



# AXIA IAS ACADEMY



EDITORIAL ANALYSIS



APRIL 30



CONSISTENT  
COMPREHENSIVE AND  
CREDIBLE



UNIQUE AND BEST IN  
QUALITY

1. A flap of wings in Beijing (THE HINDU BUSINESSLINE)
2. Original thinking vs automated thinking (HINDUSTAN TIMES)
3. Economic security in an insecure world (BUSINESS STANDARD)
4. The 0.01 trap: India's GDP must not remain aloof from its people (MINT)



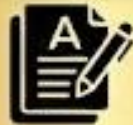
# AXIA IAS ACADEMY

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ADITYA SINHA

In 1972, the meteorologist Edward Lorenz delivered a paper at the American Association for the Advancement of Science under a title that has long outlived the talk: "Predictability: Does the Flap of a Butterfly's Wings in Brazil Set Off a Tornado in Texas?" Lorenz had earlier used a seagull. The butterfly struck. Small perturbations, in a sufficiently complex system, produce disproportionate consequences. It was a useful image for atmospheric science. It was an irresistible one for venture capital.

Manus (the artificial intelligence start-up that became China's most discussed AI product of 2025 after DeepSeek) was a subsidiary of a parent firm named, without apparent irony, Butterfly Effect.

The basic facts are settled. Butterfly Effect was founded in Beijing in 2022. In May 2025, Benchmark Capital led a \$75 million Series B at a \$500 million valuation. By July, Manus had shut its Beijing office, retained only core technical personnel, and re-incorporated its parent in Singapore.

In December, Meta announced an acquisition of around \$2 billion (the *Wall Street Journal* puts the figure at \$2.5 billion), Meta's third-largest deal ever.

Days later, China's Ministry of Commerce opened a probe. In March 2026, the two co-founders, Xiao Hong and Ji Yichao, were summoned to Beijing and barred from leaving the country. On 27 April, the NDRC's Office of the Working Mechanism for Security Review of Foreign Investment (invoking, for the first time publicly, a 15-year-old statute) ordered the deal unwound. By then the investors had been paid out. Benchmark had distributed proceeds to its limited partners. The Manus engineers had moved into Meta's Singapore offices. The code had been integrated.

That a \$2-billion transaction can be reversed at all is a striking proposition. That it has been ordered reversed *ex post*, months after closing, is more striking still.

#### THE IMPLICATIONS

What does it mean? Several things, in ascending order of consequence.

First, the geography of jurisdiction has been redrawn. The place of incorporation of the target no longer fixes the limit of regulatory analysis. The origin of the technology, the location of core R&D, the nationality of the founding team, historical operations in China, data flows, and the offshore restructuring process, all are now within reach. The *Global Times* editorial of April 28 defends the decision as a conventional security review and rejects



## A flap of wings in Beijing

**AI ANXIETY.** China's move to stop the Manus-Meta deal mirrors the US' recent steps on curbing American investments in Chinese AI

the label of "long-arm jurisdiction." (Beijing has good reason to dislike that phrase, having long deplored its American counterpart.) The label is contested, but the practice is not.

Second, the so-called Singapore-washing template is dead, or, more precisely, has been served notice. For two years, a steady migration of Chinese AI, fintech and crypto firms to the city-state has been tracked by anyone with a billable Mandarin speaker. The premise was simple. Re-register elsewhere, raise foreign capital, recruit globally, escape the Chinese regulatory orbit. The premise has not survived contact with the NDRC. Beijing has signalled, through Manus, that re-incorporation does not amount to escape.

**Artificial intelligence has been quietly re-classified in China as a national security asset rather than an industrial one.** Once a sector crosses that threshold, ordinary M&A logic gives way to a different calculus

Third, the symmetry with Washington is now almost complete. The US has spent five years restricting American investment in Chinese AI. Barring frontier semiconductor exports, Entity List has been expanded. And the Committee on Foreign Investment in the US has blocked or modified deals from TikTok to Magnachip.

