tariff on Indian exports by the U.S. There is a possibility that the tariffs may even go up because of new legislation in the U.S. The full impact of the tariffs will be felt only in 2026-27.

What is hitting the rupee as of now are capital outflows. These outflows will continue to take place until India and the U.S. come to an understanding. We cannot ignore the fall in the value of the rupee. Capital outflows will get accelerated with every fall in the value of the rupee. The required earning in rupee terms will rise to attract investors in such a situation. When capital outflows happen because of the sale of stocks, they have a direct impact on the stock market. Our trade negotiators must reach an early understanding with the U.S. Meanwhile, the RBI can only smoothen the fall in the value of the rupee.

GS 3: SCIENCE & TECHNOLOGY

THE HINDU PAGE: 7

To make sense of cosmic rays, CERN team tracks a fragile nucleus

Why is finding out how deuterons survive particle collisions in the Large Hadron Collider important? If scientists have to predict how light nuclei form in high-energy collisions in space, like when cosmic rays strike interstellar gas, they need to know which formation mechanisms are possible and which ones nature forbids

Yasudevan Mukunth
CHENNAI

The hydrogen atom is the lightest in the universe and it consists of the simplest nucleus: a single proton. But while helium is the second-lightest element, its nucleus isn't the second simplest. That distinction belongs to the deuteron, the nucleus of the deuterium atom, which contains one proton and one neutron. (Deuterium is an isotope of hydrogen.)

However, the two particles are bound with a very low binding energy, making deuterons seem fragile relative to the energetic, messy environment created when particles collide at nearly the speed of light at the Large Hadron Collider (LHC). Yet experiments have repeatedly observed deuterons (and anti-deuterons) emerging from these collisions. How do they survive this environment?

Coalescence scenario

Physicists have come up with two broad explanations. One, called direct emission, assumes the deuterons are produced directly from a hot source, meaning their formation doesn't involve a different particle (or particles) condensing from a soup of energy, then decaying to form deuterons. The other idea, called coalescence, holds that the proton and neutron are produced first, then they stick together later if they get close enough.

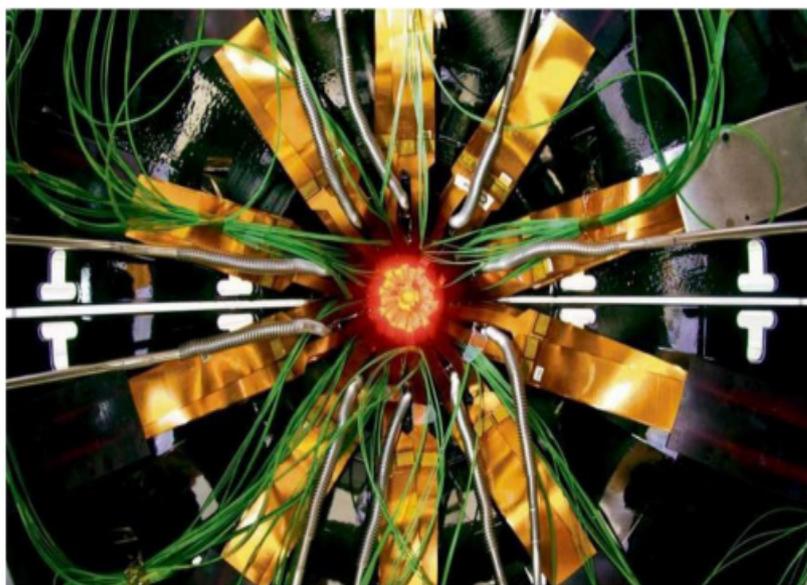
The problem is a proton and a neutron can't fuse if they have too much energy, so there has to be a third particle to carry away the excess energy. That third participant can be a type of particle called pion that acts like a catalyst, i.e. it will enable the reaction without becoming part of the final deuteron.

Finding out whether this is possible matters beyond collider physics. If scientists have to predict how light nuclei and antinuclei form in high-energy collisions in space – such as when cosmic rays strike interstellar gas – they need to know which formation mechanisms are possible and which ones nature doesn't 'allow'.

