

NEF Brew

Monthly Insights

**BRICS 2026: BUILDING FOR RESILIENCE,
INNOVATION, COOPERATION &
SUSTAINABILITY**

PERSPECTIVES ON THE FUTURE OF THE GLOBAL SOUTH



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Editor	Dr. Sagarika Chaudhary, Senior Research Associate, NEF
Editorial Advisory Board	Jagdip Rana, Executive Director, NEF Areeka Mir, Research Associate, NEF Jhanvi Dubey, Research Associate, NEF
Layout and design	Parth Raj Rana, Communications & Outreach Associate, NEF
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Executive Director's Message

BRICS 2026: From Shared Aspirations to Measurable Outcomes

The global economic order is passing through a period of profound transformation. Geopolitical tensions, trade fragmentation, technological competition, climate challenges and growing concerns over financial and supply-chain vulnerabilities are compelling nations to reconsider established patterns of economic cooperation.

For the Global South, the question is no longer simply how to secure a greater voice in international institutions. It is how that voice can be translated into greater economic opportunity, technological capability, financial resilience and sustainable development. Against this backdrop, India's BRICS Chair ship in 2026, guided by the theme **"Building for Resilience, Innovation, Cooperation and Sustainability,"** assumes particular significance.

The September 2026 edition of NEF Brew examines BRICS at an important juncture in its evolution. The New Delhi Declaration reflects the grouping's expanding ambitions across trade, finance, energy, technology, climate and development cooperation. Yet the contributions assembled in this issue also raise a fundamental question: Can BRICS move beyond declarations of intent to create institutions, capabilities and partnerships that deliver measurable benefits to its members?

The distinction between agreement and implementation deserves particular attention. The proposed BRICS Global Value Chains Action Plan for 2026-2030 offers an opportunity to strengthen production networks and diversify critical dependencies. However, as our contributors demonstrate, supply-chain resilience cannot be achieved merely by redirecting trade flows. It requires reliable maritime corridors, secure access to critical minerals, competitive manufacturing ecosystems, technological capabilities and interoperable digital infrastructure.

Equally important is the recognition that economic cooperation among BRICS members does not eliminate differences in their national interests. The grouping brings together countries with distinct strategic priorities, development needs and economic structures. Its strength must therefore lie not in assuming uniformity, but in identifying areas where practical cooperation can advance shared interests despite these differences.

Development finance represents another important test. The New Development Bank and initiatives promoting local-currency financing offer possibilities for addressing infrastructure gaps and reducing certain financial vulnerabilities. Yet their success must ultimately be assessed through affordable capital, viable projects, manageable risks and tangible development outcomes—not simply through announcements of new financing mechanisms.

This edition also explores the emerging intersection of artificial intelligence, digital infrastructure and economic resilience. Digital connectivity, secure information systems and technological innovation are becoming indispensable to modern trade and production. For developing economies, meaningful participation in this transformation will depend upon building domestic capabilities while expanding opportunities for international cooperation.

The climate and energy dimensions are equally consequential. BRICS economies must reconcile the legitimate energy requirements of development with the imperatives of environmental sustainability. The challenge is to design transitions that are credible, affordable and equitable, recognising that countries begin from different levels of income, industrialisation and technological readiness.

For India, BRICS offers a significant platform—but it cannot be viewed as an exclusive economic framework. India's long-term interests require diversified partnerships across the Global South and the wider international economy. Strategic autonomy, in economic terms, must increasingly mean the capacity to choose among reliable alternatives rather than dependence upon any single market, supplier, technology or financial arrangement.

This perspective is especially relevant to India's journey towards Viksit Bharat @ 2047. Our aspirations for advanced manufacturing, technological leadership, energy security, stronger exports and inclusive prosperity will depend not only upon international opportunities, but also upon the quality of domestic institutions, investment, skills and implementation.

A central message emerging from this issue is that resilience is not isolation, cooperation is not uniformity, and declarations are not development outcomes.

At the National Economic Forum, we believe that meaningful policy dialogue must move beyond celebrating intentions to examining evidence, identifying constraints and assessing results. The contributions in this edition reflect that commitment, combining perspectives on trade, maritime security, development finance, digital transformation, fintech, sustainability and the changing global economic architecture.

BRICS has an opportunity to contribute to a more inclusive and balanced international economic order. Whether that opportunity is realised will depend less upon the scale of its ambitions than upon its ability to convert them into practical, credible and measurable progress.

The real measure of BRICS 2026 will not be what its members have agreed to pursue, but what their cooperation ultimately enables them to achieve.

Jagdip Rana

Executive Director

National Economic Forum (NEF)

Research that informs. Dialogue that inspires. Policy that delivers.

Fresh Off the Press

1. BRICS Adopts New Delhi Declaration by Consensus Despite Deep Divisions

On 12 September the members unanimously adopted a 140-paragraph declaration covering governance reform, conflicts, trade and finance, energy, technology, health and agriculture. It also recorded more than 400 meetings across 30 Indian cities during the chairship. Former foreign secretary Nirupama Rao called it a significant diplomatic success, though consensus held only through carefully generalised language. The text backs China's 2027 chairship and the 19th summit in China. Modi framed the moment as the bloc's coming of age. [18th BRICS summit](#)

2. BRICS Calls for Maximum Restraint in West Asia, Names No One

Leaders voiced deep concern over escalating Middle East tensions and urged maximum restraint, but did not name the US, Israel, Iran or Gulf states. The text also raised alarm over attacks on civilian infrastructure and nuclear facilities under IAEA safeguards. Iran's president and the UAE's representative met on 12 September, the highest-level Iran-UAE meeting since the war began, while negotiators were still settling the declaration's language. The contrast with last year's Rio text, which condemned the strikes, shows how much the bloc's unity has shifted. [Al Jazeera](#)

3. Declaration Takes Firm Line on Palestine, Gaza and UNRWA

BRICS used much more explicit language on Palestine than on other conflicts. It expressed firm opposition to forced displacement of Palestinians and to changes in the demography of occupied territory. The text called for unhindered humanitarian access, support for UNRWA and full UN membership for Palestine, and backed a two-state solution based on 1967 borders with East Jerusalem as the capital. The wording contrasted with the generalised phrasing used on Iran and Ukraine, where members disagree. [Al Jazeera](#) [Al Jazeera](#)

4. BRICS Condemns Unilateral Tariffs and Sanctions Without Naming Washington

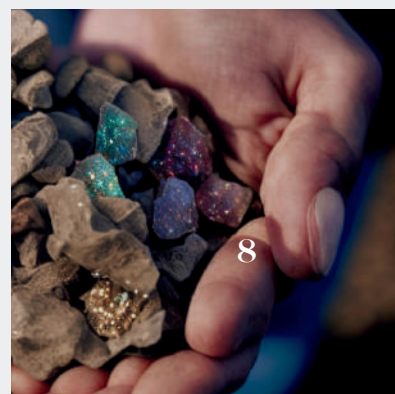
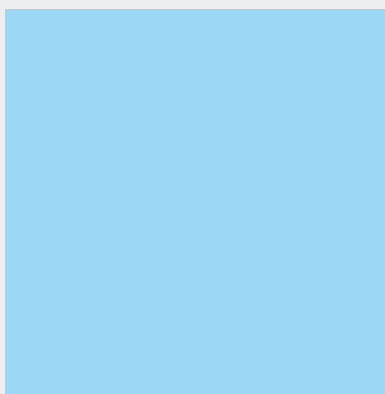
Members criticised unilateral tariff and non-tariff measures, reaffirmed support for a WTO-centred trading system, and opposed coercive measures not authorised by the UN Security Council. Putin accused countries "accustomed to thinking in colonial categories" of using tariffs, sanctions and brute force against emerging competitors. Al Jazeera's correspondent noted that India, which has bilateral trade ties with several countries, kept the text from naming the United States. The declaration also called for cooperation to protect supply chains, energy flows and maritime security. [Al Jazeera](#)

5. No Common Currency: BRICS Backs Payment Interoperability and Local-Currency Settlement

The declaration supported the BRICS Payment Task Force's work on interoperability between national payment systems and on local-currency settlement, but did not create a common BRICS currency. It encouraged the New Development Bank to expand local-currency financing and kept discussing a proposed New Investment Platform. The Financial Times noted that proposals for a sharper move away from the US dollar were avoided. India had reportedly pushed for a link between digital currencies despite hurdles. [Wikipedia](#)

6. AI Governance, Digital Public Infrastructure and Startups Join the BRICS Agenda

Leaders committed to implementing the BRICS Leaders' Statement on the Global Governance of Artificial Intelligence, placing AI alongside trade and finance as a core pillar. The declaration welcomed a BRICS Incubator Network, further work on a Startup Innovation Fund, and a proposed repository of digital public infrastructure solutions. Modi also cited a BRICS MSME Portal at the Business Forum. The Bharat Innovates Exposition showcased 37 Indian deep-technology startups and ventures. [BRICS Summit 2026: 11 Key Takeaways From the New Delhi Declaration +2](#)



7. Energy, Farming and Health: Fossil Fuels Stay in the Mix, New Grain Exchange and Mental Health Network Advance

The declaration called energy security a foundation of development and said fossil fuels will keep an important role in emerging economies' energy mix, while reaffirming a just and inclusive transition and the Paris Agreement. It supported further work on the proposed BRICS Grain Exchange and on climate-resilient farming. On health, leaders endorsed a BRICS Mission for Healthy Lifestyle with a 2026 to 2029 roadmap, and a mental health network coordinated by India's NIMHANS. [WikipediaWikipedia](#)

8. BRICS Condemns Pahalgam Attack, Declares Zero Tolerance for Terrorism

The declaration specifically condemned the 2025 Pahalgam attack and reiterated zero tolerance for terrorism, including terrorist financing, safe havens and cross-border movement of terrorists. The inclusion was a diplomatic gain for India as host. The text also adds commitments on cybersecurity and on countering cross-border scam networks. Even so, the document's strongest language elsewhere was reserved for Palestine, which shows how differently members weigh their security priorities.[Forbes India](#)

9. Modi Meets Xi and Putin on the Sidelines; Peace Offer on Ukraine Reported

Modi met Xi on 12 September during Xi's first India visit in seven years, discussing border stability, trade imbalances, market access and transport links. Modi and Putin met on 11 September and reiterated a goal of \$100 billion in bilateral trade by 2030. Kremlin spokesman Dmitry Peskov said Xi and Modi offered their services for Ukraine peace talks and that Putin welcomed their readiness. The declaration itself only called for dialogue and diplomacy without mentioning Ukraine.





Filtered Findings

Anchoring BRICS Resilience: India's Maritime Sector in a Contested Corridor Geography

Capt. Abhijit Arvind Mohite

Master Mariner (F.G.) | UNCEFACT-Maritime Expert | PhD Research Scholar, School of Maritime Management, Indian Maritime University, Chennai

Introduction

As India assumes the BRICS Chairmanship in 2026, the grouping is being asked to demonstrate that South-led multilateralism can deliver more than rhetoric, and shipping is where that test is most concrete: the sea lane is the physical infrastructure on which BRICS development plans are staked. Resilience, however, cannot be argued from chokepoints alone. This article reconciles the chokepoint-vulnerability case with two emerging alternatives, the India-Middle East-Europe Economic Corridor (IMEC) and the Northern Sea Route (NSR); confronts the geopolitical frictions, particularly between India and China, that limit joint BRICS technical standards; updates the seafaring-workforce evidence to the post-pandemic and autonomous-shipping era; and grounds its four structural issues in comparative evidence from Brazil, Russia and South Africa rather than India alone.

Corridors and Chokepoints: Why Alternatives Do Not Dissolve the Vulnerability

IMEC and the NSR are frequently presented as escapes from chokepoint dependency, but neither is a BRICS-wide alternative, and each illustrates why a chokepoint-focused resilience argument remains necessary rather than outdated. IMEC, announced at the 2023 G20 in New Delhi, is explicitly positioned by its own backers as a counterweight to China's Belt and Road Initiative and depends on Israel-Saudi normalisation that the Gaza conflict has stalled; as of 2026 it remains in the feasibility and working-group phase with no construction schedule published (Middle East Institute, 2026).

A corridor built in part to counter a fellow BRICS member's flagship connectivity project cannot substitute for BRICS-wide maritime resilience; if anything, India's parallel pursuit of IMEC is itself a source of the intra-bloc friction this article addresses next. The NSR, meanwhile, is Russia-controlled and has become overwhelmingly a bilateral Russia-China corridor since 2022, with China now the dominant foreign user while sanctions constrain the ice-class shipbuilding technology Russia needs to expand it, including China's own refusal to supply propulsion systems for Russian Arctic tankers (Regan, 2026; Kyiv Post, 2026). India, Brazil and South Africa have negligible NSR exposure. Both corridors are therefore geopolitically selective rather than bloc-wide, which is precisely why Hormuz, Malacca, Suez and the Cape remain the routes that concentrate genuine, shared BRICS exposure, and why they should stay the empirical anchor of a resilience argument, with IMEC and the NSR tracked as competing and complicating factors rather than solutions.

Structural Issues Common to BRICS Shipping, Not Only Indian Shipping

India has invested heavily in port-led growth: Sagarmala has identified over 800 projects worth roughly ₹5.8 lakh crore for completion by 2035 (Press Information Bureau, 2025), and Maritime India Vision 2030 adds more than 150 further initiatives targeting ₹3-3.5 lakh crore of investment (Ministry of Ports, Shipping and Waterways, 2021). Yet capacity expansion alone does not resolve four issues, and comparative evidence shows all four recur across BRICS, not just in India.



First, decarbonisation compliance is landing unevenly. The IMO's Net-Zero Framework, approved in April 2025, was expected to enter into force from 2027; adoption has since been deferred amid opposition led by the United States (International Maritime Organization, 2025). Older, conventionally fuelled Indian tonnage faces real exposure, and Russia's position is arguably more precarious still: its sanctioned Arctic tanker fleet already operates partly outside conventional flag and insurance oversight, and China's refusal to supply ice-class propulsion technology shows that even BRICS partners will not automatically transfer the equipment needed for a common green-shipping transition (Kyiv Post, 2026).

Second, ship-generated waste and port-reception infrastructure remain underdeveloped relative to throughput growth. Reception facilities and circular-economy linkages are inconsistent across major and non-major Indian ports, with direct implications for MARPOL compliance (Kumar & Yogamala, 2025) and for positioning BRICS ports as recycling hubs under the Hong Kong Convention, which entered into force in June 2025 (Petrinović et al., 2025).

Third, digital interoperability across trade documentation and port-community systems lags physical build-out. This issue is compounded, not merely technical, once China is in the picture, and is examined separately below.

Fourth, the human element is under structural strain, and here the evidence must be current rather than a decade old. The 2026 BIMCO/International Chamber of Shipping Seafarer Workforce Report finds that demand for STCW-certified seafarers has risen 35 per cent since 2021, leaving a current shortfall of roughly 39,100 officers against a need for 113,735 additional officers by 2030, a gap driven by post-pandemic fleet recovery and crew-change disruption rather than by pre-pandemic retention patterns (BIMCO & International Chamber of Shipping, 2026). This shortage now intersects with a second transition: the IMO's non-mandatory Code of Safety for Maritime Autonomous Surface Ships (MASS Code), adopted in May 2026 and effective

from July 2026, opens a multi-year experience-building phase in which officers will need new competencies for Remote Operations Centres, and BRICS maritime academies, including in India, Brazil and Russia, have not yet aligned training pathways to this framework (International Maritime Organization, 2026).

That these four issues are bloc-wide, not uniquely Indian, is visible in the data. South Africa's Durban Container Terminal ranked 398th of 400 ports in the 2024 World Bank/S&P Container Port Performance Index before a 2025 turnaround, in which berth utilisation rose from about 52 to 76 per cent under a new operating concession (Daily Maverick, 2025). Brazil's Port of Santos, Latin America's largest, is racing capacity against demand through a R\$1.6 billion DP World expansion and a federally delayed polygon authorisation, evidence that port-led ambition and structural bottlenecks coexist across BRICS just as they do in India (DP World, 2025).

The India-China Constraint on Common BRICS Digital Standards

A BRICS-wide digital trade corridor cannot be proposed without confronting the India-China relationship directly. India's post-Galwan tightening of Chinese investment screening, its strict data-localisation posture built around Aadhaar, and China's own state-controlled data regime leave the two largest BRICS maritime economies without a shared technical or legal basis for open port-to-port data exchange (Thumfart, 2025). Scholarship on a prospective BRICS-led maritime order in the Indian Ocean Region likewise treats China-India rivalry as the central constraint on



cooperative governance, arguing that BRICS can only function as a mediating platform, not an integrator, for as long as this rivalry persists (Mboya & Arun, 2025). Any cybersecurity or data-sharing protocol therefore has to be designed for mistrust rather than for harmony: encrypted, purpose-limited data escrow through a neutral third party such as the NDB or UN/CEFACT, rather than direct government-to-government pipes; sectoral pilots restricted to willing subsets of members (for example India-Brazil-South Africa first); and voluntary, auditable standards rather than a single mandated protocol. A single BRICS Digital Trade Corridor is not realistic in the short term; a variable-geometry one, built minilaterally and expanded as trust allows, is.

Pathways for Phased Cooperation

Given these constraints, cooperation should be sequenced rather than announced as a single bloc-wide initiative. The New Development Bank, with roughly USD 39 billion in project approvals by end-2024 and transport among its largest sectors (New Development Bank, n.d.), can earmark transport lending for green port infrastructure and reception facilities, starting with willing members rather than requiring unanimous participation. BRICS transport and environment ministries can form a joint technical working group to pool positions ahead of IMO negotiations on Net-Zero Framework revenue-sharing, even where broader data-sharing cooperation is stalled. Seafarer training reform, aligning academies to the MASS Code's Remote Operations Centre competencies and to updated STCW guidance, is a lower-friction starting point than digital infrastructure, since it does not require cross-border data exchange and directly addresses the officer shortfall documented above.

A Research Agenda for the Global South

Priority questions for a BRICS maritime research network include: comparative assessment of port-reception infrastructure across BRICS ports to identify transferable circular-economy models; economic modelling of exposure to Hormuz, Malacca, Suez and Cape disruption for BRICS-specific trade flows, alongside continued tracking of IMEC and NSR as competing corridors; and digital-twin and predictive-analytics applications for port operations in emerging economies, a line this author has pursued in prior published work (Mohite, 2026). A jointly supervised, BRICS-funded doctoral programme anchored at existing maritime universities would build the specialist capacity and evidence base this agenda requires.

Conclusion

India's BRICS chairship arrives as shipping absorbs rerouted trade, a contested decarbonisation framework, a new autonomous-shipping code, and a widening officer shortfall, pressures that fall unevenly on the Global South and recur, in comparable form, in Brazil, Russia and South Africa. Alternative corridors do not remove this exposure; the India-China relationship constrains how far common standards can go. What remains achievable is a phased, minilateral model of BRICS maritime cooperation, financed jointly, built on willing subsets of members, and evidenced by comparative research, rather than a single bloc-wide programme assumed into existence by the chairship theme alone.