Beijing has now demonstrated the mirror, using its own foreign investment security review, dormant for 15 years, to unwind a deal in which the acquirer is American and the target Singaporean. When two great powers reach for the same instruments, the instruments themselves become the language of the relationship.

Fourth, artificial intelligence has been quietly re-classified in China as a national security asset rather than an industrial one. (We won't get into the parallel restrictions placed on Moonshot AI, Stepfun and ByteDance in this column, but save those for later.)

Once a sector crosses that threshold, ordinary M&A logic (competitive pricing, exit liquidity, founder optionality) gives way to a different calculus. The Foreign Trade Law, the technologies catalogue, the foreign investment security review rules, these were always available. They are now available and willing.

#### SETTING A PRECEDENT

Fifth, and most consequentially, the precedent will travel. CK Hutchison's \$25 billion port sale to a BlackRock-led consortium has been on hold since Beijing objected last year, and now waits for a Chinese partner to be inserted. Manus is the second high-profile cross-border transaction Beijing has refused to let lie. There will be a third. There will be a fourth.

There is a deeper question that sits behind all of these. Humpty Dumpty, in *Through the Looking-Glass*, told Alice that the only real question was which was to be master.

Who is master of a piece of code, of a team of engineers, of a corporate domicile, once those things have crossed borders, that is not a question the international system has yet answered. It will answer it the only way it can. By accumulation of cases. Manus is one such case. A summit between the two presidents follows in mid-May. The agenda has been set, even if no one will say so.

A small footnote. The parent company was, as it turns out, named accurately. A flap of regulatory wings in Beijing has set off something resembling a tornado in Menlo Park.

Sinha writes on macroeconomics and geopolitics

## Key Terms and Explanations

### Butterfly Effect

A concept from chaos theory where a tiny change in initial conditions (like a butterfly flapping its wings) can trigger a large-scale, unpredictable outcome elsewhere (a tornado). In policy and technology, it symbolizes how a small regulatory move can disrupt entire global industries.

### Singapore-washing

A strategy where firms incorporated in China shift their legal domicile to Singapore, raise foreign capital, and hire globally to sidestep Chinese regulatory, data, and investment controls—while their core R&D, technical talent, or market roots remain in China.

### National Development and Reform Commission (NDRC)

China's top macroeconomic planner, which also houses the Office of the Working Mechanism for Security Review of Foreign Investment. It scrutinizes deals touching national security even years after closing.

### Foreign Investment Security Review (FISR)

A 2011 Chinese statute, dormant for 15 years, that empowers the state to review and unwind foreign acquisitions if they endanger national security. This was invoked for the first time publicly to reverse a closed \$2-billion AI deal.

### Long-arm jurisdiction

A state's assertion of legal power beyond its borders over persons or entities with certain connections to it. The US uses it through instruments like CFIUS and sanctions; China's newly activated review mechanism mirrors that logic.

### CFIUS (Committee on Foreign Investment in the United States)

The American inter-agency body that reviews foreign investments for national security risks and can block or modify deals. Its actions against TikTok, semiconductor deals, and Chinese investments are the US counterpart to China's newly flexed security review.

### Entity List

A US Commerce Department list that restricts exports to entities deemed to pose a national security risk. Many Chinese AI and semiconductor firms feature on it, forming part of the US-China tech decoupling apparatus.

### Re-incorporation

Changing a company's legal home from one country to another. In this case, moving the parent entity to Singapore while original founders, code origin, and data connections remain in China.

### Unwinding a deal

The legal and operational reversal of an already-closed acquisition—returning shares, assets, code, and personnel. Rarely attempted after money has been distributed and technology integrated.

- **Main Arguments and Substantive Parts**

- **Core thesis**

- The forced unwinding of a \$2-billion American acquisition of a Singapore-incorporated Chinese-origin AI startup signals that geography of incorporation no longer limits regulatory reach. The move redefines jurisdiction, kills the “Singapore-washing” route, creates a near-perfect symmetry with US tech controls, reclassifies AI as a national security asset, and sets a globe-travelling precedent that will reshape cross-border technology deals.