Delta resonance

A new study out of the ALICE collaboration at the LHC has provided the answer. The collaboration works with the ALICE detector, one of nine detectors on the LHC. At four points on its ring, the LHC smashes together opposing beams of protons at high energy. The collisions produce a morass of particles and reactions between them. The detectors have computers and sensors that are triggered when they identify reactions of interest and which they record and analyse.

For the new study, the ALICE



Close watch: A view of the ALICE detector, one of nine detectors on the Large Hadron Collider in 2007. cern

collaboration used a technique called femtoscopy to infer how and when particles were produced by checking whether two particles come out with very similar velocities more often than chance would predict. Its basic object was a ratio called the correlation function. The numerator was how often a given pair (a pion and a deuteron) is seen with a small relative momentum. The denominator was how often such pairs would form assuming they had no affinity for each other.

The team was looking specifically for a particle called $\Delta(1232)$ resonance. (' Δ ' is pronounced 'delta'.) The resonance is a very short-lived excited version of a proton or a neutron that quickly decays. $\Delta(1232)$ in particular decays into a pion and a proton or neutron. If a deuteron is later formed using that same proton (or neutron), then the pion and the deuteron would appear to be 'linked' in the data by having a correlated momentum.

ALICE reported just this signal in the pion-deuteron data, meaning many of the deuterons are formed after the Δ decays, rather than directly at the start.

Where a nucleus is born

If the pions were only bumping into deuterons that already existed, some of those collisions should have broken the deuteron apart (which is fragile, remember). In that case, the data should've shown a dip around the Δ region. ALICE, however, found a positive signal, meaning deuterons were forming

The study noted that scientists can use the insight on deuterons to build more realistic models of reactions induced by cosmic rays, which are energetic protons and atomic nuclei which often collide with other nuclei in outer space

after Δ particles decayed and the pions from the same decay were correlated with the new deuterons.

Norwegian University of Science and Technology physics professor Michael Kachelrieß called the finding a "great achievement" to *Physics World*.

From the size of the Δ signal, the team estimated that around 62% of deuterons were produced following Δ decays. They figured if they included other short-lived resonances as well, about 80% of deuterons would be formed by coalescence.

This seems to be the answer to why deuterons can survive the LHC's high-energy collisions. Resonances usually travel a short distance before they decay, so the coalescence that forms deuterons happens slightly later and slightly away from the most violent part of the collision. Thus the deuterons are also 'born' into a less extreme environment.

Cosmic rays, dark matter

In sum, most deuterons aren't born as readymade nuclei at the instant of collision but are instead assembled

shortly afterwards from existing protons and neutrons, with help from pions nearby. This should change how theorists model the way nuclei (and anti-nuclei) are produced in high-energy particulate reactions.

In fact the ALICE team's paper, published on December 10, noted that scientists can use this insight to build more realistic models of reactions induced by cosmic rays.

Cosmic rays are very energetic protons and atomic nuclei hurtling through space and which often collide with other nuclei in outer space. When scientists are studying telescope data of these collisions or are modelling them in the lab, e.g. for astronomy research or because they're sending a probe to that part of space, they'll need to know which signals are coming from which sources.

"These findings not only explain a long-standing puzzle in nuclear physics but could have far-reaching implications for astrophysics and cosmology," the ALICE team said in a statement.

"Light nuclei and antinuclei are also produced in interactions between cosmic rays and the interstellar medium, and they may be created in processes involving the dark matter that pervades the universe. By building reliable models for the production of light nuclei and anti-nuclei, physicists can better interpret cosmic-ray data and look for possible dark-matter signals."