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BEYOND DECLARATIONS: WHAT BRICS 2026 TO 2030 GLOBAL VALUE CHAINS ACTION PLAN ACTUALLY COMMITS MEMBERS TO

Vinay Negi

Student, Vivekananda Institute of Professional Studies, New Delhi

When India assumed the BRICS chairship on 1 January 2026, the theme it selected, Building for Resilience, Innovation, Cooperation and Sustainability, was broad enough to encompass almost any economic ambition that member states cared to advance. What has emerged from the year's ministerial work is narrower, and in some ways more intriguing. Among the outcomes affirmed under India's chairship is the BRICS Global Value Chains Action Plan 2026 to 2030, adopted alongside a companion Logistics Supply-Chain Cooperation Framework. Both were framed as answers to a real and recurring problem: the fragmentation of global trade routes and the vulnerability it poses to economies that depend on manufacturing inputs travelling across several borders before being incorporated into a finished product.

The question this piece seeks to explore is not whether such cooperation is desirable. Few, if any, at Bharat Mandapam this September would have argued against resilient supply chains. The more interesting question is what these instruments constrain BRICS members to do, and whether the architecture on offer is capable of delivering the diversification it itself promises.

What was adopted, precisely

As per the Press Information Bureau's own account of the ministerial outcomes under India's 2026 chairship (Press Information Bureau, 2026), BRICS cooperation on global value chains takes place through the GVC Action Plan 2026 to 2030, which features a Technical Council and a GVC Joint Study. Its stated objective is to make sure that global value chains among members are resilient, efficient and productive, and to foster market opening and economic diversification. The accompanying Logistics Supply-Chain Cooperation Framework explicitly described, in the same document, as voluntary and consensus-based, seeks to address fragmented supply chains and weak connectivity by means of technical exchange, knowledge sharing on cargo and shipping, localised assembly and manufacturing ecosystems, and capacity building. It is worth lingering on that phrase, voluntary and consensus-based, because it carries a significant amount of truth in the sentence.

A Technical Council is a talking shop, not a regulatory body with the power to require a member state to shift its manufacturing base. A joint study produces observations, not requirements. This is not unique to BRICS, as the WTO's own reform efforts have wrestled with the same dilemma for two decades. But it does mean that, however important symbolically, the Action Plan is more of a coordination mechanism rather than a binding trade instrument. Business Standard's coverage of the same ministerial outcomes (Business Standard, 2026a) goes into detail on the fact that some of this year's deliverables are voluntary or non-binding platforms, while others are frameworks or proposals yet to be formalised.

Why the diversification question matters

The stated purpose of the Action Plan to open markets and diversify the economies of BRICS members should be evaluated in the context of actual patterns of inter-member trade. As per UNCTAD's March 2026 report on the development of intra-BRICS trade for the past two decades, the volume of intra-BRICS merchandise trade has grown over thirteenfold since 2003 and amounted to 1.17 trillion dollars in exports in 2024 (UNCTAD, 2026). At the same time, the report highlights that intra-BRICS trade still constitutes only around 20 per cent of total South-South trade, despite the fact that BRICS members together represent more than two-thirds of the Global South's GDP. While the aggregate size of the economies of the BRICS nations is growing, their overall impact on international trade remains limited.

Furthermore, the report draws attention to a significant imbalance between the members in terms of their dependence on intra-bloc trade. On the one hand, China is by far the biggest exporter and importer within the bloc, but UNCTAD notes that its dependence on intra-BRICS trade, as a share of total trade, is the lowest among BRICS members. Meanwhile, Brazil, Russia and Indonesia each exported more than 30 per cent of their goods to other BRICS members in 2024, while Iran,

Ethiopia, Russia and India each imported over 40 per cent of their goods from other BRICS members. What is more, seven out of ten of BRICS members still report a share of primary products in their exports to other BRICS members of more than 60 per cent – a situation that the report says has changed little over the past two decades.

In other words, the countries most vulnerable to a concentration of supply from a single external source, and most reliant on primary products in their exports to other BRICS members, are not the ones setting the pace of intra-bloc trade. A Global Value Chains Action Plan that does not explicitly address this asymmetry will fail to mitigate it.

The report goes into detail on the issue, identifying economic, institutional and regulatory differences, divergent expectations, capacity gaps, and geopolitical factors as structural barriers that constrain deeper intra-BRICS trade cooperation at the policy level, matters a technical council alone cannot resolve. On the positive side, the report notes that trade-weighted average tariffs have declined substantially between BRICS partners since 2003, ranging from 10 to 20 per cent, with some pairs exceeding 60 per cent, down to single digits in many bilateral pairs by 2021. However, as the report itself notes, the overall share of primary goods in BRICS' trade with each other remains substantial, and reducing tariffs will not be sufficient to address this issue; it will require an improvement in the overall structure of trade between BRICS members.

What this looks like for India specifically

India's own trade figures highlight the issue. Based on numbers reported through the Global Trade Research Initiative and widely covered in the Indian financial press (Business Standard, 2025), India's merchandise trade deficit with China hit 99.2 billion dollars in the 2024-25 financial year, with the lion's share of the imports falling due to electronics, machinery, organic chemicals and plastics – which combine to make up roughly four-fifths of what India buys from China. These are products that cannot be swapped out through a joint study, or a technical exchange programme. They are products where manufacturing capabilities have been built up over years that India has yet to re-create at home, despite the Production Linked Incentive scheme and other import substitution initiatives.

This is not an issue that affects only India. A report by the Observer Research Foundation (Observer Research Foundation, 2025) notes that the US had a goods deficit of 295.5-billion-dollar with China in 2024 and that European economies and a number of ASEAN states face broadly similar challenges in similar areas. What makes India's situation unique is that its primary trade rebalancing partner within its own regional group and indeed within BRICS is the same country against which it has its biggest bilateral deficit. A Global Value Chains Action Plan negotiated among BRICS members will inevitably have to deal with the fact that China is simultaneously both the bloc's most ardent proponent of the supply chain cooperation initiative and, for India, the reason for its dependency.

An honest reading, not a verdict

This is by no means an indication that the Action Plan is devoid of substance. Technical councils and joint studies have in various multi-lateral contexts paved the way for subsequent binding agreements, and BRICS' own history is illustrative in this regard: the New Development Bank, first proposed at the 2012 Delhi summit, evolved into a fully-fledged functioning entity years later. The Global Value Chains Action Plan could well follow a similar pattern, with voluntary coordination eventually morphing into something with greater institutional heft as the 2026-2030 window approaches.

What can be said with greater certainty is that the plan, as it currently stands, is a statement of intent, rather than a done deal. Whether India's chairship delivers on the promise of diversification, particularly for the members most reliant on a single trading partner within the bloc, remains to be seen. The Technical Council's initial reports, however, should be able to provide a definitive answer to this question. As things stand, then, the accurate assessment of BRICS' current efforts is that they have agreed on the destination, but are yet to build the road.

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BRICS Climate Pledges After the New Delhi Declaration: Broad Ambitions and a Delivery Test

Namrata

Doctoral Candidate, Energy Studies Programme, School of International Studies,
Jawaharlal Nehru University, New Delhi-110067

1. BRICS Summit: The Bigger Climate Picture

When leaders and representatives from more than twenty countries gathered in New Delhi this month for the XVIII BRICS Summit, they pressed the case for a multipolar counterweight to an increasingly volatile world order (Al Jazeera Staff & Reuters, 2026). At the centre of the family photo was the familiar claim that the Global South needs a stronger and more coordinated voice, one which BRICS has long claimed to provide (Mukund, 2026). However, the harder question that the summit leaves behind is whether a more plural order would translate into the fundamental restructuring of the capacity which is required to solve problems that no single country, or geopolitical bloc, has yet managed alone. Climate change is the clearest case in point.

Interestingly enough, sustainability was one of the core pillars of the BRICS agenda, featuring as a formal chairship theme and the resulting New Delhi declaration did justice to it by threading it across eight distinct policy domains - energy, finance, carbon markets, adaptation, disaster resilience, landscape restoration, trade, and transport and minerals - using the climate language (MEA, 2026;

Team BRICS India, 2026). Additionally, by signing the declaration, the leaders did back the principles of community-based adaptation and showed support for making climate projects more bankable and feasible, while also intending towards a future carbonmarket partnership in the Global South. All of this combined, therefore, dismisses the notion that New Delhi did a mere green window-dressing (Parise & Rubin, 2025).

For a grouping whose members have markedly different economic structures and geopolitical interests, account for roughly two-fifths of global GDP and a quarter of global trade; while sitting amongst the world's largest emitters and energy consumers, getting this breadth even threaded into a declaration was not trivial (Sandrin et al., 2024; The Hindu, 2026). Yet this breadth alone does not guarantee delivery. Choices across the energy-intensive sectors of BRICS members carry real weight for global temperature pathways, especially with United Nations Environment Programme (UNEP) now judging a temporary overshoot of 1.5°C very likely within the next decade (UNEP, 2026). Hence, the more consequential test for BRICS lies in what the declaration's fine print does not say: Whether this heterogenous grouping can give its proposed climate agenda clear destination, timeline and means of implementation

Table 1: BRICS Climate Delivery Scoring Scale

Score	Category	Definition
0	Rhetorical only	Language is present but no concept or mechanism attached.
1	Concept or partnership named	An idea, principle or partnership is identified, but with no clear financing, mechanism or lead institution behind it.
2	Cooperation area with some structure	A defined area of cooperation exists, though it still lacks a lead institution or a review cycle.
3	Financed with a timeline	A commitment carrying both a funding source and a delivery date.

Note: The scoring has been applied line by line to the declaration's text with the results illustrated in Table 2. The scoring is based on the author's own interpretive qualitative coding of the published text.

3. What the New Delhi Text Reveals:

Table 2: The BRICS Climate Delivery Scorecard[†]

S.No.	Theme	What's Pledged	What's Specified	What Remains Missing	Score
1.	Energy Transitions	Endorses “just, orderly, equitable and inclusive” transitions; fossil fuels framed as still important	General principle affirmed	No guardrails, no phase-down timeline, no lead body	1
2.	Climate Finance	Calls for more bankable climate projects and blended finance	Direction set (bankability agenda)	No financing pipeline, no target volume, no funder commitments	1
3.	Carbon Markets	Backs work towards a carbon-markets partnership	Partnership concept named	No common integrity standard, no launch timeline	1
4.	Adaptation	Receives prominent, repeated emphasis across the text	Recognised as a priority area	No visible financing attached, no delivery mechanism	1
5.	Disaster Resilience	Commits to early-warning cooperation and resilient infrastructure investment	Cooperation area named with mention of CDRI [‡]	Data Integration mechanism and voluntary guidelines named but no review or reporting cycle	2
6.	Landscape Restoration	Supports investment in restoration to reduce disaster risk	Objective stated	No implementing body, no funding source identified	1
7.	Carbon Border Measures	Objects to unilateral carbon-border taxes as unfair cost-shifting	Clear political position taken	No alternative mechanism proposed to replace CBAM-style tools	1
8.	Transport & Minerals	Climate considerations threaded into transport and critical-minerals cooperation	Mentioned across paragraphs	No sector-specific targets or coordinating body	0

[†] Note: Qualitative Coding based on author’s interpretive assessment of New Delhi Declaration. Not definite.

[‡] Coalition for Disaster Resilient Infrastructure (CDRI)

Based on the interpretive coding, Table 2 provides the BRICS climate scorecard based on the New Delhi Declaration's text. It is worth noting that it reads like a portfolio, telling a consistent story with six of the eight themes clustering at just the 'concept level' and only one – disaster resilience – reaching the 'cooperation area with structure'. It can be accounted for two main reasons. First, the Coalition for Disaster Resilient Infrastructure (CDRI), which has established itself well with an international mandate (CDRI, 2026). Moreover, it is headquartered in Delhi, letting its echoes travel to what the grouping aimed for itself. Second, the relative specificity also reflects disaster losses across many member states of BRICS. Hence, rather than a broader institutional shift, disaster resilience is most likely to see concrete follow-through first, and is the one theme worth tracking for early pilot financing structures in BRICS.

None of the themes, though, clarify any delivery threshold, something urgently and genuinely required to de-risk any private investment for these causes in the grouping. This gap matters most as the call for "bankable" climate projects and blended finance can only set a direction, but naming no implementation pipeline, no target volume and no funder leaves project developers and financing authorities hanging in a balance. The proposed carbon-markets partnership is another genuinely useful idea, particularly for BRICS exporters seeking an alternative to the EU's carbon border mechanism, but without a common measurement and integrity standard behind it, it cannot compete with the Brussels' yardstick (Hancock & Espinoza, 2022).

4. What the Scorecard Means: The Missing Institutional Layer, The Fix and the Nearterm Test for BRICS

The scorecard does not imply that the New Delhi Declaration was empty. However, it is equally important to understand that the text offers no concrete way to track which commitments have moved and which have stalled. Without that layer, each annual BRICS summit risks resetting the clock rather than compounding progress on the last one, a pattern that anyone assessing BRICS-linked climate exposure should price in.

BRICS can no longer just be defined by what it opposes as a grouping at an international level, and neither can it hide behind declaratory language. It will only gain greater influence if it pairs its objections with implementable alternatives. The upcoming chairships of the grouping should pave the way for moving from agenda setting to execution, particularly in the realm of climate change. The top priority should be a project preparation window, robust financing pipelines and a delivery register, which together cover the climate mechanisms endorsed over recent years and track them regularly for their status. This would give the consensus-based grouping a collective institutional memory and would allow governments to judge real progress. Rather than just contemplating these in the next annual gathering, BRICS members have an opportunity to arrive in Antalya together later this year for COP31 with collective offers and collective demands (UNFCCC, 2026). This would not only reflect a joint commitment but would turn BRICS' multipolar ambition into demonstrated capacity. New Delhi has successfully managed to put climate across the BRICS route map. Whether the grouping can lead will now depend on the less glamorous work of assigning responsibility, mobilising finance and publishing a timetable. Otherwise, sustainability and climate agendas would just remain attractive summit destinations without any timetable for arrivals.

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The Unnamed Pillar: What BRICS Left Out of Its Resilience Agenda

Nandini Tyagi

Masters Student (MA Public Policy and Sustainable Development), TERI School of Advanced Studies, New Delhi, nandinityagi.work@gmail.com

Abstract

The New Delhi Declaration, which has a total of 140 paragraphs on themes of UN Security Council and IMF reform, de-dollarisation, tariffs and West Asia tensions, was unanimously agreed upon by BRICS leaders on September 12, 2026 (Forbes India, 2026). But the response is comparatively moderate on its most-watched economic issue: it doesn't support any common BRICS currency and asserts that there is "no one-size-fits-all approach" to local-currency settlement, which is still a "study-and-coordination" process, not an implementation (Asian Mirror, 2026; ChartForest, 2026). The line of incremental payments, the cross-border interoperability, the currency issue, the anti-unilateral Western sanctions mood, and the absence of an even more fundamental transition taking place in parallel, the growing defence-industrial resilience and manufacture of defence components to serve economic sovereignty have all captured the mainstream narrative. If BRICS can represent a collective voice for the Global South, India has been operating with a very aggressive multi-alignment policy. New Delhi is taking to the industrial jargon of the bloc in its efforts for defence-supply security, but mostly outside the bloc, while keeping in step with its collective rhetoric in Ukraine supply disturbances.

Why Defence-Industrial Cooperation IS Economic Cooperation

The bridge is to be filled by a definition BRICS has never applied to itself. For BRICS, as it is stated the concept of resilience has signified energy security and diversification of trade in commodities. This is limiting the definition. The more impactful and meaningful level of resilience is in the capabilities to absorb, co-produce and ultimately generate and substitute new versions of technology, not just offload it. The economic logic behind joint technology transfers, local assembly lines and weapon co-production is the same as that of the Digital Public Infrastructure repository in New Delhi or infrastructure lending of the New Development Bank: to prevent external geopolitical forces from inflicting damage on a member economy by creating domestic absorptive capacity. The mechanism is the same in each, the capital, know-how or platform control which would normally be held by an external supplier is instead held domestically, which means it is less exposed to the external supplier deciding when, how or at what price to give it access or not.

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It is not an extrinsic analogy from the language of "BRICS". The BRICS Logistics Supply-Chain Cooperation Framework that was announced during the 2026 summit, specifically aims to "enhance localized assembly and manufacturing ecosystems", as well as "supply-chain resilience across all sectors" (Business Standard, 2026). This is not a defence-related argument and the framework doesn't include defence. The point is BRICS has already adopted these very terms and concepts (localization, manufacturing ecosystems, resilience for civilian supply chains). On all actions, every single one of them qualifies under the term of Defence co-production, from AK-203 localization at Korwa, to BrahMos manufacturing, but never has it been mentioned in the same breath. The idea of the exclusion is not an analytical boundary, but rather a political convention, because the language of the framework already goes this far.

Case Study: The India-Russia Legacy Strained by Geopolitics

The case of India itself and its own defence localization, co-production and absorptive capacity-building with Russian sides is the best gauge of that claim today, as it predates the BRICS concept of "civilianization of supply chain" and runs for decades. This can be seen in the history of the relationship itself, in three steps: from licensed manufacture to complete indigenization. The Indo-Russian defence cooperation has done exactly what it is supposed to do- starting from licensed assembly to co-development. The Su-30MKI programme by Hindustan Aeronautics Limited, and the localization of T-90 Bhishma tanks were the template for technological absorption, localization and then raising the indigenous content in each project undertaken. BrahMos Aerospace was a more significant step forward: a genuine joint venture with shared ownership and development, and not a transaction of one country that sourced its imports from the other.

More important, a joint venture that was beginning to earn export proceeds rather than just replacing imports, Indian Masterminds, 2025). The Indo-Russian Rifles Private Limited plant at Korwa represents the most recent iteration of this model. By August 2026, the AK-203 "Sher" variant was test-fired using entirely India-sourced components, reaching full indigenization years ahead of the original 2032 schedule (Indian Defence News, 2026).

This legacy is now visibly put under stress by Russia's invasion of Ukraine and the re-direction of domestic production capacity to the front. The remaining S-400 Triumf squadrons were expected to reach India by 2024 but have been pushed back to 2027 on the grounds that they must be delivered during times of war (Moscow Times, 2025). The decades-long supply relationship is now significantly less reliable, thanks in part to parallel disruptions to spare-parts pipelines and rupee-rouble payment mechanisms complicated by SWIFT-related sanctions on Russian banks.

The result is a decade-long, structural diversification, and not a one-year reaction. SIPRI's five-year rolling comparisons suggest that the share of India's arms imports from Russia has declined, from 70% in 2011-15 to 51% in 2016-20, and further to 40% in 2021-25, as that of France has increased, to 29%, and Israel to 15% (SIPRI, cited in The Print, 2026). India's choices of 26 French Rafale-M naval planes and the progress made in drone and electronic warfare partnership with Israel and Atmanirbhar Bharat push inwards as a single coherent hedge, not one that goes through BRICS.

The Cohesion Tension: Multilateral Rhetoric vs. Unilateral Hedging

There is a kernel of contradiction that is exacerbated when viewed in the context of BRICS' own unifying care. To be able to claim to offer "collective resilience" to the bloc, India is systematically shying away from the most integrated and BRICS-friendly defence partner; evidence shows that resilience is being gained, but multilaterally it is not.

The Chinese factor is a part of this too. Beijing has been advocating technology-cooperation initiatives, such as the Global South's open-source AI ecosystem, at the 2026 summit (The Kashmir Images, 2026) to set itself as a technology-cooperation leader in the bloc. However, deepened defence or dual-use technology sharing within

BRICS is off the table, as India continues to remain apprehensive of the Chinese threat of industrial and technological domination; while the bloc's security-related aspects long fall behind that of AI and supply chains.

