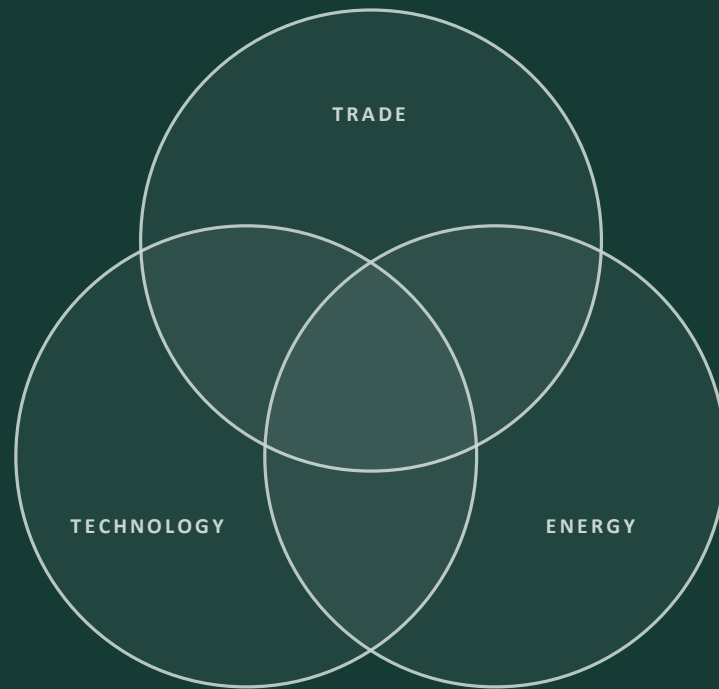


Trade, Technology and Energy

Three drivers that now reinforce one another, how India absorbed the 2026 shock, and what turns that resilience into advantage



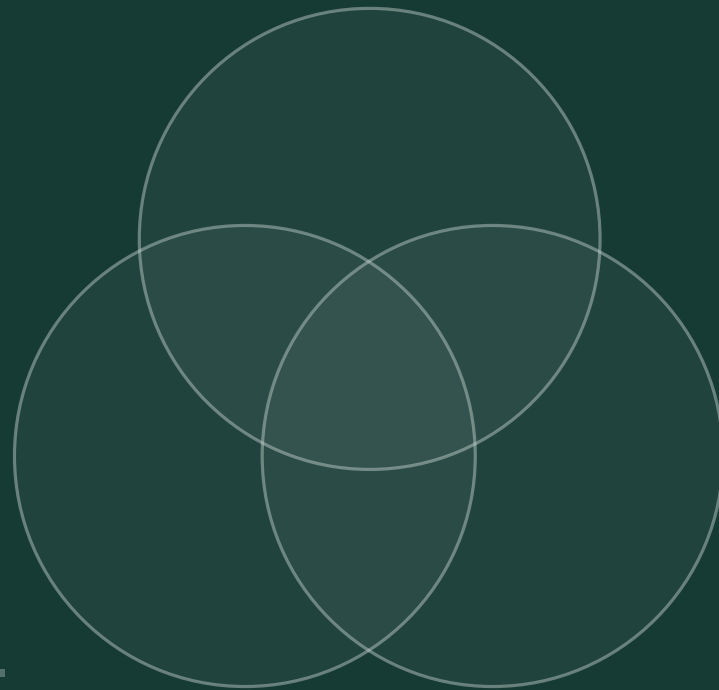
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September 2026

TRADE · TECHNOLOGY · ENERGY

The world economy now

Not demand, but supply, is now the main source of macroeconomic surprise



01

The world now

02

Medium-term
challenges

03

Absorbing shocks

04

Final thoughts

Supply shocks now rule the global economy

Not demand, but supply, is now the main source of macroeconomic surprise.



Six supply shocks in six years — arriving more often, and on top of one another.

- **Production is a chain, not a sum.** One weak link can halt everything downstream. A one-dollar chip can idle a whole car plant.
- **The worst shocks now arrive by design.** Dependencies are weaponised as chokepoints — rare earths, chips, Taiwan's fabs.
- **But weaponising a dependency backfires.** It gives everyone a reason to build around you, so the power fades with use.