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THE GIST

▼ The neutron and proton in the deuterium nucleus are bound with a very low binding energy, making deuterons seem fragile relative to the energetic, messy environment created when particles collide at nearly the speed of light at the LHC

▼ Yet experiments have repeatedly observed deuterons (and anti-deuterons) emerging from these collisions

▼ Most deuterons are not born as readymade nuclei at the instant of collision but are instead assembled shortly afterwards from existing protons and neutrons

GS 2: INTERNATIONAL RELATIONS

THE HINDU PAGE: 5

EU, India to collaborate on 'peaceful uses' of nuclear energy under Euratom deal +

The Hindu Bureau
NEW DELHI

The European Union (EU) and India have committed to promoting collaboration on the peaceful uses of nuclear energy under the India-Euratom agreement, according to a statement from the Joint India-European Union Comprehensive Strategic Agenda on Tuesday. India and the EU had signed a research and development agreement on peaceful uses of nuclear energy with Euratom, Europe's atomic energy body, in July 2020.

The statement on Tuesday highlighted collaboration on research and development activities in nuclear science and technology, advanced materials for detectors, radiation safety, nuclear security, non-power applications of atomic energy, including cooperation on radio-pharmaceuticals, and strengthening cooperation in the International Thermonuclear Experimental Reactor (ITER). It also spoke of



Union Minister Piyush Goyal and NSA Ajit Doval with delegates from the European Union in New Delhi on Tuesday. AP

“deepening cooperation” under the EU research and innovation programme, Horizon Europe, including in the fields of energy, water, agri food, health, semiconductors, biotech, advanced materials, particularly through mechanisms such as co-funding and coordinated calls. Horizon Europe is the EU's key funding programme for research.

While specifics are unclear, one of the major sticking points involving the EU and India was the Carbon Border Adjustment Mechanism (CBAM), which imposed additional tariffs on iron and steel producers, outside the EU, who

emit more carbon emissions in the production of iron and steel than European producers.

“Through CBAM provisions, commitments have been secured, including a forward-looking, most-favoured nation assurance, extending flexibilities, if any, granted to third countries under the regulation, enhanced technical cooperation on recognition of carbon prices, recognition of verifiers, as well as financial assistance and targeted support to reduce greenhouse gas emissions and comply with emerging carbon requirements,” India's Press Information Bureau said in a statement.

GS 2: INTERNATIONAL RELATIONS

THE HINDU PAGE: 1

'Mother of all deals': India and the EU finalise FTA

European wines, luxury cars to become cheaper as two sides conclude trade negotiations that began in 2007

Modi calls it historic pact, while EU chief says the deal will reduce strategic dependency at a time of global upheaval

Officials say document will undergo a legal scrubbing, translation before ratification by European Parliament

T.C.A. Sharad Raghavan
NEW DELHI

After almost two decades of negotiation, India and the European Union (EU) finalised a free trade agreement (FTA) on Tuesday, billed as the "mother of all deals", that will see the EU drop tariffs on 99.5% of Indian exports to the 27-nation bloc.

India has given tariff concessions on 97.5% of imports from the EU, with European wines and luxury cars set to become less expensive here as a result.

Beyond the economics, both sides stressed the geopolitical significance of a deal between two economies that together account for a third of global trade in the shadow of uncertainty sparked by the U.S. tariff regime.

Prime Minister Narendra Modi declared that the partnership would "strengthen stability" at a time of global turmoil, while European Commission President Ursula von der Leyen said it would reduce strategic dependency at a time when global trade is increasingly fractious.

"We have delivered the mother of all deals," she said. "Two giants who choose partnership, in a

true win-win fashion. A strong message that cooperation is the best answer to global challenges."

'Largest-ever FTA'

Noting that this is India's largest-ever FTA, Mr. Modi said: "This historic agreement will facilitate access to the European market for our farmers and small industries, create new opportunities in manufacturing, and strengthen cooperation in our services sectors."

Both sides, however, made sure to exclude their respective sensitive sectors. India's strategic agricultural and dairy sectors remain protected, while the EU will maintain its current tariffs on beef, sugar, rice, chicken meat, milk powder, honey, bananas, soft wheat, garlic, and ethanol.

India-EU FTA talks were first launched in 2007. Following several hiccups and pauses, they were resumed in 2022 with both sides agreeing to exclude issues on which agreement had been elusive.