PM Modi's final statements pointed to this dichotomy, but didn't explicitly state it. It was read by several outlets as Modi warning of the two sides on-simultaneously, not only China's rare-earth export restrictions, but also the Western powers' tech curbs following the US's tariff policy (Deccan Herald, 2026).

This takes us to the next, more difficult, question about whether India's multi-alignment model is transferrable to the greater bloc, and the answer is that it's not quite. No other BRICS member could outcompete India on a sizable market, ramp up its defence industrial capability, or wield its diplomacy with rival groups without expense. Resilience is likely to be the way most members will experience it, if it's to happen at all, and it will be as BRICS' own institutions. This is a more significant gap for the bloc than it is for India today.

Conclusion & Recommendations

In the framework itself, there is a gap and three decades of co-production have already proven it, which is apparent in the question of the relationships 'and' above - and it is only logical that this path would be taken next. The high-tech production and defence-related supply chains need to cease to be an unspoken bilateral affair for BRICS. The name does not require a conceptual leap, though, if the bloc's own logistics and value-chain systems already communicate well in the language of localized manufacturing ecosystems, as do those of the defence industry.

In addition to the New Delhi Declaration's recommendations on trade, payments and institutional reform, India's 2026 chairship ended with results pertaining to MSME and start-up cooperation, the Logistics Supply-Chain Cooperation Framework and India becoming a member of the UNIDO-hosted BRICS Centre for Industrial Competencies as a national node (UNIDO, 2026). None of these were to be linked to defence-industrial cooperation, the most advanced case of just the resilience the chairship's theme called up.

Now this is up to Beijing. At the moment, China's 2027 chairship takes on a bloc whose lexicon extends to this point in all fields, except for one. Whether that gap will be bridged, however, will go to the extent that BRICS is willing to make resilience more institutional, rather than any declaration language; poise suggests a posture is already developing outside the BRICS language of resilience.

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Research Roast

Financing the Global South through the New Development Bank: Local-Currency Finance, Sustainable Infrastructure and the Future of BRICS Development Finance

S.Yoginath
4th year , B.A. LL.B.
KLE Law College, Bengaluru.

Abstract

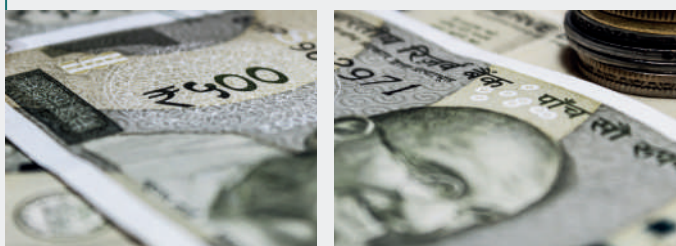
The financing challenge confronting the Global South is increasingly a question not merely of capital availability, but of the cost, currency and structure of development finance. UN Trade and Development estimates that developing economies face an annual financing gap of approximately US \$4.3 trillion for achieving the Sustainable Development Goals, while external financing represented only 11% of investment financing in developing economies in 2024. At the same time, foreign-currency borrowing exposes infrastructure projects to exchange-rate risk when project revenues are predominantly generated in domestic currency. Against this background, the New Development Bank (NDB) has increasingly incorporated local-currency financing, sustainable infrastructure lending and private-capital mobilisation into its operational model. This article examines whether that approach can contribute to a more resilient development-finance architecture for the Global South. It analyses the legal foundation for NDB local-currency financing, its evolving operations, India's emerging role as a case study, and the relationship between development finance and sustainable-development obligations. It argues that the NDB's significance lies less in replacing existing multilateral institutions than in reducing structural financial vulnerabilities and mobilising domestic and private capital for sustainable infrastructure.

Keywords: *New Development Bank, BRICS, Global South, local-currency finance, sustainable infrastructure, development finance, foreign-exchange risk, India.*

I. Introduction

The financing problem confronting the Global South is not simply a shortage of capital. It is increasingly a problem of how development is financed, in which currency, at what cost, and with what distribution of risk. UN Trade and Development estimates that developing countries face an annual financing gap of approximately US \$ 4.3 trillion to achieve the Sustainable Development Goals (SDGs). Although developing economies received almost US \$ 1.5 trillion in external financial inflows in 2024, external sources accounted for only 11% of their investment financing. At the same time, developing countries paid approximately US \$ 384 billion in interest on external debt in 2024.

This financing structure has particular implications for infrastructure. Transport, energy, water and sanitation projects generally generate revenues, taxes or public-sector savings in domestic currency. Where such projects are financed through foreign-currency debt, depreciation can increase the domestic-currency burden of repayment without a corresponding increase in project revenues. The World Bank identifies this currency mismatch as a significant source of exchange-rate risk in emerging markets and developing economies. The New Development Bank, established by Brazil, Russia India, China and South Africa, therefore presents an important institutional case study. Its founding Agreement expressly permits the Bank to provide financing in the local currency of the country in which an operation takes place, subject to policies designed to prevent significant currency mismatch.



The central question is consequently not whether the NDB can provide loans, but whether its evolving model of local-currency finance, sustainable infrastructure investment and private-capital mobilisation can contribute to a more resilient development-finance architecture for the Global South.

II. Local-Currency Finance and the Allocation of Financial Risk

The economic rationale for local-currency infrastructure finance is relatively straightforward. Suppose an infrastructure project earns revenue primarily in Indian rupees, but its debt is denominated in US dollars. A depreciation of the rupee increases the domestic-currency cost of servicing that debt. Unless tariffs, government transfers or project revenues rise correspondingly, the project's financial position deteriorates.

The legal significance of the NDB's model therefore lies in the fact that currency denomination is treated as an element of development-finance architecture rather than merely a contractual choice. The NDB's founding framework permits local-currency financing while simultaneously recognising the need to avoid excessive currency mismatch.¹

The objective should accordingly be understood as risk allocation, not risk elimination. Local-currency finance is most valuable where it aligns the currency of project liabilities with the currency of project cash flows and, at the same time, contributes to the development of domestic financial markets.

III. The NDB's Changing Financial Model

The NDB's operations indicate that local-currency financing is becoming a more important component of its institutional model. Its 2025 Annual Report records 19 projects approved during 2025 involving US\$3.171 billion in financing, with 115 projects in the portfolio at the end of the year representing US\$35.593 billion in approved financing. The portfolio spans clean energy and energy efficiency, water and sanitation, transport, social infrastructure, environmental protection and digital infrastructure.

The composition of individual projects also illustrates the breadth of this approach. In 2025, NDB approved, among others, an INR 13.2 billion, 22-year loan for the Rew Peak Power Renewable Energy Project in India an INR-equivalent US\$100

million investment in the National Investment and Infrastructure Fund's Private Markets Fund II, and several RMB-denominated renewable energy and infrastructure projects. NDB President Dilma Rousseff reported at the 18th BRICS Summit that almost 46% of financing approved by NDB in 2025 was denominated in member-country currencies. The Bank has described national currencies as instruments for reducing exchange-rate volatility, addressing cash-flow mismatches and strengthening domestic capital markets.² The percentage should not, however, be compared mechanically with portfolio-composition percentages from earlier annual reports. Annual approvals are flow measures, whereas portfolio shares generally describe the stock of financing. Treating them as an identical time series would produce a methodological error.

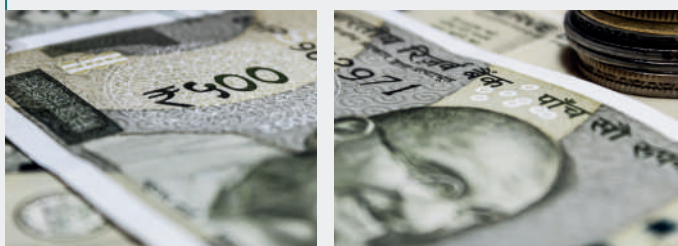
The development is therefore significant not because local-currency lending automatically makes finance cheaper, but because it potentially allows the NDB to use its multilateral balance sheet and credit standing to support financial-market development within member economies.

IV. India: From Local-Currency Lending to Domestic Capital-Market Development India provides a particularly useful case study.

In March 2026, the NDB stated that it had committed nearly US\$10 billion across 32 projects in India since its establishment. It also announced plans for an Indian-rupee bond programme intended to mobilise approximately INR 250 billion over five years, with the stated purpose of financing infrastructure in local currency and mitigating foreign-exchange risks.

This development is important from both economic and legal perspectives. If an international development bank raises funds through a domestic-currency capital market and subsequently deploys those resources into infrastructure projects denominated in the same currency, the transaction can potentially connect domestic institutional savings with long-term infrastructure requirements.

The model also corresponds with NDB's broader shift towards private-sector participation. In a 2026 address on private-capital mobilisation, the Bank identified local-currency borrowing and lending,



guarantees, risk-sharing facilities, project bonds, equity, investment funds, co-financing and project preparation as components of its evolving financial toolkit. It indicated an intended increase in non-sovereign financing under the forthcoming 2027–2031 strategy. The legal importance of this development is that infrastructure financing increasingly operates through interlocking public and private financial structures. The effectiveness of a development bank should consequently be assessed not only by the amount it lends, but by whether its participation improves the conditions under which other investors can enter the market.

V. Sustainable Infrastructure and the Constitutional Dimension

The NDB's financial model cannot be separated from the legal obligations surrounding sustainable development. Its 2025 portfolio includes renewable energy, water, sanitation, waste management, transport, and other infrastructure projects. Yet financing infrastructure merely because it produces economic output is insufficient. Development projects may generate employment and economic growth while simultaneously creating environmental or public-health costs.

Indian constitutional jurisprudence has increasingly recognised this tension. In its recent environmental jurisprudence, the Supreme Court has emphasised that development cannot be treated as an abstract or absolute objective divorced from the protection of life, health and environmental integrity.

The Court has also reaffirmed the need to harmonise development and environmental protection, recognising sustainable development as requiring an appropriate balance between developmental objectives and environmental considerations.

This principle is relevant to development-finance institutions. A sustainable infrastructure project must therefore satisfy more than a financial test. Its environmental consequences, social impacts, governance arrangements and long-term economic viability are equally relevant. For NDB-financed projects involving India, this reinforces the importance of environmental and social safeguards alongside financial appraisal.

VI. The NDB's Second Decade: From Lender to Capital Mobiliser

The NDB has now entered a new strategic phase.

On 10 September 2026, its Board of Governors approved the General Strategy for 2027–2031, titled *Delivering Impact with Purpose, Passion and Partnerships*. The timing is significant. The strategy was approved immediately before the 18th BRICS Summit in New Delhi, held on 12–13 September 2026 under India's theme of “Building for Resilience, Innovation, Cooperation and Sustainability.”

The New Delhi Declaration expressly supported NDB's growing role in meeting the infrastructure and development needs of emerging markets and developing countries. It encouraged the Bank to expand resource mobilisation, local-currency financing, funding diversification, innovation and sustainable infrastructure investment.

The institutional direction is therefore becoming clearer: the NDB is attempting to move from a conventional project-lending model towards a capital-mobilisation model in which lending, guarantees, domestic bond issuance, co-financing, project preparation and private investment operate together.

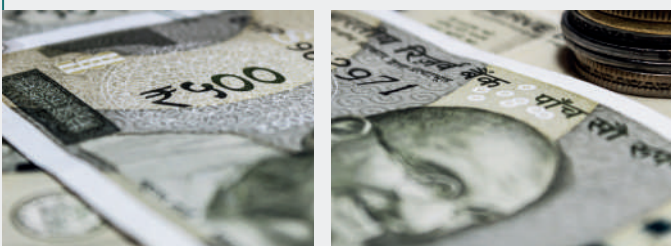
That distinction matters because the scale of the Global South's financing requirement exceeds the balance sheet of any single development bank. NDB's own portfolio, although significant, is small relative to the approximately US\$4.3 trillion annual SDG financing gap identified by UNCTAD. The NDB's long-term relevance will therefore depend on its ability to catalyse additional investment, rather than simply increasing the volume of its own lending.

VII. Limits of the Local-Currency Model

A critical assessment requires recognising several limitations.

First, local-currency borrowing is not necessarily cheaper. Domestic interest rates may exceed international rates, particularly in economies facing inflationary or monetary pressures.

Second, many developing countries do not possess sufficiently deep domestic bond markets to absorb large-scale long-term infrastructure financing. The World Bank identifies inadequate local capital supply, limited bankable project pipelines and insufficient private participation as continuing constraints.



Third, local-currency finance does not eliminate macroeconomic risk. Inflation, refinancing conditions, and domestic interest-rate volatility can still affect project viability. Finally, NDB's capacity must be considered against the enormous scale of the development finance deficit. The Bank can contribute to closing the financing gap, but cannot independently resolve it.

The appropriate policy objective is consequently not financial autarky. It is diversification: combining domestic and international capital, local and foreign currencies, public and private financing, and sovereign and non-sovereign instruments in a manner that distributes risk more efficiently.

VIII. Conclusion

The significance of the New Development Bank should not be measured by whether it can replace established multilateral development institutions. A more meaningful question is whether it can change the structure through which development finance reaches the Global South.

Its expanding local-currency operations address a genuine structural problem: the mismatch between domestic infrastructure revenues and foreign-currency liabilities. Its infrastructure portfolio provides the channel through which capital is deployed, while domestic bond issuance, guarantees, co-financing and non-sovereign operations provide mechanisms through which additional capital may be mobilised.

The evidence nevertheless does not support treating local-currency finance as a universal solution. Its effectiveness depends upon domestic capital-market depth, macroeconomic stability, project bankability, institutional capacity and appropriate environmental and social safeguards.

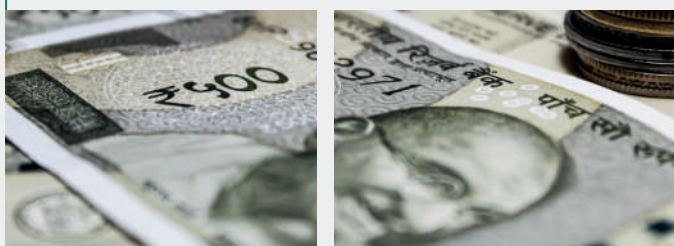
The stronger proposition is therefore narrower. The NDB can contribute to development-finance resilience when local-currency finance is integrated with sustainable infrastructure investment and mechanisms capable of mobilising private and domestic capital.

For BRICS in 2026, this gives financial cooperation a concrete developmental dimension. The Bank's newly approved 2027–2031 strategy provides an institutional opportunity to move beyond financing individual projects towards building financial ecosystems capable of supporting longterm development.

Whether that ambition translates into measurable developmental impact will depend ultimately not on the expansion of institutional rhetoric, but on the NDB's ability to convert its balance sheet, partnerships and local-market access into additional, affordable and sustainable investment across the Global South.

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Research Roast

FROM BRICS COOPERATION TO DIGITAL RESILIENCE: AN ANALYTICAL RICS FRAMEWORK FOR AI-ENABLED SUPPLY-CHAIN SECURITY

Building for Resilience, Innovation, Cooperation and Sustainability

Dr. Chandrani Singh

**Academic Leader | Researcher | Higher Education Professional
Pune, Maharashtra, India**

Email: singh.chandrani@gmail.com | Mobile: 8805010746 / 9890760746

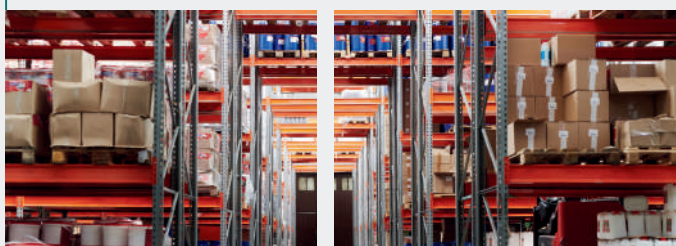
Abstract

India's 2026 BRICS chairship provides an opportunity to translate the priorities of Resilience, Innovation, Cooperation and Sustainability (RICS) into measurable digital-economic capabilities. This study develops the BRICS-RICS Digital Capability Index (BRICS-RDCI), treating RICS as an analytical architecture derived from the 2026 priorities rather than as an official BRICS institutional pillar. Digital infrastructure and AI are positioned as cross-cutting capabilities connecting the four dimensions. The study combines directional normalisation, Entropy-PCA objective weighting, two-way fixed-effects panel validation, robustness testing and 2027-2030 scenario analysis for the eleven BRICS members. To avoid circularity, FDI, total trade performance and CO₂ intensity are specified as external economic outcomes rather than components of the composite index. An AI-driven telecom roadmap provides an implementation mechanism through predictive network management, cognitive automation, multilingual NLP, cloud/API integration and skills development. The scenario layer, indexed to 2025=100, indicates illustrative 2030 BRICS-RDCI values of 107.7 under a baseline, 116.0 under accelerated digital resilience and 121.7 under high innovation plus sustainability. These values are scenario projections, not completed empirical forecasts. The framework's contribution lies in integrating BRICS cooperation priorities, measurable digital capability, objective index construction and economic-outcome validation into a single empirically testable architecture.

1. Introduction

What is often missing from discussions on supply-chain diversification is who is standing on the assembly line when a relocated factory starts production. In India's case, increasingly, it is a woman, often the first in her household to take up a wage-paying job outside agriculture. BRICS has expanded from an economic grouping into a cooperation platform covering finance, health, science and technology, digitalisation, trade, disaster risk, climate and sustainable development. India's 2026 theme—Building for Resilience, Innovation, Cooperation and Sustainability—provides a coherent analytical basis for examining how these priorities can be converted into measurable capabilities. This study interprets RICS as a capability architecture: Resilience supports the capacity to absorb and recover from disruption; Innovation creates technological capability; Cooperation enables cross-country scaling and interoperability; and Sustainability supports long-term viability. RICS is therefore used as an analytical framework derived from the BRICS 2026 priorities, not as an officially established BRICS institutional structure.