- **Key points and supporting evidence**

- **Jurisdiction has been redrawn**

The National Development and Reform Commission (NDRC) based its review not on the target’s Singaporean domicile but on the origin of the technology, the nationality of the founders, historical operations in China, data flows, and the offshore restructuring process. The Ministry of Commerce’s parallel probe and the exit ban on co-founders reinforce that the state considers the whole ecosystem, not just legal labels.

- **“Singapore-washing” is dead as a template**

For two years, a stream of Chinese AI, fintech, and crypto ventures relocated to Singapore to raise foreign money and escape Beijing’s regulatory orbit. The reversal of a deal structured exactly like that signals that re-incorporation alone does not break the link with Chinese regulatory claims.

- **The symmetry with Washington is almost complete**

The US spent five years restricting American investment in Chinese AI, expanding export controls and the Entity List, and using CFIUS to modify deals like TikTok. China has now used its own 15-year-dormant foreign investment security review to unwind a deal where the acquirer was American and the target Singaporean—mirroring the US toolkit exactly. When both superpowers deploy the same instruments, those instruments become the vocabulary of the relationship.

- **Artificial intelligence has been re-classified**

The case shows AI moving from an industrial sector—where ordinary M&A logic applies—to a national security asset. Once a sector crosses that threshold, pricing, liquidity, and founder optionality become subservient to security calculus. Separate restrictions on Moonshot AI, Stepfun, and ByteDance confirm this broader reclassification.

- **The precedent will travel**

CK Hutchison’s \$23-billion port sale to a BlackRock-led consortium remains on hold since Beijing’s objection, and now a Chinese partner must be inserted. Manus is the second high-profile transaction China has refused to let complete without its nod. More will follow, establishing by accumulation of cases the answer to the unresolved question: who is master of code, team, and corporate domicile once borders have been crossed?

- **Historical Evolution of the Issue**

- **Pre-1990s**

Global tech deals were largely among western nations; China was a net importer of technology. National security reviews were rare and limited to obvious defence sectors.

- **1990s–2000s**

China's opening up brought foreign capital and technology transfers. No dedicated security review mechanism existed; foreign investment was encouraged under liberal norms.

- **2011**

China enacted its first formal foreign investment security review rules, modelled loosely on CFIUS. The law sat unused, with no public invocation.

- **2017–2020**

US began tightening technology flows: CFIUS reforms expanded its remit, Entity List was used aggressively against Huawei and others, and TikTok faced forced divestiture threats. US-China tech decoupling accelerated.

- **2022**

Butterfly Effect (the parent firm) founded in Beijing. A wave of Chinese tech founders started "Singapore-washing" to dodge both US export controls and potential Chinese crackdowns.

- **May 2025**

Benchmark Capital led a *75millionSeriesBintoManusata* 500 million valuation—signalling international VC validation of the Singapore wrap structure.

- **July 2025**

Manus shut its Beijing office, retained only core technical staff, re-incorporated the parent in Singapore. Appeared to complete the jurisdictional clean-break.

- **December 2025**

Meta announced acquisition of Manus for roughly \$2-2.5 billion, its third-largest deal ever. Investors were paid out; proceeds distributed; engineers relocated; code integrated.

- **Days later**

China's Ministry of Commerce opened a probe, marking official discomfort.

- **March 2026**

Co-founders Xiao Hong and Ji Yichao summoned to Beijing and barred from travel, signalling an escalation beyond corporate legal fiction to personal accountability.

- **27 April 2026**

NDRC's office invoked the 2011 security review law for the first time publicly, ordering the deal unwound. By then, assets and people had moved beyond China's physical jurisdiction, raising profound enforceability questions.