According to Commerce Ministry officials, the language in the document will first be cleaned up over the next 10 to 15 days, following which it will undergo "legal scrubbing". It will

Landmark agreement

After almost two decades of talks, the European Union and India sealed a landmark trade pact, driven by U.S. tariff pressures. The deal aims at doubling exports to India



HOW DOES IT BENEFIT EU?

- Tariffs removed or cut on 90% of EU goods
- Wine duties cut from 150% to 20-30%; Spirits cut to 40%
- Car tariffs drop from 110% to 30% (250,000 vehicle quota)
- Tariffs eliminated on Airbus aircraft, and processed food
- 0% tax on most machinery, and pharmaceutical products

HOW DOES IT BENEFIT INDIA?

- Duty-free exports for items such as textiles, leathers, gems, and spices
- A duty-free quota of 1.6 million tonnes for steel
- Easier for skilled Indian workers to work in the 27-country bloc
- Dialogue on carbon border tax; India set to be treated like other EU partners
- Phased-out tariffs on arms and ammunition, among other goods

WHAT THE DEAL DOESN'T INCLUDE?

- No concessions on items such as chicken and rice
- No agreement on government procurement on energy and raw materials
- A "sustainable development" chapter (rejected by India)
- Agreement on Geographical Indications

Source: AP

Diplomatic outreach: Prime Minister Narendra Modi with European Commission President Ursula von der Leyen and Council President Antonio Costa, on Tuesday in New Delhi. ANI

then have to be translated and sent to all 27 EU member states, before it can be ratified by the European Parliament. "We do hope that we should be able to celebrate the entry into force of this agreement within calendar 2026 itself," said Union Minister Piyush Goyal.

According to the Commerce Ministry, India has gained tariff reductions across 97% of tariff lines, covering 99.5% of trade value. Of this, 90.7% of India's exports will see duties eliminated entirely on the first day of the deal's implementation, including labour-intensive sectors such as textiles, apparel, leather, footwear, tea, cof-

fee, spices, sports goods, toys, gems and jewellery, and certain marine products, amongst others.

Another 2.9% of India's exports will see duty elimination over three to five years.

This would include certain marine products, processed food items, and arms and ammunition. Over and above this, 6% of India's exports will see tariff reductions including certain poultry products, preserved vegetables, bakery products, amongst others.

"Key labour-intensive sectors comprising more than ₹2.87 lakh crore [\$33 billion] of exports that are currently subjected to import duty between 4% to

26% in the EU and are crucial for employment generation, will enter zero duty from entry into force of the FTA and thus gain enhanced competitiveness in the EU market," the Ministry said in a release.

Duty elimination

In particular, of the sectors that India primarily exports to the EU, the following will see duties eliminated entirely: marine products (current duties of up to 26%), chemicals (12.8% currently), plastic and rubber items (6.5%), leather footwear (17%), textiles and apparel (12% each), base metals (10%), gems and jewellery (4%), furniture and allied con-

sumer goods (10.5%), and toys and sports goods (4.7%). On services, the EU has agreed to commitments across 144 services sub sectors, including IT/ITeS, professional services, education, and other business services.

Overall, India is offering duty elimination and reductions on 92.1% of the tariff lines, which comprises 97.5% of the EU exports to India. Within this, 49.6% of the tariff lines will see an immediate duty elimination once the agreement comes into effect.

Another 39.5% of the tariff lines will be subject to a phased elimination of tariffs over five, seven, and 10 years. An additional 3%

of products will see phased tariff reductions.

"Imports of EU's high technology goods are expected to diversify India's import sources, thereby reducing input costs for businesses, benefit consumers and will create opportunities for Indian businesses to integrate into global supply chains," the statement added.

Notably for the EU, the following European sectors will see duty-free access to the Indian markets: machinery and electrical equipment, aircraft and spacecraft, optical, medical and surgical equipment, plastics, precious stones and metals, chemicals, motor vehicles, iron

and steel, pharmaceuticals, and various agricultural products. On services, India has agreed to open up 102 sub sectors covering EU priorities such as professional, business, telecommunications, maritime, financial, and environmental services.