Trade, technology and energy are all moving at once

TRADE

Market access has become conditional

10–12.5%

additional US duties on 60 economies under Section 301 from 24 July 2026; India at 10 per cent, with no end date

- China's goods surplus reached ¥5.56 trillion (about \$0.8 trillion) in January–August 2026
- The WTO expects world merchandise trade growth to slow from 4.6 per cent in 2025 to 1.9 per cent in 2026

TECHNOLOGY

An AI investment boom, centred on Asia

≈ half

of the growth in world merchandise trade in 2025 came from AI-related goods, which are one-sixth of that trade

- Korea's exports rose 68.7 per cent in August; its chip exports tripled to \$46.7 billion
- Taiwan's exports rose 44.2 per cent in January–August; ICT products and components were 79 per cent of August's total

ENERGY

The largest oil supply disruption on record

>10 mb/d

of Gulf oil output still shut in, more than six months into the conflict

- Global oil stocks drawn down by 507 million barrels since February; Dated Brent at \$113 a barrel on 9 September
- World oil demand set to fall by 2.5 mb/d in 2026; the EIA sees Brent near \$90 in the second half and \$74 in 2027

IMF, World Economic Outlook Update, July 2026
'Global Economy in Crosscurrents of War and Technology'

3.0%

world GDP growth, 2026, before 3.4 per cent in 2027

3.8%

growth in emerging and developing economies, 2026

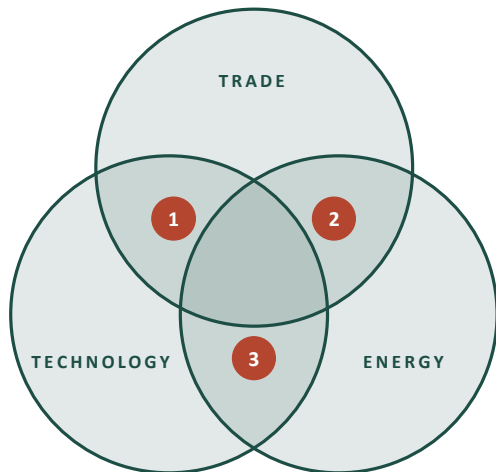
3.5%

world trade volume growth, 2026, down from 5.0 per cent

"Global disinflation has stalled."

Sources: The White House, Section 301 action on 60 economies (Jul 2026); General Administration of Customs of China (8 Sep 2026); WTO, Global Trade Outlook and Statistics (Mar 2026); Korea Ministry of Trade, Industry and Resources (1 Sep 2026); Taiwan Ministry of Finance (9 Sep 2026); IEA, Oil Market Report (11 Sep 2026); US Energy Information Administration, Short-Term Energy Outlook (9 Sep 2026); IMF, World Economic Outlook Update (Jul 2026).