# ANALYSIS: THE MANUS-META CASE & THE RISE OF AI TECHNO-NATIONALISM – A UPSC CSE PERSPECTIVE

## IMPLICATIONS FOR GLOBAL M&A

- Global science implications influenced on global M&A, enhanced classification and translation in the global M&A
- Implications from trends and movements in development, between the traditional and new implications global M&A
- Flattening source of influences that impact then were similar motives to operational profiles to the value forced of global M&A



**MODEL PYQ - 250 word answer structure**  
For a UR ans reconstructing and arched worthless answers. (250 words)

- Short Points:**
- Contrasting cleaning a business
  - Business a brand analysis
  - Corporate Governance dilemmas control



Singapore-washing



Brain Drain/Gain



Corporate Governance Dilemmas

- ### HISTORICAL EVOLUTION (TIMELINE)
- CFIUS 2024 - Intenorment to regulation, national deals
  - Timeline, s inaidvared in ans inspetore
  - The resification enhances sal soilutions
  - Enceden ifiatio new axtudemenwork

- ### SUSATAINABILITY OF THE IDEA (ECONOMIC, LEGAL, ETHICAL)
- Unpitainability economic s&uc resolution
  - Economic Eecatamization: 6-1 Ethical
  - Corporate Governance Dilemmas

- ### LINKAGES WITH UPSC SYLLABUS (GS-2, GS-3, GS-4, ESSAY)
- Conserion with UPSC resates inland (GS-2, GS-3, GES-4)
  - Upservational
  - UPS 2 and Visil (estat essay)

- ### WAY FORWARD
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  - Restarted wincholleges that perserved nuint and reoaporate governamt ed items

- **Logical and Philosophical Base**

- **Chaos theory and state sovereignty**

The butterfly's flap posits that small perturbations in complex systems cause disproportionate outcomes. The philosophical foundation of the regulatory move is that control over complex dual-use technology cannot be severed from its place of origin, no matter how far the corporate shell travels. Sovereignty is not territorial alone; it tracks the knowledge, data patterns, and human capital that created the technology.

- **Primacy of command over code**

The Lewis Carroll question—"which was to be master"—underlies the entire dispute. In a world where intangible assets cross borders instantly, the state claims mastery over them through personal jurisdiction over founders and origin-based claims over code, asserting that legal domicile cannot erase the fingerprints of national origin.

- **Asymmetric interdependence**


The case illustrates the theory that interdependence between great powers is not symmetrical. Where the US has used market access and technology denial as levers, China is now using human capital and origin-based regulatory claims. Both sides weaponize interdependence, turning it into vulnerability.

- **Legal realism vs formalism**

Formal incorporation in Singapore was stripped away by an outcome-based approach that looked at substance—where the technology was born, who built it, what data fed it, and who might ultimately benefit. This mirrors a broader shift from formal legal personality to functional control in international economic law.

- **Precautionary principle in national security**

The reasoning echoes the precautionary principle: even if no immediate harm is proved, the mere potential for AI capabilities to be used against national interest justifies an unwind—acting before damage occurs.

- 
- **Multidimensional Analysis**
  - **Social**
  - **Talent mobility** — restrictions on founders and engineers limit personal freedom and cross-border collaboration, potentially reversing the brain-drain debate into forced retention.
  - **Public trust** — signals that authorities can override corporate structures, which may be seen as protecting national interest or as destabilising rule of law.
  - **Political**
  - **Geopolitical decoupling** — technology and data are now tools of power competition; AI is the latest battleground.
  - **Domestic legitimacy** — the state projects strength, reclaiming strategic assets, appealing to nationalist sentiment.
  - **Legal**
  - **Reactivation of dormant statutes** — creates legal uncertainty; future investors cannot rely on any stable framework.
  - **Extraterritoriality** — pushes the limits of international law, inviting reciprocal actions.
  - **Ethical**
  - **Fairness** — applying new interpretations to past transactions violates expectations of parties who structured deals legally.
  - **Transparency** — the security review basis is opaque; targets have limited recourse.
  - **International**
  - **Symmetry of superpower tools** — China and the US now use identical legal instruments, hardening a transactional-based world order.
  - **Third-country impact** — Singapore's corporate hub status suffers; other tech hubs (Tel Aviv, London, Bengaluru) may face similar claims if their startups have Chinese lineage ties.
  - **Economic**
  - **VC investment flows** — funds will re-price risk for any startup with Chinese founder DNA, regardless of domicile. Capital raising premium for Chinese-origin ventures rises sharply.
  - **Exit strategies** — trade sale to US Big Tech becomes uncertain; IPOs or Chinese-led acquisitions may be the only viable exit, reducing valuation.