It has been learnt that negotiations over a few sectors such as automobiles and wine had caused some problems, but that the two sides finally agreed to quota based systems that were satisfactory to both sides. India agreed to allow European cars with a price tag above ₹25 lakh to be imported at lower duties of as low as 10%, from the current 110%, but subject to a quota.

India and the EU also reached a limited agreement on the contentious Carbon Border Adjustment Mechanism (CBAM), Mr. Goyal added. The agreement creates a way for carbon footprint verifiers in India to gain accreditation. It also specifies that, should the EU give concessions under CBAM to a third country, those concessions would automatically apply to India too.

MORE REPORTS ON

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GS 2: INTERNATIONAL RELATIONS

THE HINDU PAGE: 11

The impact of India-EU FTA for AI and semiconductor tech

The India-EU Free Trade Agreement moves beyond supply chains to operationalise joint R&D in advanced semiconductor integration. It also formally links the European AI Office with India's National AI Mission

Yasudevyan Mukunth

In a milestone, India and the European Union (EU) have hailed the conclusion of the India-EU Free Trade Agreement (FTA) while launching a 'Comprehensive Strategic Agenda' for 2030. Among other measures, the pact moves beyond supply chains to operationalise joint R&D in advanced semiconductor "heterogeneous integration" and chip design. It also formally links the European AI Office with India's National AI Mission to jointly develop safe, human-centric AI and take advantage of what the agreement called India's vast "multilingual datasets" and Europe's research infrastructure to secure strategic autonomy in critical technologies.

The three diplomatic phases

The AI and semiconductor aspects represent the maturation of three diplomatic phases. The first phase began with the 'India-EU Strategic Partnership: A Roadmap to 2025'. At this stage, discussions on "technology" were largely confined to general matters of cybersecurity, 5G networks, and data protection and there was no specific mechanism for a more concrete collaboration between the bloc and India on hardware such as semiconductors, or specific AI model development.

In the second phase, around 2022, Prime Minister Narendra Modi and EU President Ursula von der Leyen launched the India-EU Trade and Technology Council. This body in turn created the Working Group 1 on Strategic Technologies, which moved the relationship from diplomacy to involving technical experts. In fact the new deal has credited this group with managing its "technology and innovation" aspect.

In the third and final phase, in 2023, India and EU signed the Semiconductor Memorandum of Understanding (MoU). This MoU was primarily defensive in the sense that it focused on improving the resilience of supply chains and on providing early warnings of shortages. Between 2023 and the present deal, the MoU evolved into a more 'offensive' partnership, so to speak, with a focus on creating new technologies, including through designing and prototyping, in addition to monitoring existing supply chains.

On 'heterogeneous integration'

Perhaps the most significant technical detail in the document is "heterogeneous integration" because it recognises that India is years away from building cutting-edge logic fabrication facilities, for example, those that manufacture chips with nodes of 23 nm, and thus pivots to "advanced packaging". Heterogeneous integration involves stacking different types of chips, such as logic, memory, and sensors, into a single package. Such combinations are critical for AI. Contemporary AI accelerators like Nvidia's Graphics Processing Units (GPUs) bank more on how memory is packaged next to the processor instead of only the raw transistor size. By targeting this, the EU and India are trying to capture the value-added segment of the supply chain that is also less capital-intensive than a



Huge boost: Semiconductors being inspected at the Tessolve Semiconductor Private Limited, at Electronic City-Phase II, in Bengaluru on September 15, 2025. MURALIKUMAR, K

fabrication facility but which is just as critical for performance.

The agenda also explicitly connects semiconductor manufacturing to AI utility as the text says the deal will focus "on design and prototyping for AI applications", thus creating a vertical market. While in 2023 the focus was on "making chips for cars", following a crisis in their availability, the new goal is to make chips that AI models require.