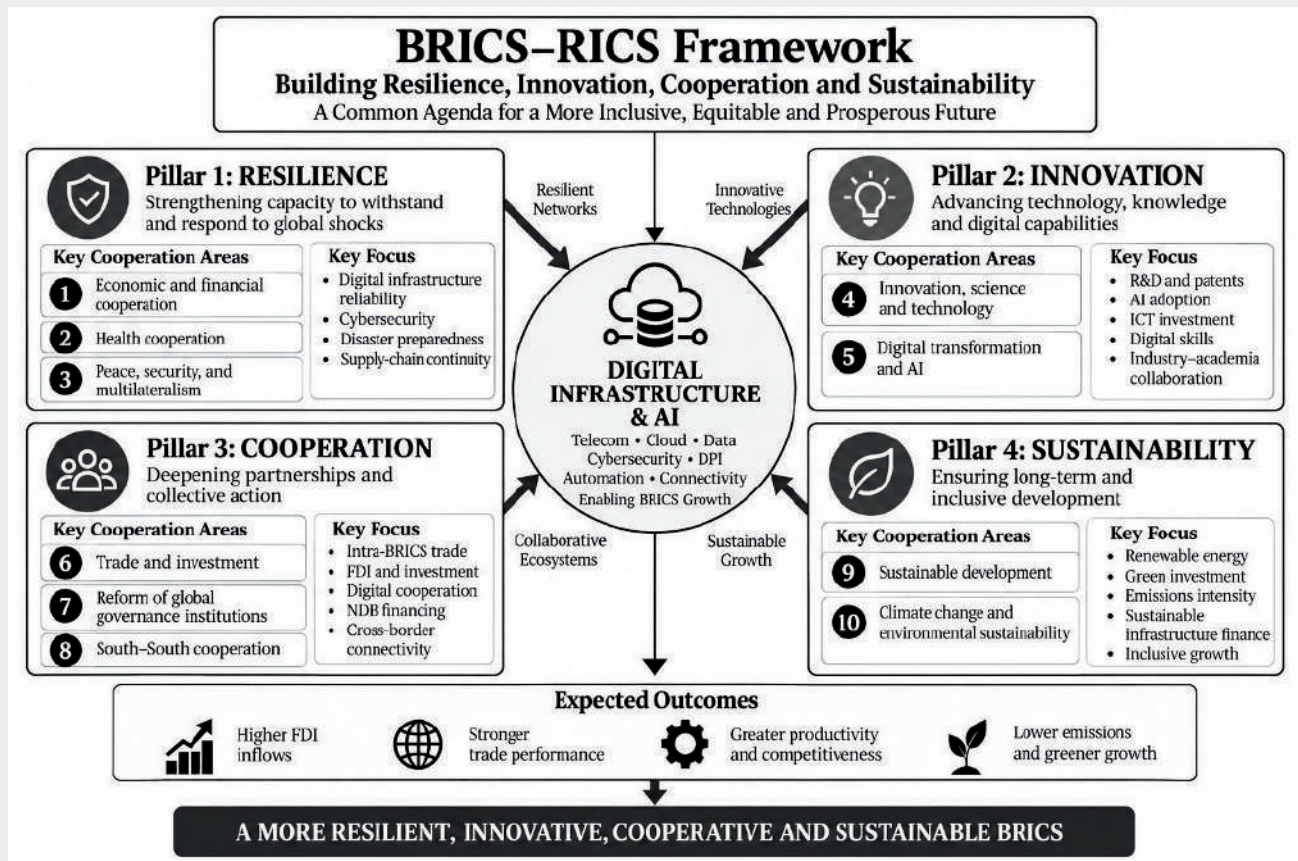
The central research problem is how to move from these policy priorities to measurable digital capabilities and forward-looking economic outcomes. The proposed BRICS-RDCI addresses this problem by positioning Digital Infrastructure and AI as a cross-cutting transmission mechanism connecting all four RICS dimensions. The resulting analytical chain is:



BRICS cooperation → RICS priorities → digital capability → supply-chain resilience → economic outcomes.

This structure makes the framework operational rather than rhetorical and permits statistical validation of whether stronger RICS-related digital

capability is associated with FDI, trade, productivity and environmental performance as shown in Figure 1.

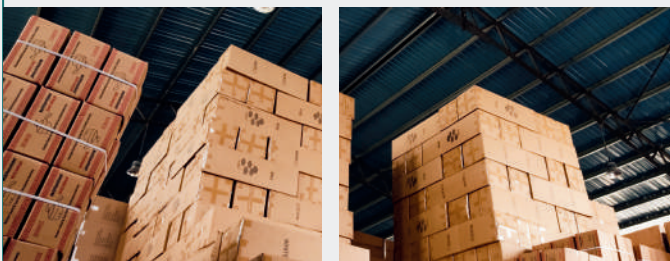


2. Literature Review

BRICS research commonly emphasises trade integration, development finance, institutional reform, sustainability and geopolitical coordination. Digital-economy research identifies ICT infrastructure, AI, cloud systems, cybersecurity and digital interoperability as enablers of productivity and resilience. The AI-driven telecom roadmap used in this study connects these strands at the operational level: modern supply chains rely on telecommunications for just-in-time inventory, automated warehouses, IoT tracking and real-time customs. Predictive AI can detect anomalies, initiate diagnostics and reroute traffic before service failure, while NLP interfaces can reduce multilingual logistics and billing friction.

The research gap is not simply the absence of studies on BRICS or AI independently. It is the lack of an integrated, measurable architecture linking BRICS cooperation priorities to digital capability and then to observable economic outcomes. The study addresses this gap through three contributions:

(1) a conceptual contribution that develops RICS as an analytical architecture for translating the BRICS 2026 priorities into a digital-economic framework; (2) a measurement contribution that introduces the BRICS-RDCI using objective Entropy-PCA weighting across eleven BRICS members; and



(3) a policy and economic contribution that specifies an empirically testable pathway from digital capability and AI-enabled infrastructure to supply-chain resilience and outcomes including FDI, trade, productivity and environmental performance, supplemented by scenario analysis.

3.2 Unit of Analysis and Study Population

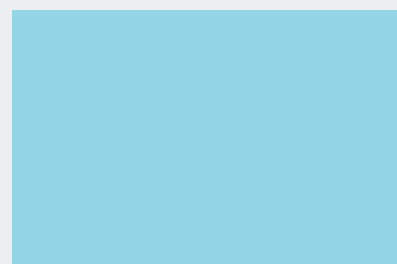
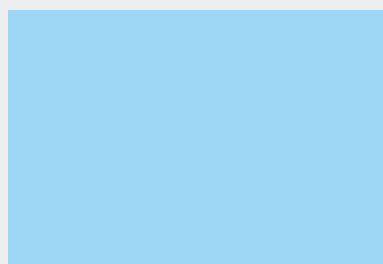
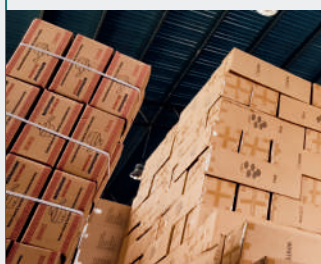
The unit of analysis is the country-year observation. The proposed panel contains all eleven BRICS members: Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran, Saudi Arabia, the United Arab Emirates and Indonesia. The intended period is 2010–2025, subject to comparable data availability. The resulting dataset may therefore be balanced or unbalanced depending on indicator coverage.

3.3 Variable Operationalisation

Resilience measures digital infrastructure reliability, cybersecurity, disaster preparedness and supply-chain continuity. Innovation measures R&D expenditure, researchers, patents, AI/digital adoption, ICT investment and digital skills. Cooperation measures cross-border digital connectivity, trade facilitation, NDB financing, institutional cooperation intensity and intra-BRICS cooperation indicators, without using FDI inflows or total trade performance as index components. Sustainability measures renewable-energy deployment, renewable capacity, green investment, sustainable infrastructure finance, energy efficiency and clean-energy deployment, without using CO₂ intensity as an index component. FDI inflows, trade performance, productivity/GDP per capita and CO₂ intensity are retained as external economic outcomes for empirical validation.

Pillar	Indicative indicators	Expected economic channel
R – Resilience	Digital infrastructure reliability; cybersecurity; disaster preparedness; supply-chain continuity/recovery	Continuity and lower disruption risk
I – Innovation	R&D/GDP; researchers; patents; AI adoption; ICT investment; digital skills	Technology, innovation and productivity
C – Cooperation	Cross-border digital connectivity; trade facilitation; NDB financing; institutional cooperation; intra-BRICS cooperation indicators	Interoperability, lower transaction costs and stronger integration
S – Sustainability	Renewable electricity share/capacity; green investment; sustainable infrastructure finance; energy efficiency; clean-energy deployment	Lower environmental intensity and durable growth

Table 1. Operationalisation of the RICS dimensions. Outcome variables are deliberately excluded from the corresponding index dimensions to reduce mechanical overlap and circularity.



3.4 Data Preparation and Normalisation

Indicators are first directionally harmonised because a higher value is desirable for some measures and undesirable for others. Min-max normalisation converts the variables to a common 0–1 scale.

$$Z_{ijt} = \frac{X_{ijt} - X_j^{\min}}{X_j^{\max} - X_j^{\min}}$$

$$Z_{ijt} = \frac{X_j^{\max} - X_{ijt}}{X_j^{\max} - X_j^{\min}}$$

Equation (1): positive indicator | Equation (2): negative indicator

3.4 Data Preparation and Normalisation

Indicators are first directionally harmonised because a higher value is desirable for some measures and undesirable for others. Min-max normalisation converts the variables to a common 0–1 scale.

$$p_{ijt} = \frac{Z_{ijt}}{\sum_{i,t} Z_{ijt}}$$

The entropy and information utility are then:

$$e_j = -k \sum_{i,t} p_{ijt} \ln(p_{ijt})$$

$$k = \frac{1}{\ln(NT)}$$

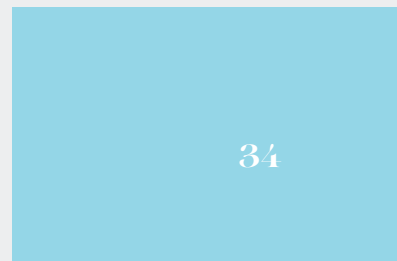
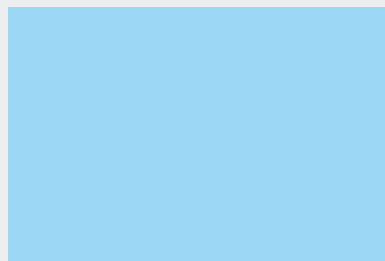
$$d_j = 1 - e_j$$

$$w_j^E = \frac{d_j}{\sum_j d_j}$$

N is the number of country-year observations. A larger information utility d_j indicates greater discriminatory information and therefore results in a larger Entropy-derived weight.

3.5.2 PCA Weighting

PCA is applied to the standardised indicator matrix. If a_{jr} is the loading of indicator j on retained component r and λ_r is its eigenvalue, the variance-and-loading contribution is represented as:



$$q_j = \sum \lambda r_a a_{jr}^2$$

$$w_j^P = \frac{q_j}{\sum q_i}$$

K is the number of retained components. Component retention should be based on an explicit criterion such as eigenvalues, cumulative explained variance and interpretability.

3.5.3 Hybrid Entropy-PCA Weight

The final indicator weight is calculated as:

$$w_j = \alpha w_j^E + (1-\alpha)w_j^P$$

$$0 \leq \alpha \leq 1$$

For the baseline specification, equal contribution is assigned to both methods:

$$\alpha = 0.50$$

$$w_j = 0.50w_j^E + 0.50w_j^P = (w_j^E + w_j^P)/2$$

Sensitivity analysis uses $\alpha=0.25$ and $\alpha=0.75$ to determine whether the resulting RICS scores and country rankings are robust to the relative weight assigned to Entropy versus PCA.

3.6 Construction of RICS Pillar Scores and BRICS-RDCI

For pillar p containing indicator set J_p , the weighted pillar score is:

$$P_{pit} = \sum_{j \in J_p} w_j Z_{ijt}$$

The four pillar scores are R_{it} , I_{it} , C_{it} and S_{it} . Equal pillar importance is retained in the baseline composite index:

$$BRICS-RDCI_{it} = \frac{R_{it} + I_{it} + C_{it} + S_{it}}{4}$$

Thus, each pillar receives a baseline weight of 0.25. Alternative pillar weighting can be examined as a robustness test, but the primary specification preserves the conceptual symmetry of the RICS framework. Importantly, the composite index excludes the economic outcome variables later used in the panel models, preventing mechanical overlap between the explanatory index and its dependent variables.

3.7 Statistical Validation: Two-Way Fixed-Effects Panel

The principal quantitative methodology is panel-data econometrics using a two-way fixed-effects specification. This estimator is selected as the primary explanatory model because it controls for unobserved time-invariant country characteristics and common year-specific shocks.

$$Y_{it} = \beta_0 + \beta_1 BRICS-RDCI_{it} + \beta_2 GDP_{it} + \beta_3 Trade_{it} + \beta_4 Infrastructure_{it} + \mu_i + \lambda_t + e_{it}$$



Y_{it} is alternatively specified as FDI inflows, trade performance, productivity/GDP per capita or CO₂ intensity. These variables are external outcomes and are not included in BRICS-RDCI. β_1 is the principal coefficient of interest. μ_i represents country fixed effects, λ_t represents year fixed effects, and ε_{it} is the idiosyncratic error.

3.8 Dynamic Panel and Robustness Analysis

Because economic outcomes and digital capability may exhibit persistence and potential reverse causality, a dynamic specification is considered:

Depending on the statistical properties of the final dataset, Panel ARDL, dynamic fixed effects or System GMM is used for robustness. Diagnostics examine multicollinearity, heteroskedasticity, serial correlation and cross-sectional dependence. Stationarity and cointegration should be assessed when required by the selected estimator.

3.9 Forecasting Methodology

Forecasting is conducted in two stages: first, future RICS indicators or the composite BRICS-RDCI are projected; second, where formally estimated coefficients are available, the forecast index is inserted into the estimated outcome relationship to generate 2027–2030 forecasts. In the present article, the supplied numerical layer is retained explicitly as illustrative scenario projections because the harmonised 2010–2025 panel has not yet been fully processed. Three scenarios are evaluated: baseline, accelerated digital resilience, and high innovation plus sustainability.

$$\hat{Y}_{i,t+h} = \beta_0 + \beta_1 \text{BRICS-RDCI}_{i,t+h} + \beta_2 \text{GDP}_{i,t+h} + \beta_3 \text{Trade}_{i,t+h} + \beta_4 \text{Infrastructure}_{i,t+h} + \mu_i + \lambda_t$$

Forecast accuracy is evaluated using:

$$\text{MAE} = (1/n) \sum |Y - \hat{Y}|$$

$$\text{RMSE} = \sqrt{[(1/n) \sum (Y - \hat{Y})^2]}$$

$$\text{MAPE} = (100/n) \sum |(Y - \hat{Y})/Y|$$

3.10 Machine-Learning Benchmark

XGBoost is employed as a predictive benchmark rather than the principal explanatory method. Its purpose is to test whether nonlinear relationships improve out-of-sample prediction relative to the interpretable econometric model once the full panel has been estimated. A temporally later hold-out period is used to prevent information leakage. Performance is compared using MAE, RMSE and MAPE. LSTM is not the primary model because the cross-sectional dimension contains only eleven countries

3.11 Reliability, Sensitivity and Validity

Index reliability is assessed through correlation among pillar scores, sensitivity to alternative weighting schemes and stability of country rankings. The baseline Entropy-PCA specification is compared with equal weighting and $\alpha=0.25/0.75$. Additional validity checks explicitly verify that no dependent outcome is simultaneously embedded in the corresponding explanatory index. Econometric validity is assessed through alternative dependent variables, lagged specifications and robustness estimators. Missing observations are not silently treated as observed values; their source, treatment and comparability must be documented.

3.12 Methodological Status of Current Forecast Values

The numerical forecast layer currently supplied for the article consists of scenario-based projections. These values are not estimated regression coefficients and are not reported as completed empirical forecasts. Formal empirical estimation requires processing the harmonised 2010–2025 country-year panel, estimating the Entropy/PCA weights, estimating the econometric coefficients and then calibrating the forecast layer to those estimates. This distinction is retained to ensure methodological transparency and validity.

3.12 Methodological Status of Current Forecast Values

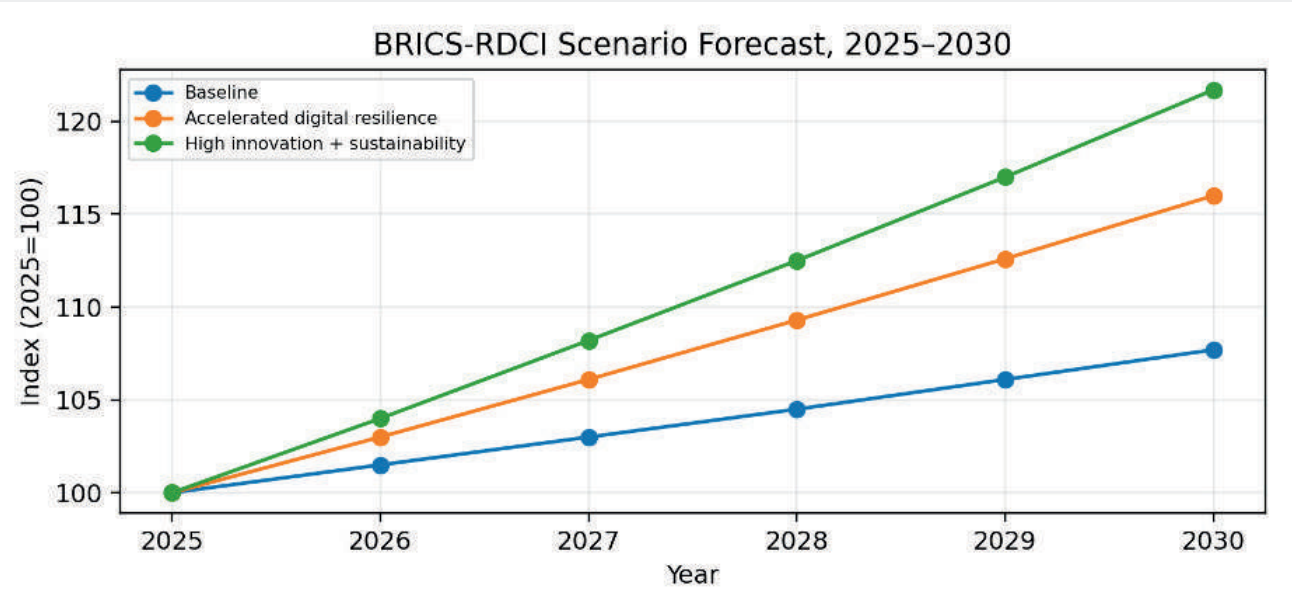
Stage	Method used	Purpose
1	Documentary and comparative policy analysis	Identify BRICS priorities and RICS dimensions
2	Country-year panel construction	<u>Operationalise</u> 11-member BRICS indicators
3	Directional transformation and min–max <u>normalisation</u>	Make heterogeneous indicators comparable
4	Entropy + PCA hybrid weighting	Derive objective indicator weights
5	Composite-index construction	Generate R, I, C, S and BRICS-RDCI scores
6	Two-way fixed-effects panel	Estimate RICS–outcome relationships
7	Dynamic/robustness models	Address persistence and potential endogeneity
8	Scenario forecasting	Project 2027–2030 outcomes
9	<u>XGBoost</u> benchmark and MAE/RMSE/MAPE	Assess out-of-sample predictive performance

4. Implementation

The implementation pipeline is:
BRICS data acquisition and source validation → missing-value and unit harmonisation → directional transformation → normalisation → Entropy/PCA hybrid weighting → R/I/C/S scores → BRICS-RDCI → separation of index components from outcome variables → panel estimation → robustness testing → scenario forecasting → policy pathways.
The telecom case operationalises the framework through predictive fault management, automated enterprise support, multilingual NLP, cloud/API integration and industry-academia skilling. AI is treated as an implementation capability rather than an isolated technology theme. The mechanism is explicit: AI network monitoring and anomaly detection support Resilience; AI, cloud and automation support Innovation; APIs, data exchange and multilingual NLP support Cooperation; and digital optimisation linked to green infrastructure can support Sustainability.

5. Results and Analysis

The supplied forecast dataset provides a quantitative scenario layer indexed to 2025=100. It should be interpreted as illustrative scenario outcomes rather than fabricated historical observations, estimated regression coefficients or completed empirical forecasts. Under the baseline scenario, the BRICS-RDCI projection reaches 107.7 by 2030; under accelerated digital resilience it reaches 116.0; and under high innovation plus sustainability it reaches 121.7 as shown in Figure 2. The scenario spread illustrates how alternative capability pathways could produce different trajectories, but it does not by itself establish causal effects.