- **Linkages with NCERTs**

- **Class 12 Political Science – Contemporary World Politics (Chapter 9: Globalisation)**

Links the erosion of sovereign boundaries with new forms of transnational regulation; the Manus case exemplifies how globalisation can provoke a sovereign backlash.

- **Class 12 Political Science – Contemporary World Politics (Chapter 1: The Cold War Era & Chapter 6: International Organisations)**

New bipolarity in technology mirrors the old, with regulatory instruments replacing nuclear arsenals; international organisations are side-lined.

- **Class 11 Economics – Chapter 3: Liberalisation, Privatisation and Globalisation**

Indian experience with FDI screening; the case shows backlash against uninhibited globalisation in technology.

- **Class 11 Business Studies – International Business**

Illustrates political risks in cross-border M&A, the importance of legal due diligence beyond incorporation, and the concept of expropriation.

- **Class 12 Sociology – Social Change and Development in India (Chapter on Globalisation and Social Change)**

Impact of global tech flows on labour mobility, identity, and state sovereignty.

## Linkages with UPSC CSE Syllabus

### General Studies Paper 2 (Governance, Constitution, Polity, Social Justice and International Relations)

- Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
- Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.

### General Studies Paper 3 (Technology, Economic Development, Security)

- Science and Technology – developments and their applications and effects in everyday life.
- Indigenization of technology and developing new technology.
- Cyber security, money laundering and its prevention.
- Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges.

### General Studies Paper 4 (Ethics, Integrity and Aptitude)

- Ethics in international relations; corporate governance; challenges of globalization in ethics.

### Essay Paper

Possible themes: "Technology as a double-edged sword in national security"; "Globalisation vs sovereignty in the digital age"; "Who owns Artificial Intelligence?"

### Optional Subjects

- **Political Science & International Relations** – sovereignty, extraterritoriality, realist theory, US-China power transition.
- **Law** – conflict of laws, investment law, security exception clauses.
- **Economics** – FDI regulation, risk premiums, capital flows.

- **Way Forward**

- **India-specific learning**

India must urgently frame its own foreign investment screening rules for strategic tech sectors, learning from both CFIUS and China's newly activated mechanism. A predictable, transparent Committee on the lines of CFIUS, with a defined list of triggering sectors (AI, quantum, semiconductors), can avoid retroactive shocks.

- **Balanced approach to origin-based controls**

Instead of blanket unwinding, adopt a graded system: mandatory government approval for transfer of AI originating from Indian institutions, conditional licensing, and golden shares in critical tech firms.

- **International coordination**

Push for a W.T.O. E-commerce plurilateral framework that includes norms on cross-border data and technology transfer security reviews, so that national security exceptions do not become total escapes.

- **Protecting founders' rights**

Incorporate due process safeguards: personal travel restrictions only with judicial oversight, fair compensation for unwound deals where parties acted in good faith, and clear advance guidance.

- **Encouraging indigenous AI ecosystems**

Build a domestic AI stack and data infrastructure that reduces the need for tech startups to re-incorporate abroad to attract capital; offer patient, non-predatory domestic funding.

- **Diplomatic engagement**

In a mid-May summit (as noted in the case), leaders must set red lines on technology sovereignty, ensuring that regulatory wings do not trigger economic tornadoes that harm smaller nations.