Unlike the 2000s and 2010s, the three drivers now reinforce one another



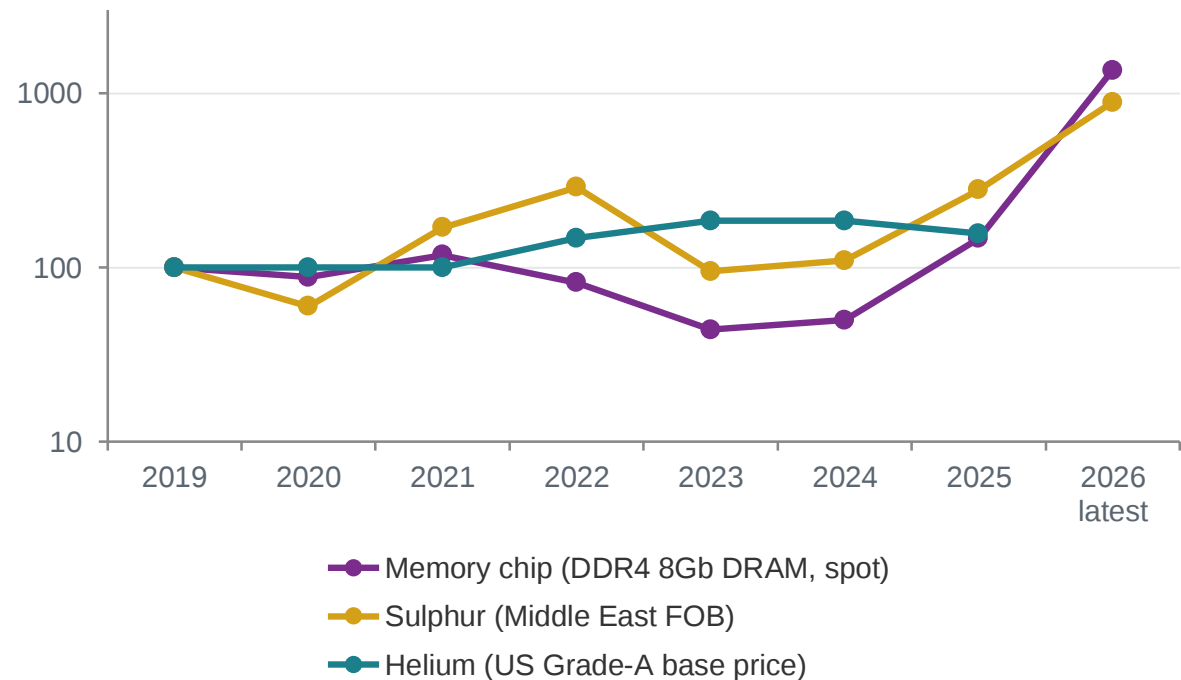
- 1 Trade and technology**
Export controls ration chips, tools and minerals, while AI goods now carry much of world trade growth and route it through Asia.
- 2 Trade and energy**
Hormuz has disrupted freight, fertiliser and helium; sanctions and carbon border rules turn energy purchases into trade questions.
- 3 Technology and energy**
AI needs power and copper. US data centres face a power shortfall, and dearer energy raises the cost of compute.

	2000s and 2010s: shocks offset	2020s: shocks compound
Prices	China's entry into world trade and cheaper electronics held inflation down even when oil spiked	Tariffs, AI demand for chips and power, and the oil shock push prices up together
Capital	Near-zero rates in advanced economies sent capital to emerging markets in search of yield	AI returns and higher US yields pull capital to the US and a few AI markets
Trade	Integration deepened along lines of comparative advantage	Trade is rerouted along lines of security, and access is increasingly conditional

A disturbance in any one driver now travels through the other two, so their effects on prices, capital and trade add up instead of cancelling out.

Memory chip and sulphur prices have surged since 2025

Price index, 2019 = 100 (log scale). Annual averages 2019–2025; latest reading for 2026



13.6× Memory chips

DDR4 8Gb spot at about \$46 in September 2026, against about \$3.4 in 2019. AI servers have pulled capacity away from ordinary DRAM.

8.9× Sulphur

Qatar sulphur price at \$890/t for July and August 2026, a record. Hormuz disruption hit the region that supplies half of seaborne sulphur.

~1.6× Helium

US base price \$330/Mcf in 2025, against \$210 in 2019. Asian spot prices more than doubled in Q2 2026, then eased.

Sources: USGS Mineral Commodity Summaries 2020–2026 (helium); Argus/QatarEnergy QSP and trade press (sulphur); TrendForce/DRAMeXchange via press reports (DRAM). Helium has no comparable 2026 annual figure yet. 2019–2025 sulphur and DRAM annual averages are approximate and should be checked against Argus/CRU and TrendForce data.