4. Implementation

The implementation pipeline is:
BRICS data acquisition and source validation → missing-value and unit harmonisation → directional transformation → normalisation → Entropy/PCA hybrid weighting → R/I/C/S scores → BRICS-RDCI → separation of index components from outcome variables → panel estimation → robustness testing → scenario forecasting → policy pathways.
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Figure 2. BRICS-RDCI scenario forecast, 2025–2030 (2025=100).

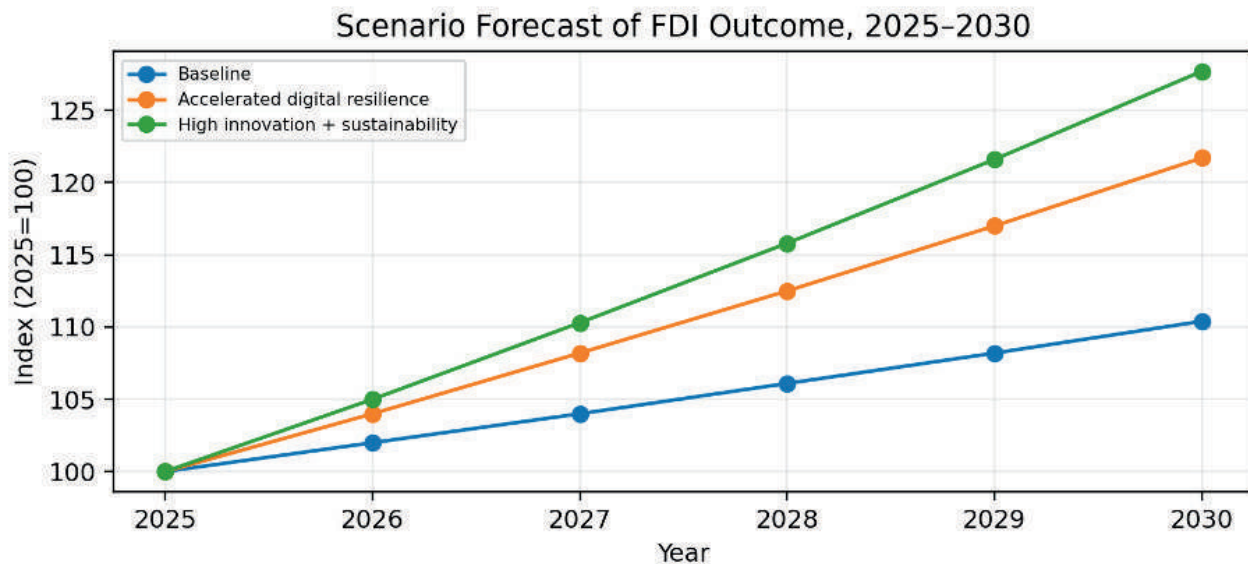
Scenario	2027	2028	2029	2030
Baseline	103.0	104.5	106.1	107.7

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Accelerated digital resilience	106.1	109.3	112.6	116.0
High innovation + sustainability	108.2	112.5	117.0	121.7

Table 2. Forecasted BRICS-RDCI by scenario.

The illustrative economic outcome scenarios show the same ordering as in Table 2 . By 2030, indexed FDI as in Figure 3 reaches 110.4 in the baseline, 121.7 under accelerated digital resilience and 127.7 under high innovation/sustainability. Trade reaches 111.4, 122.7 and 127.7; productivity reaches 107.8, 113.3 and 116.0; and CO₂ intensity falls to 96.0, 92.7 and 90.4, respectively. These values should be read as scenario projections generated from the supplied forecast layer, not as empirical estimates as in Table 3. Their empirical interpretation will depend on calibration against the estimated panel model.



4. Implementation

The implementation pipeline is:

BRICS data acquisition and source validation → missing-value and unit harmonisation → directional transformation → normalisation → Entropy/PCA hybrid weighting → R/I/C/S scores → BRICS-RDCI → separation of index components from outcome variables → panel estimation → robustness testing → scenario forecasting → policy pathways.

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7. Conclusion

This study develops an analytical RICS framework derived from the four priorities articulated under India's 2026 BRICS chairship and converts them into an empirically testable digital-economic architecture. Its principal contribution is not to claim RICS as a new official BRICS institutional pillar, but to operationalise the four priorities through the BRICS-RDCI and to position Digital Infrastructure and AI as a cross-cutting capability connecting them. The separation of FDI, trade and CO₂ intensity from the index strengthens the model by avoiding mechanical overlap with the dependent outcomes. Entropy-PCA weighting reduces dependence on arbitrary indicator weights; panel estimation is designed to test the association between BRICS-RDCI and FDI, trade, productivity and sustainability outcomes; and scenario analysis translates alternative capability pathways into policy-relevant trajectories. The supplied illustrative projections indicate that accelerated digital resilience could raise BRICS-RDCI to 116.0 by 2030, while a high innovation/sustainability pathway could reach 121.7. These figures are scenario projections rather than completed empirical forecasts. The policy implication is to treat digital resilience, AI, telecom infrastructure, cybersecurity, skills and green-digital investment as interdependent economic capabilities. A BRICS Digital Resilience Cooperation Platform and AI-for-Supply-Chains knowledge network could operationalise this agenda.

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Drivers of Fintech Growth in Emerging Economies: An Analytical Study of BRICS Countries

Dr. Ramesh Kumar
Associate Professor
Department of Commerce
PGDAV College Eve Delhi India
Email.: rameshdav2@gmail.com

Abstract

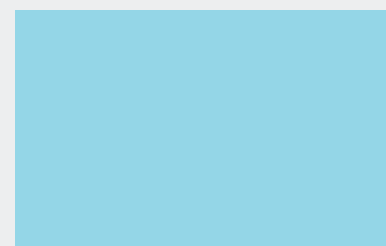
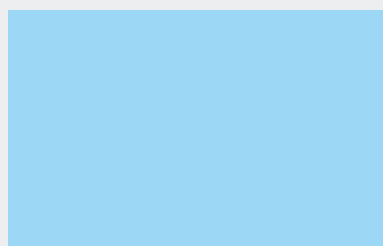
The rapid technology advancement in the area of finances has transformed the international financial landscape, particularly in the developing countries. The BRICS countries, Brazil, Russia, China, India, and South Africa have observed high growth of fintech as a result of growing levels of digitalization, favorable government policies, and the growing consumer demand of digital financial services. In this paper, the analytical analysis of the key drivers of fintech growth in BRICS countries is provided. This study also showed that fintech growth help to promote international and cross border payment. The paper brings out the influence of technology adoption, financial inclusion, regulatory systems, and investment patterns as the factors that influence the development of fintech globally specially in BRICS countries

Keywords: Fintech, BRICS Countries, Digital Payments, Financial Inclusion, Economic Growth.

1.INTRODUCTION

Financial Technology (Fintech) is found as one of the most important changes in the contemporary financial system. It entails applying high-tech solutions, including mobile application, artificial intelligence, big data, and blockchain with financial services and enhancing their efficiency, accessibility, and transparency. As digital platforms are developing rapidly, fintech has redefined the traditional banking, payment, lending, and investment service models in every corner of the globe by providing faster, cheaper, and customer-focused solutions (Mikhaylov et al., 2023). Fintech has minimized the use of physical branches of banks and it has helped the user to process the financial operations at any given time and place. The online lending platforms, the online digital wallets, and the automated investment services have made the financial transactions to be easier to people and

businesses alike. This made fintech more competitive in the financial industry, which in turn promoted innovation and enhanced services within the traditional financial sector and the new-age financial technology companies (C. Zhang, 2024). Over the past few years, there have been very positive developments in the adoption of fintech in emerging economies through the growing use of smartphones and the internet. Countries in the BRICS group such as Brazil, Russia, India, China, and South Africa have emerged as significant contributors to world fintech development due to their huge population, growing digital infrastructure, and favorable government programs. These factors have created a favorable atmosphere in the areas of the swift growth of fintech services in city and rural regions. The increasing cashless transactions, financial inclusion, and online financial options demands have also contributed to the further increased growth of fintech in BRICS countries (Chen and Liu, 2024). It is essential to research the development of the fintech in these nations to comprehend how the technological-based financial systems facilitate the economic growth, inclusive development, and enhance the financial stability of the emerging economies in general.



2. REVIEW OF LITERATURE

2.1 FACTORS INFLUENCING FINTECH GROWTH IN BRICS COUNTRIES

2.1.1 Digital Infrastructure and Internet Penetration

The most of the studies showed that one of the most significant sources of fintech growth in the internationally in specially BRICS countries are the presence of robust digital infrastructure. The availability of internet, the availability of affordable smartphones and the availability of improved mobile networks has allowed individuals to be able to access digital financial services comfortably. Countries like China and India have heavily invested in digital infrastructures, and it forms a strong basis of fintech platforms (Eduardsen et al., 2023). Furthermore, the emergence of digital identity systems and payment gateways of safe payments has increased user confidence and the efficiency of the transaction.

The rural to urban ratio has also been reduced due to improved connectivity and this has made banking and payment services to be accessible remotely. With more and more people gaining access to the internet, financial technology firms can increase their customer base, and more people will adopt digital wallets, mobile banking, and online transactions(Lynn et al., 2022). Such a universal access to digital helps to ensure only inclusive financial development and the general fintech ecosystem in BRICS economies.

2.1.2 Government Policies and Regulatory Support

Government projects and favorable regulatory guidelines are of vital role in the growth of fintech. Governments in most of the BRICS have initiated policies, financial inclusivity initiatives, and digital payment platforms to support fintech innovation. Such measures establish a safe and reliable atmosphere of the fintech functioning (Herian et al., 2012). Digital regulatory environments and regulatory sandboxes also enable innovation products to be experimented in fintech companies without compromising financial regulations.

Clarity in regulations will ensure consumer protection and also encourage innovation. The cooperation between governments and fintech companies results in accelerated the use of digital financial services. The result of such cooperation is the improvement of market confidence, minimization of operational risks, and long-term survivability of fintech ecosystems(Joo & Suh, 2017). This leads to the use of fintech as an efficient economic developmental instrument and financial infrastructure transparency

2.1.3 Financial Inclusion and Changing Consumer Behavior

Fintech has also played a major role in enhancing financial inclusion in BRICS countries. In these countries a big percentage of the populations was once unbanked or underbanked. Fintech solutions allow the most accessible banking, payments, credit, and insurance services, without having the physical bank branches(Hu and Hou, 2024). The mobile-based financial services have been effective in accessing rural communities and low income earners, thus narrowing the financial imbalance.

FT growth has also been driven by the change in consumer behavior. Individuals are now willing to use quick, convenient, and online transactions when making financial payments. This change of taste has heightened the demand of mobile payments, online lending, and online investment platforms, reinforcing fintech ecosystems(Vasile et al., 2021). The increased awareness of digital financial services and trust in technology have also been other factors that contribute to the penetration of fintech solutions in BRICS economies.

2.1.4 Investment, Innovation, and Startup Ecosystem

Access to local and foreign investment has increased the growth of fintech in BRICS countries. More venture capital financing and technology adoption have promoted the appearance of a vast number of fintech startups. Other nations such as India and China have established powerful startup environments, which encourage experimentation and innovation (Greco, 2023). Funding access allows fintech companies to increase their operations, create new technologies, as well as enter new markets.

The quality and security of fintech services have been enhanced by innovation in such fields as artificial intelligence, blockchain, and data analytics. Healthy start up culture and ongoing innovations would guarantee sustainable growth of the fintech business in BRICS countries (Fujita et al., 2022). This is an innovation-based environment, which makes them more competitive and establishes BRICS countries as significant participants in the world of fintech.



3. OBJECTIVES OF THE STUDY

- 1.To determine the key drivers of fintech development in BRICS countries.
- 2.To examine the contribution of digital infrastructure in the growth of fintech.
- 3.To analyze the pattern in fintech investment in BRICS countries.
- 4.To assess the role of fintech in financial inclusion.

4. RESEARCH METHODOLOGY

The present study applies a quantitative research design to examine drivers of fintech development in BRICS nations. The secondary sources used to gather data were authoritative reports, such as government reports, the publication of the fintech industry, and statistical databases, of various metrics, such as digital infrastructure, government support, investment, financial inclusion, and fintech adoption. The data were systematized in tables and graphs to recognize the trends, compare the countries, and analyze the relationships between the major variables. Patterns were interpreted and the influence of different factors on the development of fintech assessed using descriptive and comparative analysis methods. The charts were represented visually (in clustered charts, line graphs, bar charts, etc.), which facilitated the understanding and contributed to evidence-based conclusions.

5.DATA ANALYSIS, TABLES AND INTERPRETATION

Data analysis can be defined as the process of the organized examination, purification transformation, and modeling of data to be able to extract valuable information and make conclusions as well as make a decision. It entails the transformation of raw data into significant insights through the detection of patterns, trends, relationships and anomalies. Data analysis can be used in research to validate hypotheses, evaluate variables and give evidence-based recommendations. Specifically, in the area of fintech research, such as the data analysis can assist in determining aspects of growth drivers, trends in user adoption, and effects of digital infrastructure, investment, and government policies.

The main stages in the data analysis:

- .Data Collection - Get pertinent and valid data either in primary or secondary sources
- Data Cleaning and Preparation - Clean up data and prepare data to be analyzed.
- Data Exploration/ Visualization- Summarize and visualize data to determine patterns or tendencies.
- Statistical Analysis / Modeling - Apply statistical methods to test relationships or make predictions.
- Results Interpretation - Conclude substantially using the research objectives.
- Reporting and Presentation - Report findings in a clear manner in table, charts and in narratives.
- Define Research Objectives - Have a clear purpose and questions of the analysis.

Key Factors Contributing to Fintech Growth (Index Score out of 100)

Table 1

Country	Digital Infrastructure	Government Support	Investment	Financial Inclusion	Consumer Adoption
Brazil	75	70	65	80	78
Russia	80	68	60	75	72
India	70	85	78	82	88
China	90	88	90	85	92
South Africa	65	60	55	70	68

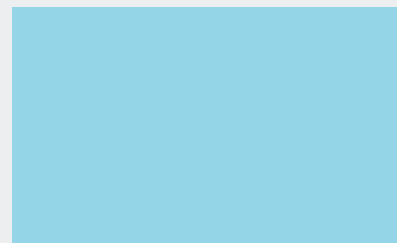
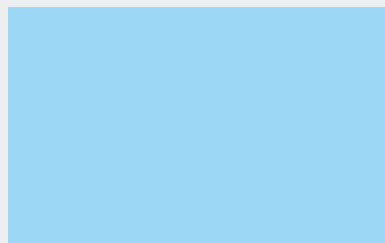
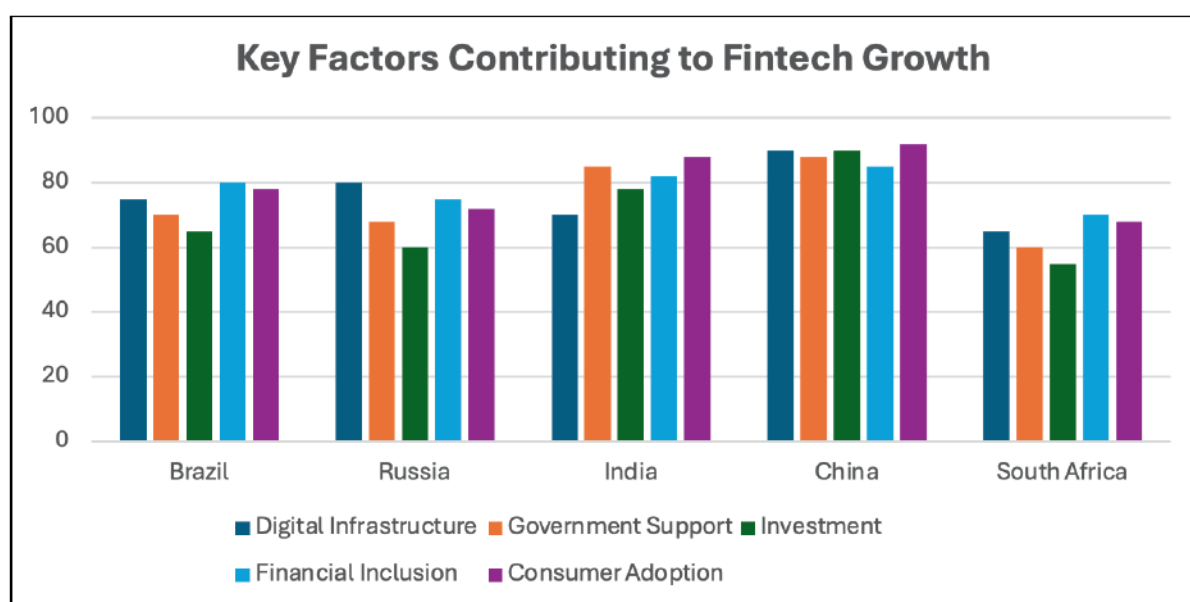


Figure 1



Depending on the nature of data and the objectives of the research, data analysis may be either qualitative or quantitative.

Key Factors Contributing to Fintech Growth (Index Score out of 100)

The table provides major factors that led to the inclination of fintech in five BRICS countries on an index scale of 0 indicating nothing to 100. These factors are Digital Infrastructure, Government Support, Investment, Financial Inclusion and Consumer Adoption. China is rated the highest among the listed countries and has excellent results in Digital Infrastructure (90), Government Support (88), Investment (90), Financial Inclusion (85), and Consumer Adoption (92), which denotes the presence of a well-developed and balanced fintech ecosystem.

Government Support (85) and Consumer Adoption (88) are the strengths of India, which indicates that the governmental actions and mass consumption are essential in driving the fintech development in the nation. Brazil has average scores in all factors with Financial Inclusion (80) slightly high, which emphasize the move to continue the provision of financial services to more people. Russia has a high

Digital Infrastructure (80) and slightly less Investment (60) and Consumer Adoption (72) which may be used to achieve its growth opportunities. South Africa has the lowest scores on most of the factors and the highest score is Financial Inclusion (70) which means that although fin tech usage is not yet well established, the infrastructure, investment, and consumer engagement are still problematic.

The table indicates that those nations that score higher than others in terms of the combined ratings in digital infrastructure, government support, investment, and consumer adoption like China and India will probably receive a faster and more sustainable growth nations with lower ratings.