- UPSC CSE – GS II
- **2014 GS II:** “What are the challenges to our cultural practices in the name of secularism?” (Analogous tension: security vs openness to foreign capital/tech.)
- **2016 GS II:** “Discuss the role of foreign direct investment in the growth of the Indian economy. Has the recent policy of the Government been effective in attracting foreign investment?”
- **2018 GS II:** “Discuss the possible factors that inhibit India from signing the Comprehensive Test Ban Treaty (CTBT) and the way forward.” (Security vs international expectations parallel.)
- **2020 GS II:** “Critically examine the role of WHO in providing global health security during the COVID-19 pandemic.” (Global institutions vs national responses.)
- UPSC CSE – GS III
- **2013 GS III:** “What do you understand by ‘FDI’? How is it different from ‘foreign institutional investment (FII)’? What role has FDI played in the economic development of India?”
- **2017 GS III:** “Cyber security has emerged as an important concern for the government. Examine the steps taken by the government to spread awareness about cyber security among citizens.”
- **2019 GS III:** “Enumerate the indirect benefits of IT industries in the development of the country.”
- **2020 GS III:** “What are the main constraints in the transport and marketing of agricultural produce in India?” (Structure: regulatory constraints and structural challenges – parallel analytical template.)
- UPSC CSE – GS IV (Ethics)
- **2015 GS IV:** Question on “conflict between professional duties and loyalty to organisation/nation” (parallels founders facing conflicting obligations: investors vs home state).
- **2018 GS IV:** Case study on data privacy and public interest.

# Original thinking vs automated thinking

India's educational system needs an urgent, fundamental reset to encourage creativity and innovation and to avoid AI-generated slop

If you have read my columns over the years, you know I have been one of the loudest advocates for Indian innovation and engineering talent. That belief has not wavered: I still see enormous potential. But I have now reached a point I never expected to reach: I have given up on India for one of the most critical roles I need to fill at Vionix Biosciences—a medical researcher who can think differently and devise new ways of detecting disease.

Let me explain why.

On paper, the candidates look outstanding. Their resumes are immaculate, with prestigious institutions, relevant internships, publications, and glowing letters of recommendation. Even the emails, which not long ago were full of "plz", "ur", and "thx", have suddenly become polished and articulate, with clean structure, perfect grammar, and sometimes genuinely impressive phrasing.

But this is just Artificial Intelligence (AI) generated slop.

The moment you get on a call, the façade cracks. The same person who wrote that eloquent email cannot

explain a simple scientific concept or walk you through their own claimed research. They hesitate, speak in vague generalities, and circle around questions without ever answering them. Push them to explain how they arrived at a conclusion in the proposal they supposedly wrote, and they either go silent or pivot elsewhere. This is worse than the illiteracy we see in most WhatsApp messages, because not even AI can put lipstick on this pig.

I am not the only one complaining about Indian talent. A February 2026 LinkedIn report found that 74% of Indian recruiters are struggling to identify genuine talent, with more than half pointing to AI-generated applications as the cause.

AI-generated résumés, essays, assignments, research proposals, and even academic papers are rapidly becoming standard, and the volume of convincing but hollow material is growing so quickly that the signal-to-noise ratio has collapsed. In business, the same pattern is playing out: Pitch decks and presentations that look polished fall apart under basic questioning; strategy documents are assembled from generic frameworks rather than real insight; consultants present recommendations they cannot defend; executives rely on AI-generated briefs without truly understanding the assumptions behind them. What looks impressive on paper often disintegrates the moment real thinking is required.

This is not only in India; we are already seeing the same cracks appear globally. Lawyers in the US have been sanctioned for submitting briefs that cited completely fabricated cases generated by AI. Media organisations have had to issue embarrassing corrections after publishing AI-assisted content riddled with factual errors. Companies are quietly discovering that employees who rely heavily on AI tools can produce impressive-looking work quickly,

but struggle when asked to defend it, adapt it, or go beyond it.

This is going to hurt India the most because the educational foundation of its graduates is so antiquated.

The education the British installed in India was designed to keep the people subservient. It rewards memorisation, pattern recognition, and compliance, and leaves little room for curiosity, experimentation, or independent thought. Students are trained to deliver the correct answer, not to ask better questions. For decades, this system produced competent executors.

In the age of AI, we are only compounding the disaster.

Governments have always known this and often announced reforms, promised to reduce rote learning, and talked about fostering creativity. But meaningful change has been slow, and now AI is exposing these weaknesses brutally, with teachers unable to keep pace with what their students are



Vivek Wadhwa



The education the British installed in India rewards memorisation and leaves little room for curiosity or independent thought.

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doing and institutions struggling to even measure real understanding.