Gallows humour on fuel inflation in the USA



Much to think about here

Germany announced limited fuel price caps and fuel-tax suspensions, France is pushing for similar emergency action on energy prices, and US Republicans are calling to halt diesel exports. The latter wouldn't be a lasting solution to higher US prices if markets operate freely in an integrated global system, **but a hypothetical invocation of the Defence Production Act to 'manage' refineries and a geopolitical closed-loop trading bloc could work such that some have much lower energy prices, others much higher ones.**

At which point, consider **if we are seeing global bifurcation into blocs, why should the energy sector operate as a 'one world' system?** Why wouldn't it be bifurcated to benefit those with energy vs. those without? "Because markets?" Why? "Because war?" **Those without energy surrender, not fight.** Also note if one holds the Americas' and Middle East's oil production and refining, one effectively controls oil; and if one holds the Americas' and the Middle East's are on fire, then in *relative* terms, the Americas are winners... and many others are the losers.

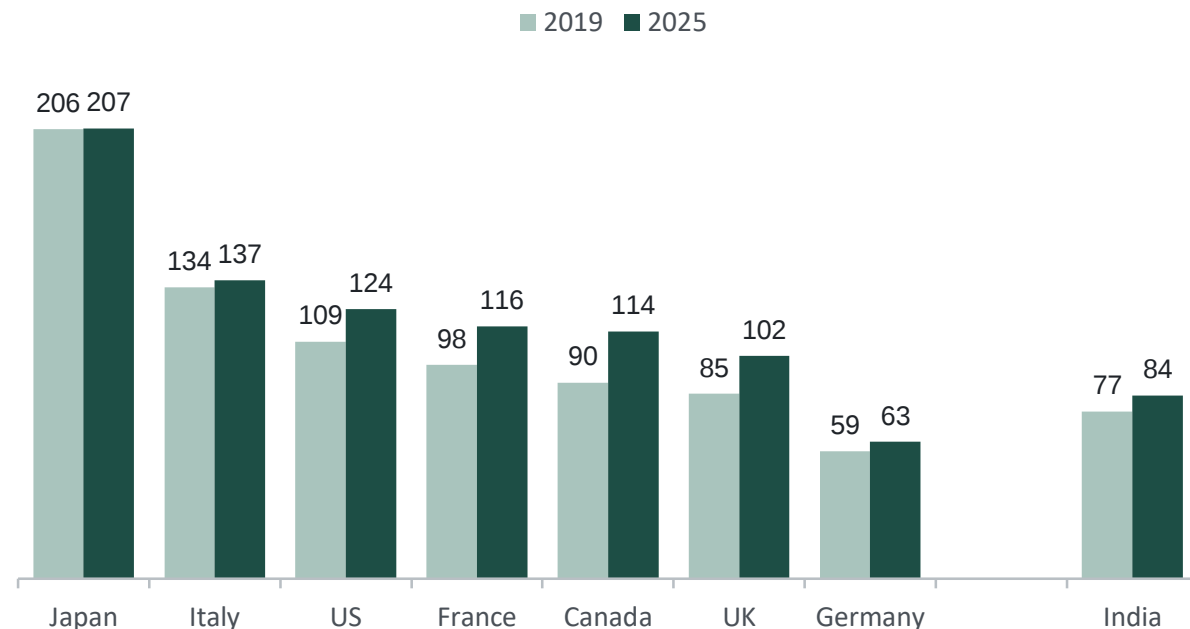
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Those without
energy surrender,
not fight.

Michael Every
Global Daily, Rabobank

G7 public debt is higher than before the pandemic; India's rose less

General government gross debt, per cent of GDP



Change, 2019 to 2025

Percentage points of GDP

Canada	+23.4
France	+17.8
UK	+17.4
US	+15.1
Germany	+4.2
Italy	+3.2
Japan	+0.2
India	+7.4

Four of seven added 15 points or more. Canada, France, the UK and the US took on most of the extra debt. Japan, Italy and Germany are close to 2019 levels. India rose 7.4 points, less than most of the G7.