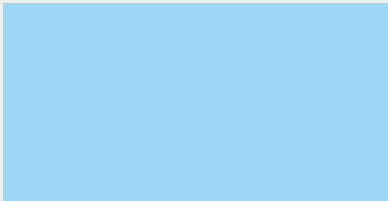
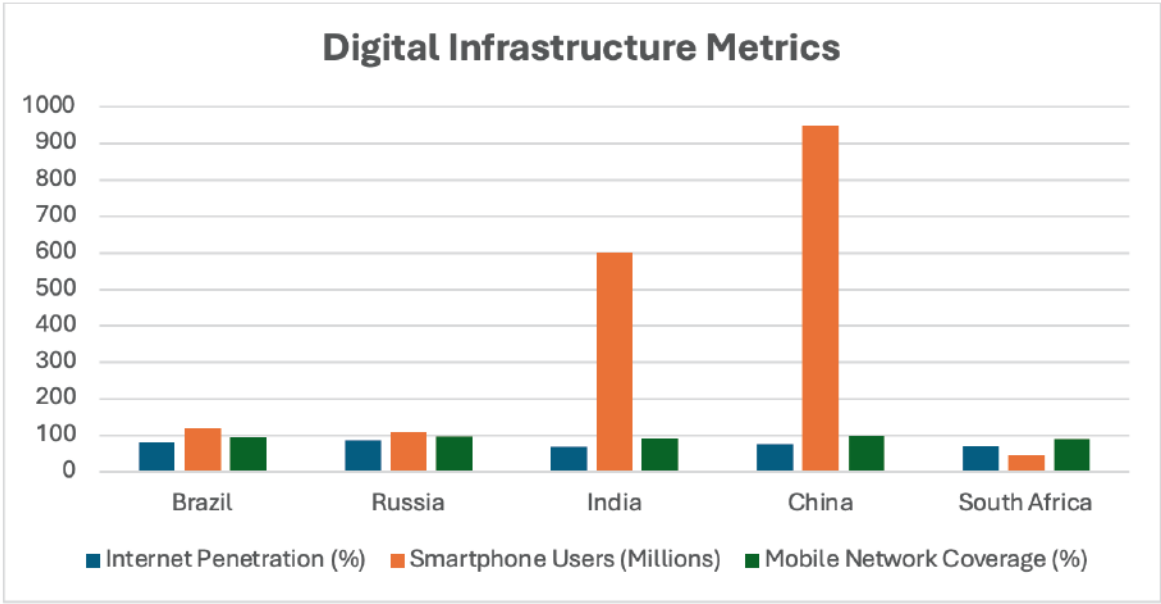


Digital Infrastructure Metrics (2023)

Table 2

Country	Internet Penetration (%)	Smartphone Users (Millions)	Mobile Network Coverage (%)
Brazil	81	120	95
Russia	85	110	97
India	68	600	92
China	76	950	98
South Africa	72	45	90

Figure 2



The table shows the digital infrastructure indicators in five BRICS nations or Internet Penetration (%), Smartphone Users (Millions), and Mobile Network Coverage (%). These are metrics that are essential in determining the basis on which fintech growth is happening in a particular country. China has the highest number of users of smartphones with 950 million users and the highest mobile network coverage (98 percent) indicating a very networked population that can be actively used to implement fintech solutions. India is also characterized by a high percentage of smartphone users (600 million), but its internet penetration (68) is still lower than those of Brazil, Russia, and China, which means that there is still a possibility of digital growth. Russia has a high internet penetration (85%) and mobile coverage (97%) with relatively lower number of smartphone users (110 million) which indicates that there is good infrastructure

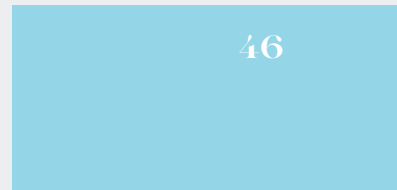
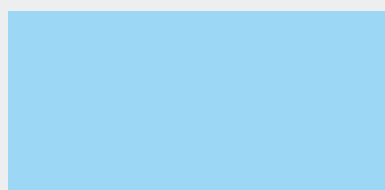
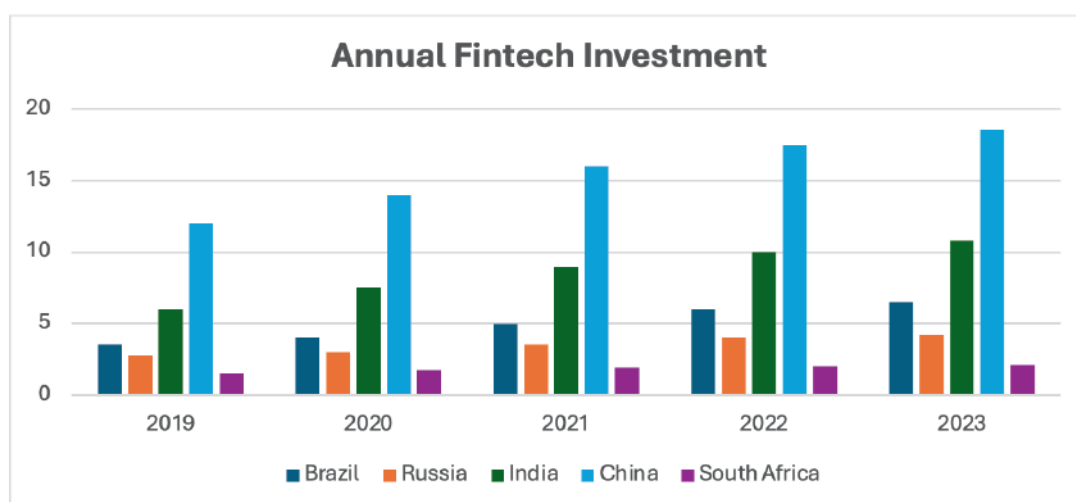
but limited number of people using their smartphone or using it differently. Brazil has a balance of 81 percent internet penetration, 120 million smartphone subscribers and 95 percent network coverage to facilitate moderate fintech adoption. South Africa boasts the least smartphone use (45 million) and marginally low-network coverage (90%), which can limit the expansion of the digital financial services amidst moderate internet penetration (72%).

The table shows that those countries that have also been more connected and adopted the use of smartphones like China and India are well placed to scale up fintech services where countries with a low rate of smartphone penetration may have challenges with adoption although the network infrastructure may be good.

Table 3

Country	2019	2020	2021	2022	2023
Brazil	3.5	4.0	5.0	6.0	6.5
Russia	2.8	3.0	3.5	4.0	4.2
India	6.0	7.5	9.0	10.0	10.8
China	12.0	14.0	16.0	17.5	18.6
South Africa	1.5	1.7	1.9	2.0	2.1

Figure 3



This table will provide the annual fintech investment (in USD billion) by five BRICS countries between 2019 and 2023. The information shows the level of investment in the fintech industry as well as the tendency of its rise, which is one of the main sources of technological advancement and market development.

China is currently a fintech investment sector leader, with USD 12 billion in 2019, followed by USD 18.6 billion in 2023, which represents a healthy and fast-growing fintech environment backed by domestic and international funds. The second-largest recipient is India, which is expected to increase investments made in the country to USD 6.0 billion in 2019 and USD 10.8 billion in 2023, which is indicative of investor confidence and a well-developed startup environment. Brazil is steadily yet moderately growing, USD 3.5 billion to USD 6.5 billion and Russia is growing slower but steadily to USD 4.2 billion by 2023.

lowest investment in BRICS countries is observed in South Africa, which increased slightly (USD 1.5 billion to USD 2.1 billion) over the five years, which reflects the emergence of the fintech industry to this day.

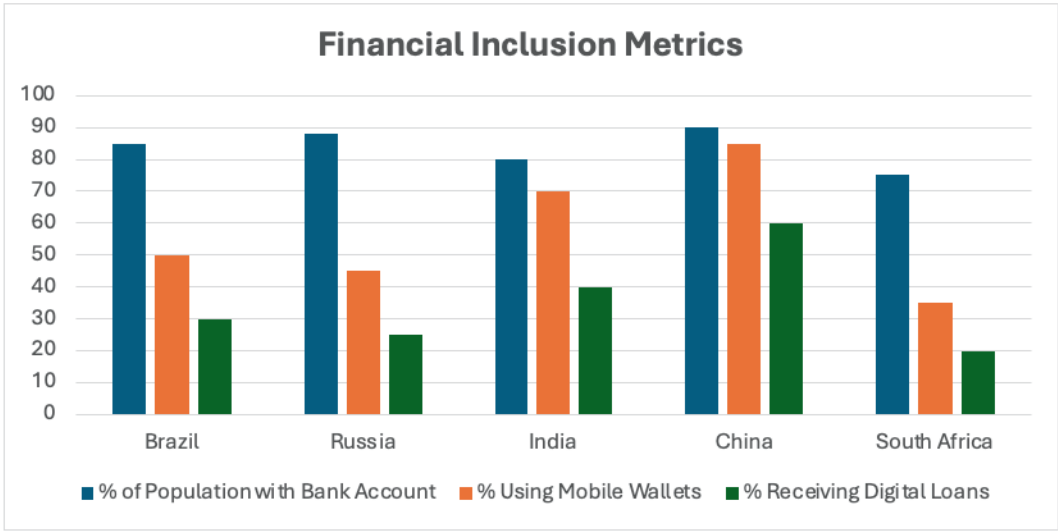
The table shows that China and India lead in the investment of fintech in the BRICS region, which probably makes the process of innovation and adoption faster, and the countries with small investment proportions might experience slower fintech growth.

Financial Inclusion Metrics (2023)

Table 4

Country	% of Population with Bank Account	% Using Mobile Wallets	% Receiving Digital Loans
Brazil	85	50	30
Russia	88	45	25
India	80	70	40
China	90	85	60
South Africa	75	35	20

Figure 4



The table shows the financial inclusion indicators of five BRICS nations, such as the percentage of the population with a bank account, the percentage of people with mobile wallets, and the percentage of people with digital loans. The indicators underscore the level of access to financial services that increased as a result of fintech. China tops all three lists, where 90 percent of the population has a bank account, 85 percent of people use mobile wallets, and 60 percent of people receive digital loans, which makes the country a very inclusive digital financial ecosystem. India represents a high level of mobile wallets (70%), digital loans (40%), the number of bank accounts is a bit smaller (80%), which means that the fintech solutions are influencing the financial inclusion by bypassing the usual banking system. Brazil has moderate adoption, as it has high rates of bank account ownership (85) and low rates of mobile wallet (50) and digital loan (30) uptake. Russia has a high level of bank

account penetration (88%) and a lower rate of mobile wallet penetration (45%) and digital loans penetration (25), which implies that standard banking is common but digital financial services are not popular. South Africa has the lowest figures in all measures and especially in mobile wallets (35%), digital loans (20%), which means that the fintech adoption is young and impeded in reaching the broader population.

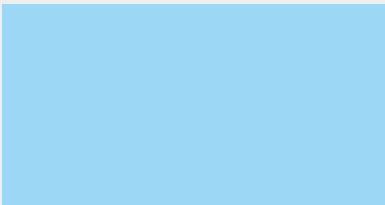
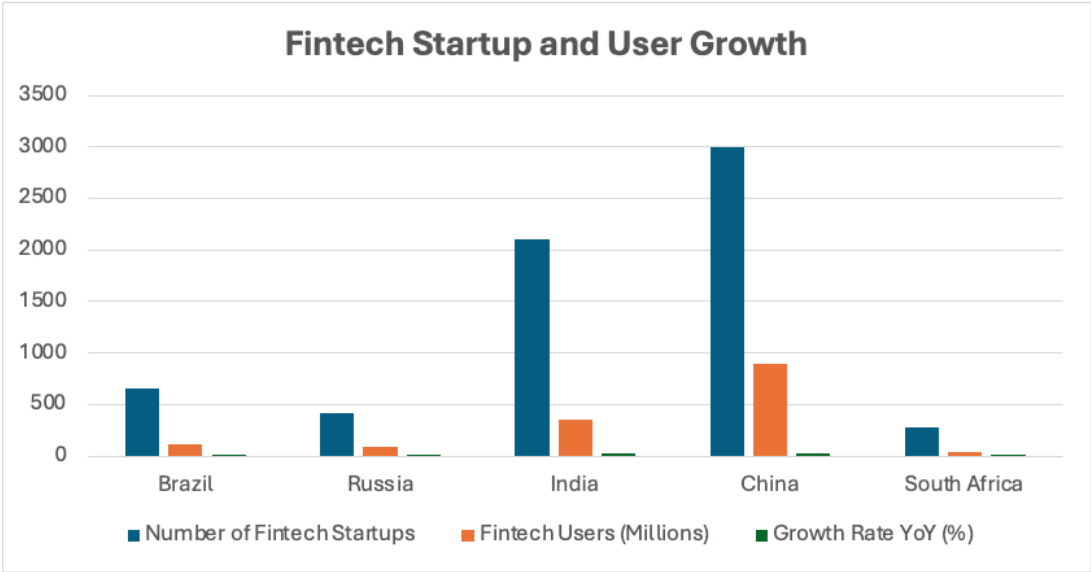
The table shows that financial inclusion has greatly been improved by the fintech in countries that have had higher rates of digital acceptance, including China and India, and other BRICS countries can still increase digital financial services.

Fintech Startup and User Growth (2023)

Table 5

Country	Number of Fintech Startups	Fintech Users (Millions)	Growth Rate YoY (%)
Brazil	650	120	15
Russia	420	95	12
India	2100	350	25
China	3000	900	28
South Africa	280	45	10

Figure 5



The table shows the development of fintech ecosystem in BRICS countries using the number of fintech startups, number of fintech users (in millions) and annual growth (YoY) rate (percentage). These indicators give the background information on the level of fintech scale, adoption and growth in each country. China has top ratings of 3,000 fintech startups, 900 million users, and a YoY growth rate of 28, which shows that the fintech ecosystem is highly mature and fast developing. India is next with 2,100 startups, 350 million users and 25% YoY growth which is a high activity of startups and adoption rate by the local people especially urban and rural users. Brazil has a moderate growth of 650 startups, 120 million users and a 15 percent growth per year, which indicates that fintech services continue to expand steadily. Russia is growing slower, having 420 startups, 95 million users, and 12 percent YoY growth, which means that the Russian fintech market is developing and could grow even more. South Africa has the smallest fintech ecosystem in the BRICS with 280 startups, 45 million users and a 10 percent growth rate indicating new adoption and its requirement to invest more and have more digital infrastructure. The table shows that China and India lead in terms of both scale and growth of fintech adoption, but the adoption is steadily rising and Brazil, Russia, and South Africa are trailing behind in terms of users, startups, and adoption rates.

Conclusion

The discussion of fintech development in BRICS nations shows that digital infrastructure, governmental support, investment, and the adoption of the technology by consumers are essential to the further development of financial technology. The powerful digital ecosystems, large populations of smartphone users, significant fintech funding, and user-engagement make China and India leaders in the region. Brazil and Russia achieve medium growth as there is constant progress in infrastructure and financial inclusion, whereas South Africa is slightly behind, which means that more investment and digital adoption plans should be implemented. Comprehensively, fintech has greatly increased financial inclusion, where cones are able to experience banking, mobile payment and digital loan services, as well as the not banked and underbanked. The paper illustrates that sustainable growth of fintech requires a combination of favorable policies, well-developed infrastructure, and a solid startup environment.

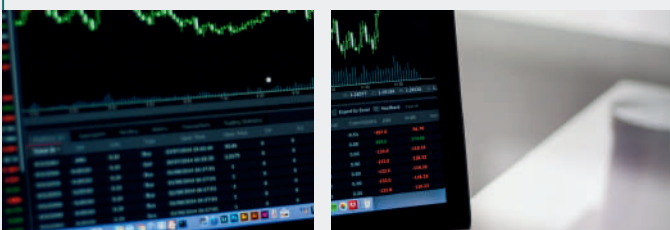
With the BRICS countries investing more in the technology-induced financial services, they are in good position to promote economic growth, innovation and more inclusive financial environment within the region.

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A Currency Without a Country: Stress-Testing the BRICS Basket in India's Chairmanship Year Why Pooling Five Currencies Also Pools Russia's Financial Isolation

Uki Chowdhury
Alumna, Jadavpur University

Abstract

During India's 2026 BRICS chairmanship, held under the banner of resilience, cooperation, and sustainability and concluded with the 18th BRICS Summit in New Delhi on September 12-13, 2026, the idea of a shared BRICS currency instrument recirculated in summit-adjacent rhetoric without ever being tested against data — and, notably, did not surface as a concrete deliverable in the New Delhi Declaration itself. This paper builds a GDP-purchasing-power-parity (PPP) weighted basket of the five founding BRICS currencies — the Chinese renminbi, Indian rupee, Russian ruble, Brazilian real, and South African rand — using weights from the IMF's World Economic Outlook database (International Monetary Fund [IMF], 2024), and stress-tests it using monthly data from official sources: the U.S. Federal Reserve's G.5 series for four currencies (Federal Reserve, 2026) and the Central Bank of Russia's own daily USD/RUB archive for the ruble (Central Bank of the Russian Federation [CBR], 2026). Realised volatility and correlation, computed from fifty-three months of data (January 2021 to May 2025), show a genuine diversification benefit under calm conditions — a ratio of 1.78 — that evaporates once ruble volatility is recalibrated to its actual 2022 crisis level: basket volatility roughly doubles. India is not a neutral bystander: its rupeesettlement arrangement with Russia saw balances peak near \$8 billion before falling to roughly \$3.5 billion by late 2024 (Business Standard, 2024), a balance Foreign Minister Sergey Lavrov confirmed was largely unusable (as cited in WION, 2023). The paper argues a pooled currency instrument, absent genuine convergence mechanisms, would import a partner's crisis rather than insulate against it.

A Currency Without a Country: StressTesting the BRICS Basket

1. Introduction: A Chairmanship Question With No Empirical Answer

The friction is not new. In July 2023, Russian oil suppliers, on informal guidance from their own central bank, briefly refused rupee payment, nearly halting a trade route that had made India Russia's largest seaborne oil buyer, until cargoes were rerouted through yuan and dirham as stopgaps (Reuters, 2023). Trade grew regardless: Ukraine's Foreign Intelligence Service assessed that between April and December 2025, India-Russia trade reached approximately \$63.6 billion, of which nearly \$59 billion was Russian oil (Foreign Intelligence Service of Ukraine [SZRU], 2026). That trade has been profitable for both sides, but has also produced a quieter problem: because the rupee cannot be freely repatriated outside India, Russian exporters have accumulated balances that peaked near \$8 billion, which Foreign Minister Sergey Lavrov publicly confirmed was largely unusable (Business Standard, 2024; WION, 2023). This is the unglamorous, plumbing-level reality behind a much grander idea that has circulated at BRICS summits for several years: a shared currency or unit of account for the bloc. India held the BRICS chairmanship in 2026 under a theme built around resilience and cooperation, and the currency question resurfaced in commentary around the New Delhi Summit, even though it did not translate into a formal agenda item. This paper treats it as an empirical question, computing basket volatility directly from official exchange-rate data: would a PPP-weighted BRICS basket actually reduce volatility for its members, given their real behaviour over the past five years?

2. Data and Method

Monthly average exchange rates against the US dollar for the Chinese renminbi, Indian rupee, Brazilian real, and South African rand were drawn directly from the U.S. Federal Reserve's G.5 Foreign Exchange Rates release, series EXCHUS, EXINUS, EXBZUS, and EXSFUS respectively, covering January 2021 to May 2025 (Federal Reserve, 2026).



Ruble data for the same window were computed directly from the Central Bank of Russia's own official daily USD/RUB exchange-rate archive, averaged to monthly frequency (CBR, 2026) — the same authority that sets the rate, rather than a third-party compilation.

Basket weights are proportional to each currency's contribution to the five founding members' combined GDP on a PPP basis, drawn directly from the IMF World Economic Outlook database, series PPPGDP, 2024 vintage (IMF, 2024): China 57.5%, India 23.4%, Russia 10.5%, Brazil 7.1%, South Africa 1.5%.

Basket weights are proportional to each currency's contribution to the five founding members' combined GDP on a PPP basis, drawn directly from the IMF World Economic Outlook database, series PPPGDP, 2024 vintage (IMF, 2024): China 57.5%, India 23.4%, Russia 10.5%, Brazil 7.1%, South Africa 1.5%.

3. Findings: Realised Volatility and Correlation

Table 1 reports the annualised volatility of each currency computed from realised monthly returns over the sample period.