India possesses roughly 20% of the world's chip design talent (on the flip side most of them work for U.S.-based firms like Intel and Qualcomm). The EU has the research infrastructure, such as IMEC in Belgium and Fraunhofer-Gesellschaft in Germany, but lacks the design scale. And the deal effectively creates a mechanism to unify India's designer capital with the EU's physical capital, to create indigenous AI hardware and reduce their reliance on US Intellectual Property.

Finally, the operational vehicles for the deal's semiconductor strategy are the so-called **Blue Valleys** – a regulatory

exclave that aligns Indian with European standards, allowing component manufacturers in India to flow directly into European supply chains without new certification requirements. In other words, the Blue Valleys will effectively extend the EU Single Market technical standards to Indian soil.

A common market for AI

Likewise, the AI section of the new deal also sets up a "common market" for AI where Indian data can flow into European models while having European regulations govern Indian AI companies (this is an example of the Brussels effect, whereby the EU exports its laws outside its borders through market mechanisms instead of direct force).

Previously, if the EU had a technical question about Indian AI policy, it would go through diplomatic channels (specifically, the External Action Service to the Ministry of External Affairs). The deal now indicates a direct line: the European AI Office, which is the EU's

regulator, can interact directly with the IndiaAI Safety Institute, India's technical auditor. As a result, the technical staff at these agencies could have a formal mandate to coordinate without requiring political permissions for every interaction.

Further, perhaps the most concrete part of the AI section of the deal is the point about "testing and evaluation". Currently, the world doesn't have a common definition of what constitutes safe AI. The EU's priority might be gender bias while India's might be political neutrality – which means a developer will have to make their model pass two tests ahead of clearance. But now, by collaborating on testing, the two agencies will likely co-author and rationalise the checklists for the models. So if the European AI Office develops a specific mathematical test to measure the rate or scope of hallucinations in a large language model, it can share that test with the IndiaAI Safety Institute for India to adopt. In fact, the point of linking these agencies is to eventually reach a point where one accepts a safety certificate issued by the other. Going ahead this will require the agencies to align their audit procedures and staff training.

For Indians this could be a civil liberties backdoor of sorts. That is, because European audit manuals are strongly rooted in the EU's Charter of Fundamental Rights, Indian users might unknowingly gain digital protections that the domestic political climate currently sidelines. EU safety benchmarks aggressively penalise algorithmic bias against minorities and restrict invasive biometric surveillance. If Indian developers must clear these hurdles to ensure their models can be exported to Europe, the AI products deployed domestically will be embedded with European regulatory attitudes. Thus Indian users could interact with AI agents that are technically constrained from reinforcing majoritarian narratives or profiling of vulnerable communities.

However, there is also the possibility of this opportunity devolving into a stratified ecosystem akin to India's pharmaceutical sector, where some manufacturers rigorously adhere to safety protocols for exports to U.S. and European markets while cutting corners for domestic supply. That is, Indian firms might engineer 'clean' and more bias-free algorithms specifically for the EU market to secure lucrative contracts while deploying invasive or unrestricted versions at home, where enforcement remains lax.

Financial instruments

In order to fuel all these ambitions, the agenda masters two financial instruments. First, the text requires both sides "explore options for association of India to Horizon Europe". If this happens, it would elevate India to the highest tier of partnership available to non-EU nations and allow Indian entities to lead consortia and compete directly for grants from the EU's €95.5-billion research budget (₹10.4 lakh crore). This could be a bonus for the semiconductor sector as it will allow Indian chip startups to bypass the often risk-averse domestic capital markets.

Second, and on a related note, the deal also places the European Innovation Council at the helm of a new startup partnership. The Council specialises in what it calls "patient capital" for high-risk technologies such as quantum computing and novel chip architectures that traditional venture capitalists often avoid. By linking the Council with the Start-up India platform, the agreement creates a dedicated cross-border funding corridor for 'hard' technologies and fills a gap left by private investors, and could help ensure the deal's design ambitions are backed by the necessary funds.