Global bond yields are up, in almost every major market

Advanced economies	Yield, %	YTD, bp	YoY, bp	Emerging markets	Yield, %	YTD, bp	YoY, bp
Australia	5.40	+64	+101	Turkey	32.64	+548	+315
United Kingdom	5.38	+91	+63	Russia	16.59	+215	+183
United States	5.19	+102	+102	Brazil	14.20	+34	+49
New Zealand	5.12	+71	+88	Mexico	9.44	+50	+93
France	4.72	+116	+112	South Africa	8.86	+65	-27
Italy	4.55	+104	+91	India	7.11	+54	+63
South Korea	4.41	+102	+156	China	1.67	-19	-23
Greece	4.39	+91	+89				
Spain	4.07	+78	+73				
Canada	4.00	+56	+77				
Portugal	3.99	+83	+79				
Netherlands	3.68	+71	+74				
Germany	3.61	+75	+84				
Japan	3.09	+102	+144				
Switzerland	0.64	+36	+41				

Change in basis points

■ Fall
 ■ 0-49
 ■ 50-79
 ■ 80-109
 ■ 110+

21 of 22 markets are up this year. Only China's yield has fallen.

France is up 116 bp this year. Italy, South Korea, the US and Japan are up about 100 bp. South Korea and Japan are up over 140 bp on the year. **India is up 54 bp, less than most.**

Three near-term headwinds for India



1

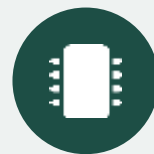
Unsettled relations with the United States

Sanctioned and tariffed. Investors into India, portfolio and direct, view this negatively.



2

The state of the energy market



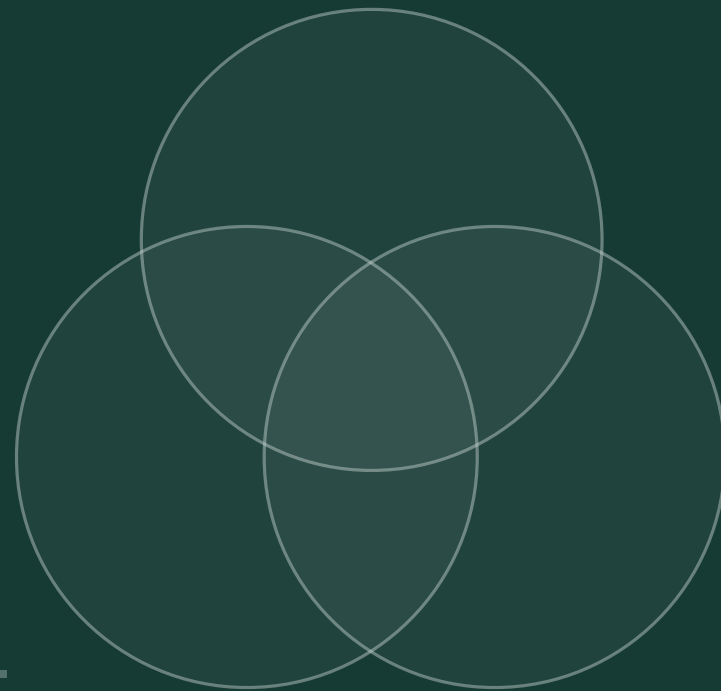
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The absence of the so-called AI play in India

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India's medium-term challenges and tasks

The setting in which Viksit Bharat must be built



01

The world now

02

**Medium-term
challenges**

03

Absorbing shocks

04

Final thoughts

A Harsher World: The Setting in Which Viksit Bharat Must Be Built

Five adverse shifts, arriving together. Not a passing storm — the operating environment out to 2047.

1

GEOPOLITICS

Order without rules.

A G-2 world of tacit accommodation. Alliances transactional, institutions hollowed — the WTO's appellate arm dead, the UNSC frozen. Power bargains; it no longer adjudicates.

→ **Negotiate from strength. Do not appeal to rules that no longer bind the strong.**

2

CHOKEPOINTS WEAPONISED

Interdependence as leverage.

Finance, energy, semiconductors, rare earths, APIs, fertiliser, sea lanes, undersea cables — every link is a lever someone else can pull.

→ **Redundancy is not waste. It is the premium paid on insurance.**

3

CHINA'S MANUFACTURING SCALE

The ladder is pulled up as we climb it.

Close to a third of world manufacturing value added; surplus capacity exported as deflation. The latecomer meets a price-setter, not a market.

→ **Compete on scale, capability and depth — not on cost alone.**

4

CLIMATE VARIABILITY

Not warming. Variance.