Currency	PPP weight	Ann. volatility
CNY	57.5%	4.23%
INR	23.4%	3.12%
RUB	10.5%	25.93%
BRL	7.1%	9.92%
ZAR	1.5%	9.15%

The realised correlation matrix (Table 2) confirms, with official data, the structural story: the renminbi and rupee move together as managed Asian currencies ($r = 0.32$); the real and rand move together as high-beta commodity currencies ($r = 0.51$); and the ruble is weakly or even negatively correlated with the other four (r between -0.22 and 0.09) — most negatively with the renminbi — reflecting its isolation from global capital flows since 2022 rather than genuine economic independence.

	CNY	INR	RUB	BRL	ZAR
CNY	1.00	0.32	-0.22	0.26	0.54
INR	0.32	1.00	0.09	0.25	0.38
RUB	-0.22	0.09	1.00	-0.05	-0.12
BRL	0.26	0.25	-0.05	1.00	0.51
ZAR	0.54	0.38	-0.12	0.51	1.00

The GDP-PPP-weighted average of the five currencies' individual volatilities is 6.72% annualised — the result if pooling delivered no diversification benefit at all. Incorporating the real correlation structure instead produces a basket volatility of 3.78%, a diversification ratio of 1.78. This is a genuine, data-grounded diversification benefit, larger than informal estimates typically assume — and, as Section 4 shows, considerably more fragile than it looks.

4. Stress Test: The 2022 Shock, Measured Directly

Rather than assuming a stylised shock magnitude, this paper measures the ruble's realised volatility during its actual crisis window. The CBR's own daily data place the peak precisely: the average official rate spiked to 103.47 rubles per dollar in March 2022 — not February, when sanctions were announced, but the following month, as the shock worked through the exchange rate before the rate partially recovered. Annualised volatility over the December 2021 to June 2022 window, measured on this corrected timing, was 71.10%, nearly triple the ruble's volatility over the full five-year sample. Re-running the basket model with this shock-period volatility, holding correlations fixed, raises basket volatility from 3.78% to 7.58% — the basket's risk roughly doubles — despite the ruble carrying only a 10.5% weight. Removing the ruble entirely and reallocating its weight among the other four produces a basket volatility of 3.49%, close to the calm-period figure and less than half the stressed basket. A single member's crisis, at a modest weight, does not merely erode the diversification benefit; measured correctly, it can overwhelm it.



5. The India Angle: Whose Balance Sheet Absorbs the Stress?

This is not abstract for India. The country is already living a small-scale version of this stress scenario in its bilateral rupee trade with Russia: a settlement mechanism that looks efficient on paper but leaves one side holding an asset it struggles to use. Russian rupee balances in Indian vostro accounts peaked near \$8 billion before falling to roughly \$3.5 billion by September 2024, as Moscow slowly found outlets — securities, machinery, defence payments — to draw the surplus down (Business Standard, 2024). The balance has shrunk, but the underlying imbalance has not.

A multilateral BRICS basket would not resolve this; the data suggest it would generalise it. A shock originating in Russia's isolation from global capital markets measurably raises basket volatility regardless of India's own policy choices. India's chairmanship year gave it standing to insist on an explicit convergence mechanism before any volatility is pooled — not after. Tellingly, no such mechanism, and no pooled-currency instrument, appeared among the deliverables of the New Delhi Summit; the initiatives India did advance — a startup innovation fund, an MSME cooperation portal, a seafarers' support network, a seedsharing framework — left the currency question untouched, consistent with the convergence gap this paper documents.

6. Limitations

Three caveats bound these findings. First, the series are monthly averages of the CBR's own daily rate, not intraday spot prices; the rate briefly traded well above the 103.47 monthly average in March 2022, so even this corrected figure likely understates the peak's true severity. Second, the CBR sets this rate itself, and its rate-setting mechanics changed during the heaviest capital-control period, so "official" is not always "freely clearing." Third, the sample window is dominated by one major shock and relative calm elsewhere. These figures are best read as a reproducible estimate of directional risk, not a precise forecast.

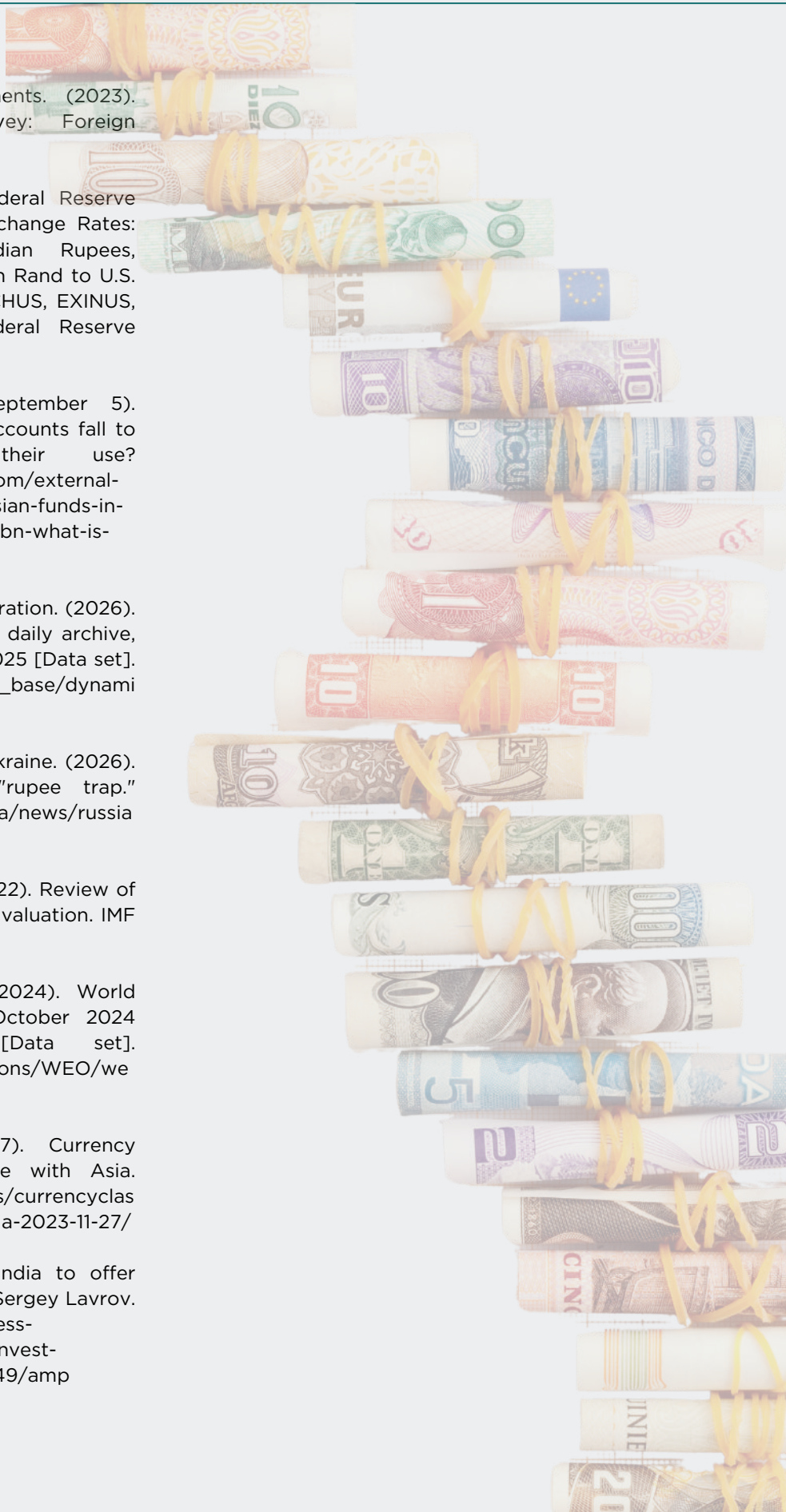
7. Conclusion: Resilience Is a Convergence Problem, Not a Weighting Formula

Using official data rather than stylised assumptions, a PPPweighted basket of the five founding BRICS currencies shows a genuine diversification benefit under calm conditions: a ratio of 1.78, driven by real, measured comovement rather than a modelling artefact. But that benefit is fragile in exactly the way the correlation structure predicts. Under a stress test using the ruble's actual, correctly timed 2022 shock, basket volatility roughly doubles, and stability becomes hostage to decisions made in three capitals, not the weighting scheme. For India, the stakes are concrete: the same country that has had billions sit idle in stranded rupee balances would be pooling that exposure across four more currencies. Resilience, in the sense the 2026 chairmanship theme invoked, requires convergence mechanisms that do not yet exist — not a formula that quietly imports a partner's crisis and calls it cooperation. The New Delhi Summit's own outcomes are consistent with this reading: despite recurring rhetoric about de-dollarisation, the chairmanship year closed without a pooled-currency instrument or an explicit convergence mechanism, leaving the underlying question this paper raises unresolved rather than settled.



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Global Pour

From Energy Security to Supply-Chain Resilience: India's BRICS Opportunity in a Fragmented Global Economy

Aqib Parvez
Master of Public Policy
(KDI School of Public Policy and Management, South Korea)

1. Introduction

Global trade is increasingly exposed to geopolitical tensions, commodity-price shocks and concentrated supplier networks. The COVID-19 pandemic and the war in Ukraine showed how disruptions in one part of the global economy can spread through production and trade networks. The WTO has also highlighted the risks created by geopolitical fragmentation and concentrated global value chains (Asian Development Bank et al., 2023; World Trade Organization, 2023).

Energy is a big source of these vulnerabilities. Rising energy prices lead to rising costs of production, transport and imports, and any disruption in energy supply can have knock-on effects on industries dependent on imported intermediate goods. Energy shocks therefore have implications beyond energy markets, especially for economies embedded in global production networks (IEA, 2024b, 2024c).

BRICS expansion adds an important energy and supply-chain dimension to this discussion. The expanded BRICS-11 brings together major energy producers, large energy consumers, manufacturing economies and important trading hubs. This diversity creates scope for cooperation across energy, trade, infrastructure and technology (BRICS 2026 India, 2026).

This article asks whether energy-import dependence changes the relationship between global oil shocks and non-fuel intermediate-import growth across the BRICS-11 economies. Using country and year fixed effects with Driscoll-Kraay standard errors, the preferred specification is estimated on 220 complete country-year observations from 11 current BRICS members over 2001-2023. The analysis applies the current BRICS-11 country composition retrospectively to the 2001-2023 panel. The findings point to an important policy message for India: energy

2. BRICS and the Changing Architecture of Energy and Trade

BRICS has growing importance in the global energy and trade system because its members occupy different positions within international production and energy networks.

The grouping includes major energy exporters such as Russia, Saudi Arabia, Iran and the United Arab Emirates, alongside major consumers such as India and China. Brazil and Indonesia combine substantial energy resources with large domestic markets, while China and India remain important manufacturing and intermediate-goods economies. The scale of this grouping is significant. Further, the energy endowments and trade structures of the BRICS countries differ significantly, with the BRICS countries producing 43.6% of the world's oil and 36% of the world's natural gas in 2023 (BRICS Brasil, 2025b). Such differences provide opportunities for cooperation but also mean that external shocks can affect members through different channels.

This relationship is especially important for India. India is one of the world's largest energy consumers and is highly dependent on imported crude oil, with its manufacturing growth linked to global supply chains (IEA, 2024a). Hence, energy security and supply-chain resilience are closely connected policy challenges. BRICS provides India with an additional platform for diversifying energy partnerships while strengthening trade, infrastructure and technology links.

3. What the BRICS-11 Evidence Shows

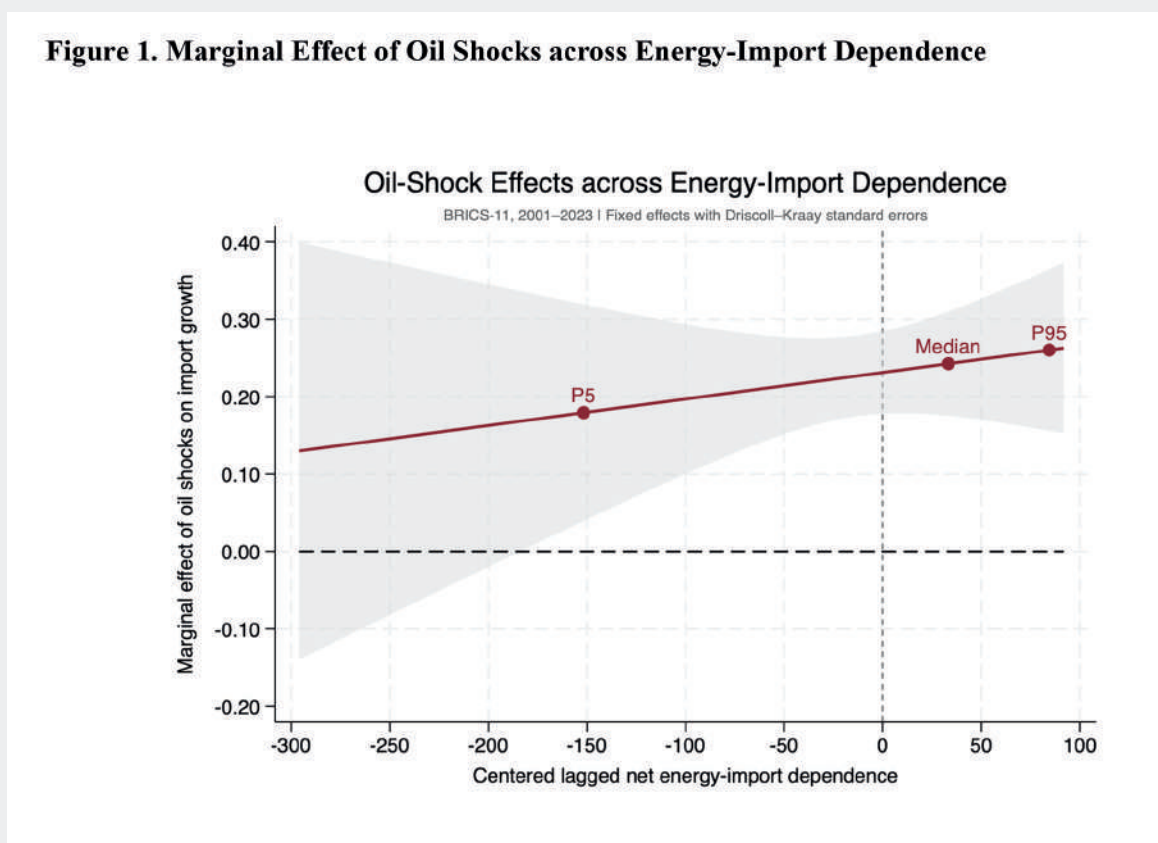
Trade data show substantial differences across BRICS-11 economies in non-fuel intermediateimport growth and supplier concentration. Import value alone does not capture supply-chain exposure. An economy sourcing a critical input from many suppliers faces a different risk from one relying heavily on a small number of trading partners. Measures such as the Herfindahl-Hirschman Index and the shares of the top 1, 5 and 10 suppliers therefore provide useful information about the concentration of external supply.

The econometric results add an energy dimension to this picture. In the preferred centred fixedeffects specification with Driscoll-Kraay standard errors, the coefficient on the oil-shock variable is positive and statistically significant, with $\beta = 0.249$ and $p < 0.001$. The estimated interaction between oil shocks and centred lagged net energy-import dependence is positive, but statistically insignificant, with $\beta = 0.00034$ and $p = 0.480$. The result is important because it places a limit on how the relationship should be interpreted. The evidence does not show that greater energy dependence significantly amplifies the association between oil shocks and nonfuel intermediate-import growth.

The empirical result therefore does not support a simple claim that higher energy dependence

mechanically produces a stronger oil-shock effect. This does not make energy diversification irrelevant; rather, the case for diversification rests on broader supply-chain and energy-security risks rather than on a statistically significant interaction in this model.

Figure 1. Marginal Effect of Oil Shocks across Energy-Import Depend



Note: Marginal effects are estimated from the preferred country and year fixed-effects specification with Driscoll-Kraay standard errors. The shaded area represents the 95% confidence interval. Points indicate estimates at the 5th, 50th, and 95th percentiles of centred lagged net energy-import dependence. Source: Author's calculations using the BRICS-11 panel data

The figure shows how the estimated marginal association between oil shocks and non-fuel intermediate-import growth varies across energy-import dependence. The confidence intervals reinforce the need for caution in interpreting the interaction effect. For India, this shifts the policy focus from whether energy dependence amplifies oil shocks to how broader supplier and infrastructure concentration can be reduced.

4. What This Means for India

India faces three connected sources of supply-chain vulnerability. First, dependence on imported energy makes the costs of production and transport vulnerable to external price and supply conditions. Changes in global oil markets have an impact on the energy sector, manufacturing and trade.

Second, India's manufacturing ambitions are dependent on reliable access to imported intermediate goods such as components, machinery, processed inputs and strategic materials. While building domestic capacity remains important, deeper integration into global production networks means that external suppliers will continue to matter. Third, supplier concentration itself creates risk. The value of imports does not reveal how resilient a supply chain is. India also needs to consider the number of suppliers, their geographic distribution, individual supplier shares and dependence on strategically important economies.

The policy objective should therefore not be to reduce international trade dependence in absolute terms. It should be to reduce excessive concentration while preserving access to competitive global suppliers. This distinction is central to India's BRICS strategy. The objective is to create more reliable options, rather than replace one concentrated dependency with another.

5. India's BRICS Opportunity

The value of BRICS for India will depend on whether cooperation produces practical mechanisms for reducing concentrated supply-chain risks. Four areas deserve particular attention.

First, energy diversification should remain a priority. BRICS cooperation could support longer-term energy supply arrangements, crude and refined-product trade, strategic energy partnerships and renewable-energy cooperation. The objective should be to widen India's pool of reliable energy suppliers and reduce exposure to disruptions in individual markets. Second, BRICS could support diversification in intermediate goods. India could work with partners to identify strategically important products and monitor supplier concentration across critical minerals, electronics, machinery, energy equipment, chemicals and renewable-energy components. Third, infrastructure cooperation should focus on the physical networks through which energy and intermediate goods move. Ports, shipping, logistics corridors, storage and energy infrastructure affect trade flows' resilience. For India, this connects directly with priorities in port development, green hydrogen and offshore energy. Fourth, technology and finance should support the transition toward more resilient energy systems. Cooperation in renewable energy, storage, green hydrogen and grid infrastructure could complement access to development and climate finance. The New Development Bank also provides a potential institutional channel for financing infrastructure and clean-energy projects.

6. Conclusion:

From Energy Security to Supply-Chain Resilience
The evidence points to a clear strategic choice for India. The preferred model finds a positive and statistically significant association between oil shocks and non-fuel intermediate-import growth, while the interaction between oil shocks and energy-import dependence is statistically insignificant. India's resilience strategy therefore should not depend on the assumption that energy dependence automatically amplifies every oil shock.

The broader policy case for diversification therefore remains important.

India should reduce excessive concentration across energy suppliers, intermediate goods, infrastructure and technology while maintaining access to global markets. BRICS offers one platform for pursuing this objective through energy partnerships, supplier diversification, infrastructure connectivity, technology cooperation and development finance.

The goal should not be a BRICS-only supply chain. India should use BRICS to build a wider set of reliable economic partnerships and reduce excessive dependence on individual suppliers or routes. In a more fragmented global economy, resilience will depend on having more options, stronger connectivity and greater flexibility when external disruptions occur.