Monsoon dispersion, heat stress on yields and on outdoor labour, insurance in retreat. Adaptation finance is absent; carbon border taxes arrive regardless.

→ **Adapt at home; contest the rules abroad. Refuse the guilt, take the risk seriously.**

5

DEMOGRAPHY & THE MACHINE

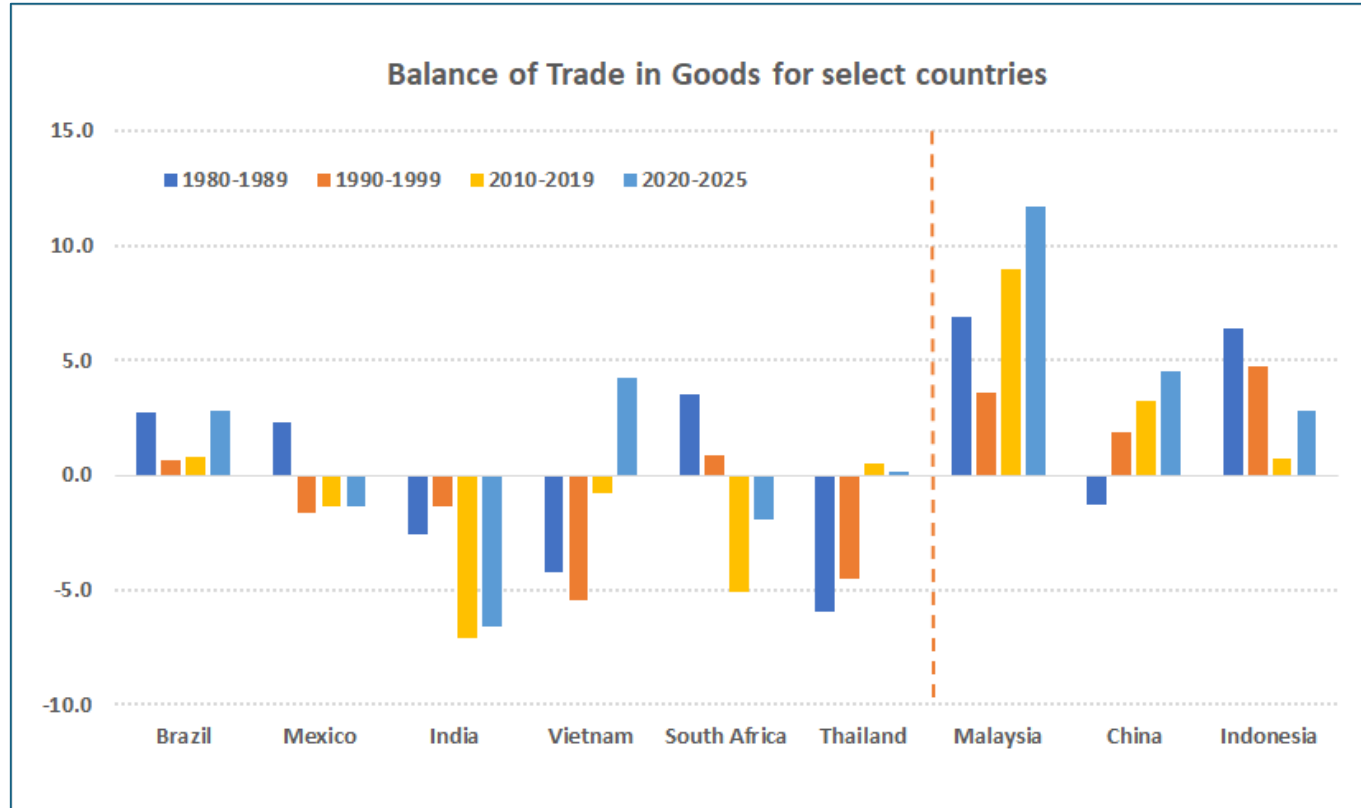
A window, closing.

The world ages as India's workforce peaks. But the machine may arrive before the jobs do, eroding the labour-cost arbitrage on which every earlier miracle was built.

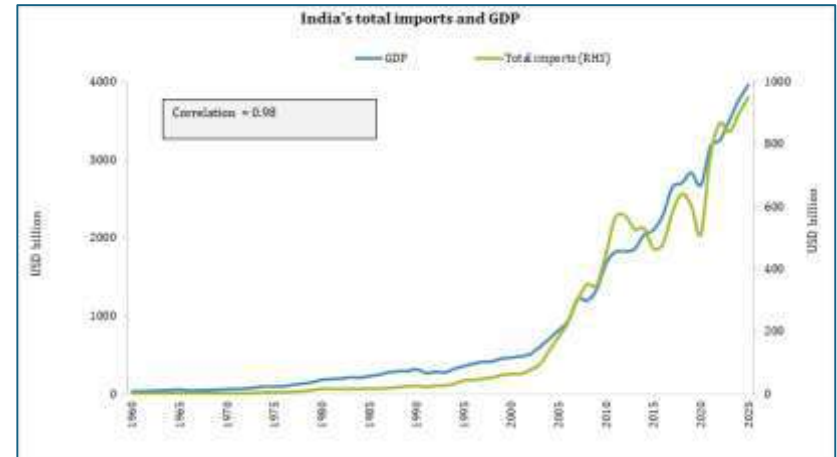
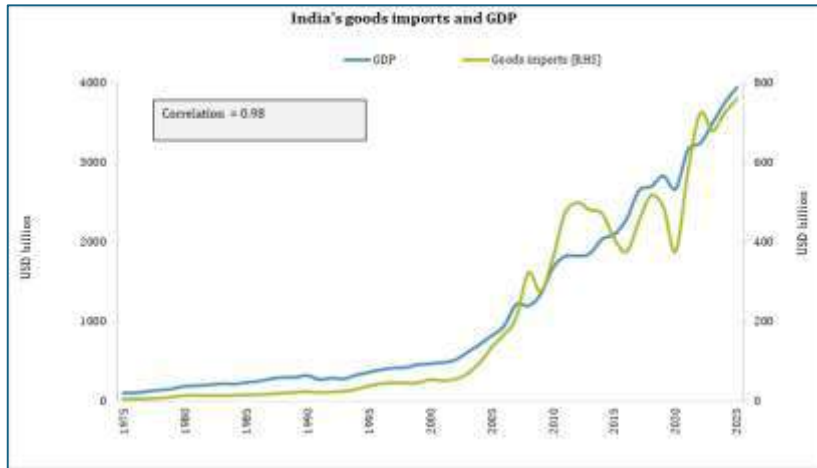
→ **Two decades to convert numbers into capability. There is no second window.**

The world has not merely become more dangerous; it has become less forgiving of policy error. The ladder that carried every earlier latecomer — cheap labour, open markets, borrowed technology — is being dismantled while we are still standing on it. Efficiency was the currency of the old order; resilience is the price of admission to the new.

India's overall trade deficit higher than others



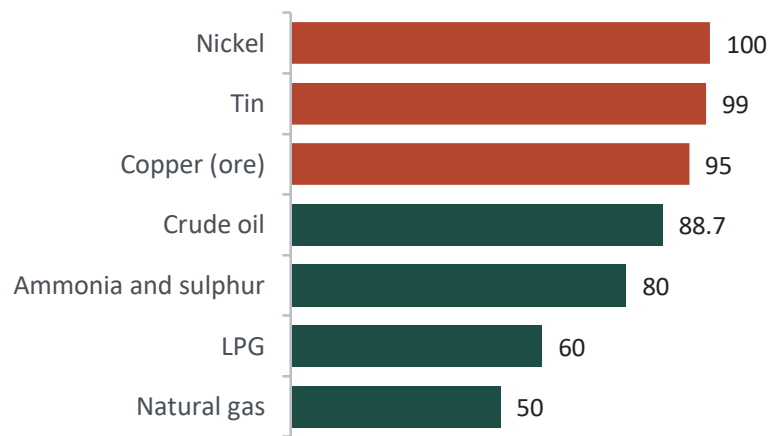
As the economy expands, so will imports. You have to finance it or pay for it through exports.