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GUEST BLENDS

BRICS and Erosion of Western Financial Leverage A Critical Examination of Structural Power in Global Energy and Financial Markets

Gp Capt Rakesh Kumar Yadav

Abstract

This paper examines whether the structural power long exercised by Western financial systems over global energy and capital markets still functions as an effective veto, and evaluates the BRICS coalition's role in eroding that power. It argues that Western finance retains the most consequential lever in the system through dollar pricing, deep capital markets, and the coercive infrastructure of SWIFT-based sanctions, but that this leverage is no longer absolute. BRICS has emerged as the single most institutionally coherent challenge to that architecture, building alternative payment rails, a multilateral development bank willing to lend in local currencies, and a gold-referenced settlement instrument. The paper concludes that BRICS has meaningfully raised the cost of Western financial coercion and diversified the plumbing of the international system, without yet displacing the dollar-centred order it contests.

1. Introduction

For eight decades, the architecture of international finance has been organised around dollar pricing, Western-controlled clearing infrastructure, and the sanctions leverage this arrangement makes possible. That architecture gave the United States and its allies what can be described, following Susan Strange's concept of structural power, as an effective veto over global energy markets: the capacity to shape outcomes not through direct command but through control of the underlying rules of finance, credit, and security. ¹That architecture is now under its most sustained challenge in a generation. Sanctioned states have built workarounds, coalitions of emerging economies have constructed alternative payment infrastructure, and capital has begun to reorient toward Asia. Among the actors driving this shift, BRICS — the coalition of Brazil, Russia, India,

China, South Africa, and, since 2024, an expanded roster of energy-producing and Global South states — has become the most institutionally organised challenger to Western financial leverage. This paper asks two connected questions: first, to what extent has Western structural power over energy and financial markets actually eroded; and second, how significant is BRICS specifically, as opposed to unilateral adaptation by individual sanctioned states, in driving that erosion.

2. The Structural Architecture of Western Financial Power

2.1 Dollar Pricing, Settlement, and Capital

Global oil and liquefied natural gas contracts remain overwhelmingly priced and settled in dollars, which means that virtually every producer and trader must eventually route revenue through dollar-clearing correspondent banks subject to American jurisdiction. Multi-decade upstream and midstream projects, meanwhile, still depend on Western equity markets, multilateral lenders, and private institutional capital for financing.²Carnegie's Adam Hanieh illustrates the depth of this dependence: even as Gulf national oil companies expand downstream investment in China, most of their sovereign wealth remains anchored in American assets — the Abu Dhabi Investment Authority alone holds more than half its portfolio in the United States — while Washington continues to supply the security guarantees that make the arrangement durable.³

2.2 Coercive Infrastructure: SWIFT and Secondary Sanctions

The clearest expression of Western structural power is coercive: the SWIFT messaging system and the secondary-sanctions regime allow the United States and its European allies to cut a producer's revenue off from the global financial system, as has been done to Russia and Iran. An econometric assessment of Russia's 2022 exclusion from SWIFT found that while export revenues stayed temporarily elevated — a function of the contemporaneous spike in oil prices rather than genuine structural resilience — the country's international reserves suffered a steep and lasting contraction consistent with asset freezes and defensive central-bank action. The same study concludes that alternative payment systems keep transactions moving but do not replicate SWIFT's global reach, liquidity, or accumulated institutional trust.⁴

3. The Role of BRICS as a Driver of Erosion

Of the various pressures on Western financial leverage, BRICS is the most consequential because it combines political weight, energy-producer membership, and institution-building rather than relying on any single country's improvisation under sanctions. Four dimensions of BRICS activity matter most: institutional infrastructure, payment-system interoperability, reserve diversification and the coalition's expanding political and demographic weight. A fifth dimension — the coalition's internal limits — is equally important to an honest assessment.

3.1 Institutional Infrastructure: The New Development Bank and Payment Platforms

The New Development Bank, established by the founding BRICS members in 2015, is the clearest institutional vehicle for reducing dollar dependence. Its 2022–2026 general strategy commits to denominating roughly thirty per cent of financing in the national currencies of member states, a target its 2025 annual reporting describes as reducing exchange-rate mismatch and shielding borrowers from external monetary-policy shocks.⁵ Alongside the Bank, BRICS members have built a layer of alternative payment infrastructure: BRICS Pay, a decentralised system linking national payment networks such as Russia's SPFS, China's CIPS, and India's UPI; BRICS Bridge, a multilateral platform for central bank digital currency settlement; and, most recently, a pilot gold-referenced settlement instrument known as the BRICS Unit, launched in a 100-unit pilot backed forty per cent by gold and sixty per cent by member currencies.⁶ Commentary sympathetic to the bloc frames the New Development Bank as a direct counterweight to the conditionality historically attached to Western multilateral lending, arguing that BRICS financing prioritises flexibility over the liberalisation conditions typical of Bretton Woods institutions.⁷

3.2 Local-Currency Trade and Reserve Diversification

Intra-BRICS trade settled in member currencies rather than dollars has grown substantially reporting on the bloc's 2026 initiatives put the reduction in dollar usage for intra-bloc trade at roughly two-thirds, with India increasingly settling energy imports from Russia in rupees or rubles.⁸ Reserve diversification has moved in the same direction, with collective BRICS gold reserves reported above six thousand tonnes and cited as the backing mechanism for the new settlement instruments described above.⁹

3.3 Expansion and Political Weight

BRICS expanded from five to ten full members in 2024, adding Saudi Arabia, the United Arab Emirates, Iran, Egypt, and Ethiopia — a roster that now includes several of the world's largest energy exporters alongside its original members. That expansion converts the coalition from a symbolic grouping of large emerging economies into a bloc with direct influence over a substantial share of global oil and gas production, giving its payment and settlement initiatives far greater practical relevance to energy markets than earlier BRIC-era proposals possessed.¹⁰

3.4 The Limits of the BRICS Challenge

The coalition's ambitions should not be overstated. No BRICS summit declaration has endorsed a common reserve currency, and the bloc's most consistent public position — including explicit statements from Indian and Russian officials — disclaims any intention to replace the dollar outright, favouring a gradual expansion of local-currency settlement options.¹¹ A left-leaning critique of the bloc goes further, arguing that the July 2025 Rio de Janeiro leaders' declaration did not once use the term de-dollarisation and that the coalition's members remain, in practice, committed defenders of the IMF, World Bank, and WTO rather than architects of a genuine alternative order.¹² The coalition has also faced direct political retaliation for its de-dollarisation rhetoric, including a 2025 threat of 100% tariffs from the United States against BRICS members pursuing dollar alternatives — a reminder that the coercive infrastructure described in Section 2 can be redirected at the bloc's trade relationships even where its financial initiatives fall short of full de-dollarisation.¹³

4. Evidence and Limits of Broader Financial Fragmentation

BRICS activity sits within a wider pattern of geopolitically driven fragmentation. Brookings research on the international financial system finds concrete evidence of this fragmentation: foreign direct investment increasingly concentrated within geopolitical blocs, particularly in strategic sectors such as semiconductors; Russia's sharp post-2022 pivot away from Western finance, which roughly halved its external liabilities; and a gradual reduction in China's exposure to United States assets.¹⁴ Crucially, the same research finds that this capacity for diversification is

asymmetric: large or strategically autonomous states can afford to build alternatives, while most emerging market and developing economies remain heavily dependent on Western capital and would face materially higher borrowing costs if that access were curtailed.¹⁵ Wood Mackenzie's 2026 industry outlook situates this fragmentation directly within energy markets, citing the war in Ukraine, upheaval surrounding Venezuela, and the deepening split between United States- and China-led trading blocs as first-order forces shaping energy investment and pricing for the year — a reminder that the financial and energy dimensions of this contest are now inseparable.¹⁶ Theoretical work on payment-system migration under sanctions risk reinforces this picture: once a critical mass of large economies adopts an alternative settlement rail, the network effects that once entrenched the incumbent system begin working in reverse, lowering the cost of migration for the next country in line — a dynamic in which BRICS's scale, rather than any single member's actions, is the more important variable.¹⁷

5. Conclusion

The evidence supports a qualified conclusion. Western financial structures — dollar settlement, deep capital markets, and SWIFT-based sanctions leverage — remain the default and most powerful mechanism governing global energy finance, and the cost of exit remains steep enough that only states willing to absorb real economic pain, or possessing China's scale, have pursued it meaningfully. BRICS is the single most significant organised force eroding that leverage: its New Development Bank, payment platforms, and reserve diversification have measurably reduced dollar dependence within the bloc and expanded the menu of settlement options available to energy producers and importers alike. Yet BRICS has deliberately stopped short of building a genuine substitute for the dollar-centred order, and its own members are divided on how far the project should go. The net effect is not the displacement of Western financial power but its dilution: a system that is harder, costlier, and slower for Washington and its allies to weaponise than it was a decade ago, but one in which no rival coalition, BRICS included, has yet built an alternative capable of bearing the full weight of global energy finance on its own.

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POLICY PULSE

September 2026 Monthly Economic Round-up From Economic Momentum to Durable Capability: Turning Announcements into National Capacity

September 2026 presented two contrasting economic narratives. India's growth, industrial production, domestic demand and tax revenues remained strong. At the same time, higher energy prices, rising inflation, a weaker monsoon and tighter global financial conditions increased the risks facing the economy.

The policy challenge is no longer merely to sustain momentum, but to convert it into durable productive capacity.

Global Economy: Resilient, but under pressure

The OECD's September Interim Economic Outlook projected global growth at 2.9 per cent in 2026 and 3 per cent in 2027. The global economy has proved more resilient than expected, supported partly by investment in artificial intelligence, semiconductors, data centres and associated energy infrastructure. However, elevated energy prices, persistent inflation and higher borrowing costs continue to weaken the outlook.

Disruptions arising from the Middle East conflict remain especially important for energy-importing economies. Higher oil and gas prices affect transportation, fertilizer, food and manufacturing costs, while rising sovereign-bond yields increase financing costs for governments and businesses.

The US Federal Reserve's decision in September to raise its policy rate by 25 basis points indicated that global monetary conditions could remain restrictive for longer. For emerging economies, this can affect capital flows, currencies and domestic financing conditions.

A wider structural change is also becoming evident. AI-led growth is benefiting economies with advanced chips, reliable electricity, digital infrastructure and skilled talent. Countries that do not develop these capabilities risk remaining consumers of imported technology rather than participants in the emerging economic value chain.

India: Strong growth and industrial expansion

India entered September with considerable economic momentum. Real GDP grew by 7.8 per cent in the first quarter of FY 2026-27, compared with 6.9 per cent during the corresponding quarter of the previous year. Services recorded particularly strong growth, while private consumption expanded by 7.1 per cent.

Industrial data released during September strengthened this assessment. The Index of Industrial Production grew by 8 per cent year-on-year in August. Manufacturing expanded by 9 per cent, electricity and gas supply by 12.3 per cent, and capital-goods production by 16.9 per cent. These figures indicate healthy manufacturing and investment activity, although mining output contracted.

GST collections attributable to September reached approximately ₹2.04 lakh crore, an increase of 14.7 per cent over the corresponding month of 2025. Net revenue stood at around ₹1.77 lakh crore. This reflects buoyant formal-sector activity, imports and improved tax compliance, although tax collections alone do not provide a complete measure of economic performance.

Business surveys also indicated stronger manufacturing and services activity, driven primarily by domestic demand. Weaker export momentum and relatively modest employment creation, however, suggest that the expansion was not uniformly broad-based.

Inflation and external pressures

The principal concern was the return of stronger price pressures. Retail inflation for August, released in September, rose to 4.82 per cent—above the RBI's 4 per cent target. Food, fuel and transportation costs were important contributors.

India remains vulnerable to prolonged increases in crude-oil prices because of its high import dependence. Higher energy costs can affect the trade deficit, the rupee, government finances, corporate margins and household purchasing power simultaneously. Persistent inflation could also restrict the RBI's room to support growth through lower interest rates.

India's merchandise trade deficit nevertheless narrowed to approximately US\$26.86 billion in August, largely because gold and other non-oil imports declined. Merchandise exports remained comparatively resilient, while services exports continued to provide an important external-sector buffer.

The below-normal monsoon adds another risk. Its effects may extend from agricultural output to rural incomes, food prices and demand for farm equipment.

Adequate foodgrain stocks offer some protection, but food availability, supply management and rural conditions will require close monitoring.

Semiconductors: Moving from projects to an ecosystem

SEMICON India 2026 was among September's most significant industrial-policy developments. Held under the theme "Silicon to Systems: Building the Ecosystem," it brought together participants from 52 countries and resulted in 56 MoUs, announcements and strategic initiatives relating to investment, research, technology, skills and international cooperation.

The emphasis on a complete ecosystem is important. India's ambition cannot be limited to fabrication or assembly units. Competitive semiconductor capability requires equipment, materials, gases, chemicals, chip design, advanced packaging, testing, research, specialized talent and dependable power and water.

The next test is execution. Investment proposals and MoUs must translate into operating facilities, domestic intellectual property, commercially viable technology, skilled employment and stronger Indian participation in global value chains.

Infrastructure, states and implementation

The approval of five railway multitracking projects across Tamil Nadu, Andhra Pradesh, Karnataka and Telangana, adding approximately 540 kilometres to the network, reflected the continuing emphasis on freight capacity and regional connectivity.

Such projects can improve access to ports, industrial clusters and mineral-producing regions. Their economic returns, however, will depend on timely land availability, inter-agency coordination and completion.

States are becoming central to India's manufacturing, semiconductor and logistics strategy.

Their competitiveness will increasingly depend on serviced industrial land, reliable electricity and water, urban infrastructure, workforce skills and regulatory predictability. The meaningful measure of success will be their ability to convert investment commitments into production, employment and local supplier development.

Outlook and NEF Perspective

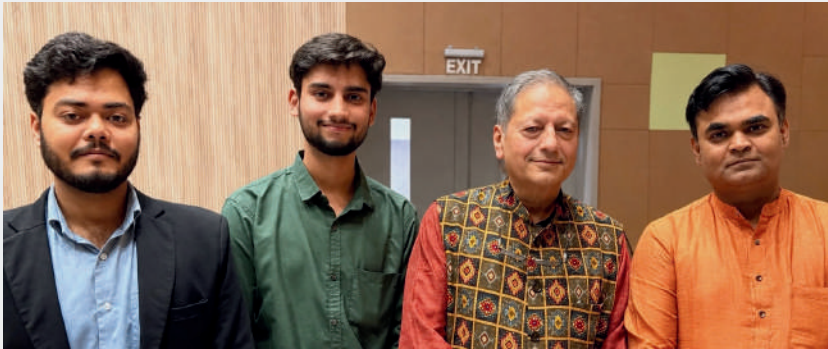
India's domestic economy retains substantial momentum. Strong GDP growth, industrial expansion, investment-linked production and tax revenues provide a valuable foundation. Yet rising inflation, energy dependence, uneven rainfall and tighter international financial conditions could make the coming months more demanding.

Immediate policy should protect energy, fertilizer and food availability while preventing temporary supply pressures from becoming generalized inflation. Medium-term priorities must include renewable energy, storage, logistics efficiency and strategic reserves. Longer-term competitiveness will depend on deeper capabilities in semiconductors, critical components, artificial intelligence, advanced manufacturing and workforce development.

Growth must ultimately be assessed not only by its pace, but also by its quality—productivity, employment, technological depth, domestic value addition and regional spread.

September's central message is clear: India's challenge is moving from economic momentum to durable capability. Announcements have created momentum; implementation must now convert that momentum into national capacity.

What's Up @NEF?



South Asian University, hosted a meaningful and enriching edition of SAFAL-III. It was a privilege for the National Economic Forum to be associated with this wonderful celebration of arts, literature, ideas and cultural dialogue. We sincerely appreciate the efforts of the organisers, speakers, authors, artists and the entire team in bringing together such diverse and inspiring voices from across South Asia. We look forward to more such meaningful collaborations and shared initiatives in the future.



Dr. Sagarika Chaudhary and Ms. Jhanvi Dubey attended the India Clean Transportation Summit, gaining valuable insights into sustainable mobility and energy transitions. The discussions explored the readiness of electric tractors for Indian agriculture and the critical need to reduce children's exposure to road transport emissions, highlighting the intersection of clean mobility, public health, and sustainable urban development.





NEF and the Kirti Nagar Timber & Furniture Dealers Association (Regd.) have signed an MoU to build the case for a globally competitive Furniture Hub in Delhi NCR.

This independent research and policy study will draw lessons from leading furniture clusters around the world, with the established Kirti Nagar furniture ecosystem, its strengths and its future potential, at the centre of the work.

The study will map pathways to strengthen MSMEs, design and quality capabilities, market access, logistics, jobs, investment and export competitiveness, and assess the planning and infrastructure an integrated furniture hub would need.



Dr. Sagarika Chaudhary and Ms. Areeka Mir represented the National Economic Forum (NEF) at the Pre-COP event organised by CRF.

The event was a chance to discuss the climate and development priorities that will shape the road to COP. On the sidelines, they had a productive exchange with **H.E. Mr. Kenneth Félix Haczynski da Nóbrega**, Ambassador of Brazil to India, and **H.E. Mr. Jason Keats Matthew Hall**, High Commissioner of Jamaica to India.

The conversations covered shared concerns facing the Global South, including climate resilience, sustainable growth, and the role of independent policy research in supporting multilateral cooperation. Both discussions pointed to promising areas where NEF could work with Brazil and Jamaica, and we look forward to taking them forward.



Dr. Sagarika Chaudhary represented the National Economic Forum (NEF) at the 5th E-FAST Summit, organised by NITI Aayog, which brought together key stakeholders to deliberate on the future of sustainable freight transportation and India's clean mobility transition.

During the summit, Shri V. Umashankar, Secretary, Ministry of Road Transport and Highways, emphasised the critical role of zero-emission trucking and the electrification of freight transportation in advancing India's decarbonisation agenda and achieving its long-term clean mobility goals.

He underscored the importance of stronger policy interventions, focused research and innovation, and enhanced collaboration among government institutions, industry leaders, researchers, and other stakeholders to overcome the challenges associated with transitioning the freight sector towards cleaner and more sustainable technologies.

The discussions highlighted the need for a coordinated, forward-looking approach to accelerate the adoption of zero-emission freight solutions, strengthen the sustainable transport ecosystem, and support India's journey towards a greener, more efficient, and low-carbon future.



Ms. Jhanvi Dubey represented the National Economic Forum (NEF) at the **World Circular Economy Forum (WCEF) 2026** in Gandhinagar, attending by invitation.

The 10th edition of the Forum ran from September 15 to 18 at Mahatma Mandir under the theme "Circular Economy: Transition for People and Prosperity." It was the first time this global flagship event was hosted in India, and the first time in South Asia. Union Environment Minister Shri Bhupender Yadav and Gujarat Chief Minister Shri Bhupendra Patel inaugurated it.



The National Economic Forum (NEF) was pleased to welcome Ms. Kajal Vadodaria, Founder & Director, and Ms. Mahua Venkatesh, Editor, The Secretariat, to the NEF.

The meeting covered shared interests in policy, governance and economic discourse. NEF and The Secretariat have agreed to collaborate on upcoming initiatives, and we look forward to working together to bring rigorous research and informed dialogue to India's policy conversation.



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NATIONAL ECONOMIC FORUM

 28, Firozeshah Road, New Delhi - 110001

 email@nef.org.in

 nef.org.in

 +91 11-35639392