Energy and mineral buffers are best built now, at the true chokepoints

Import dependence

Per cent of domestic requirement



1 Reserves

Larger strategic crude reserves, and a national reserve for nickel, tin and copper

2 Routes

More sources and routes, with long-term offtake written into trade agreements

3 Baseload

Nuclear and pumped storage alongside renewables; AI capacity will need the same power

4 Minerals

Stakes in mines abroad and processing with partners; our copper smelters run on imported ore

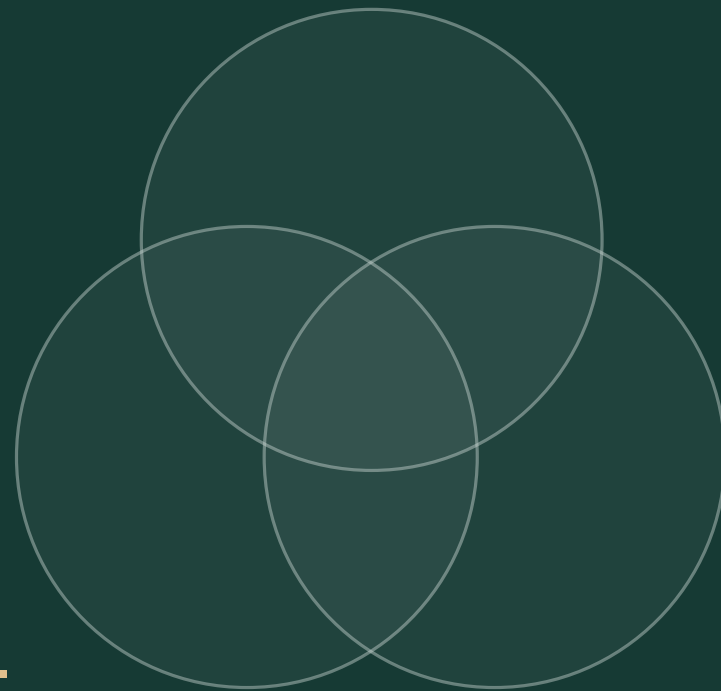
Reduce vulnerability where it bites. For the strategic core (magnets, battery cells and cathodes, solar wafers and cells), the Economic Survey sets the aim as lower vulnerability through diversification, partnerships and selective reshoring. Clayton, Maggiori and Schreger reach the same view: target diversification at true chokepoints and keep the wider gains from integration.

Sources: Ministry of Petroleum and Natural Gas, reply in the Rajya Sabha (Jul 2026), crude oil for 2025-26, provisional, other shares approximate; copper is the share of concentrate imported (government projections, via S&P Global Platts, Sep 2026); Economic Survey 2025-26, Ch. 16; IMF, Finance & Development (Jun 2026).

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Final thoughts

What India needs



01

The world now

02

Medium-term
challenges

03

Absorbing shocks

04

Final thoughts

Leverage comes from mastering narrow inputs that others cannot replace, as Japan's specialist firms show

Shin-Etsu Chemical

Founded in 1926 as a nitrogen fertiliser maker

No. 1

global share in semiconductor silicon

Every advanced chip starts as a slice of ultra-pure silicon, a purity reached through decades of process learning.

Kuraray

Founded in 1926 to make rayon for textiles

No. 1

global share in optical film for LCD polarisers and in EVOH barrier resin

Its film is essential to liquid crystal displays; its resin is the oxygen barrier that keeps packaged food fresh.

Lasertec

A specialist maker of inspection equipment

Sole

supplier of actinic inspection systems for EUV mask blanks

Leading-edge fabs depend on its tools to clear mask blanks before chips are printed at the most advanced nodes.

July 2019: the lever in use. Japan tightened controls on exports of high-purity hydrogen fluoride to Korea, home to the world's largest memory-chip makers. Korea's imports from Japan fell by about 83 per cent that month, as no other supplier could match the purity at short notice. Europe's ASML holds the same kind of position today.