India is now producing a generation that seems intelligent on paper but lacks depth. There is polish without substance, fluency without understanding, and confidence without the discipline that comes from struggling through hard problems. Over time, this erodes intellectual honesty and replaces real capability with the illusion of competence.

At Vionix, we are trying to solve some of the hardest problems in science, combining physics, chemistry, and machine learning to detect disease early. This requires original thinking, not just technical competence: it requires the ability to question assumptions, design new approaches, and interpret complex signals. In India, all of the people I have interviewed cannot do anything like this. That is why I had to give up on the country for this new R&D position which required out-of-the-box thinking and questioning why things work the way they are. I am even thinking of moving this R&D back to the US.

This should worry everyone, because the consequences are not lim-

ited to hiring frustrations or weak job candidates. Over time, this erodes the very foundation of innovation. A country that cannot produce independent thinkers cannot lead in science, cannot build transformative companies, and cannot solve its hardest problems. It can only execute on ideas generated elsewhere—and even that becomes harder when the ability to truly understand begins to erode.

Indian education needs an urgent, fundamental reset—not incremental tweaks or policy announcements, but a serious rethink of what is taught, how it is taught, and how students are evaluated. Assessments need to reward original thought; classrooms need to encourage questioning; students need space to explore, fail, and iterate; teachers need to be retrained to guide thinking, not just deliver content.

Unless something changes—quickly—India will find that the very system that once powered its rise is now holding it back, leaving its brightest minds unable to compete in a world where real thinking is the only thing that cannot be automated.

Vivek Wadhwa is CEO, Vionix Biosciences. The views expressed are personal.

- **Key Terms and Explanations**

- **AI-Generated Slop**

Poor-quality, superficial content mass-produced by artificial intelligence, which looks polished but lacks original insight, factual accuracy, or logical depth. Think of a student using ChatGPT to write a flawless essay about the Mauryan Empire without being able to tell you who Chanakya was — the form is perfect, the substance is empty.

- **Signal-to-Noise Ratio**

Borrowed from engineering, it measures the amount of useful information (signal) versus irrelevant or misleading data (noise). Here, genuine talent is the signal; AI-fabricated resumes and hollow applications are the noise. When noise overwhelms signal, selecting the right candidate becomes nearly impossible.

- **Rote Learning**

Memorising facts and procedures without understanding the underlying principles. It is exam-friendly because it reproduces expected answers, but it fails when the question changes or demands reasoning. Example: A student can recite Newton's laws word-for-word but cannot explain why a passenger lurches forward when a bus brakes.

- **Illusion of Competence**

The false belief that one understands something because one can produce correct-looking output. AI worsens this; a researcher can present a convincing proposal stitched from online text, masking the fact that they cannot design an experiment from scratch.

- **Intellectual Honesty**

The ethical commitment to truthfulness in thought and expression — admitting what you don't know, not misrepresenting others' work, and not pretending depth you don't possess. When AI-generated work is passed off as one's own, intellectual honesty is the first casualty.

- **Heuristic vs. Algorithmic Thinking**

Heuristic thinking involves quick, intuitive judgments based on experience; algorithmic thinking follows step-by-step procedures. The education system largely trains for algorithmic execution, whereas genuine research demands heuristic leaps — exactly what the article's candidates couldn't demonstrate.

- **Epistemic Dependence on AI**

A condition where individuals rely on AI for not just information but also for constructing arguments and drawing conclusions, eroding their own ability to reason independently, much like muscles atrophy without use.

-

- **Main Arguments and Substantive Parts**

- **Core Thesis**

India's education system, rooted in colonial-era rote learning, is producing graduates who appear competent on paper due to AI-generated applications but lack genuine understanding and original thinking. This hollowing out of real intellectual capability threatens the country's ability to innovate, lead in science, and build globally competitive enterprises.

- **Key Points**

- **Resume-to-Reality Gap:** Candidates from top institutions submit immaculate applications (thanks to AI), but phone calls reveal an inability to explain simple scientific concepts or defend their own claimed research.
- **Pervasive AI Misuse:** 74% of Indian recruiters (2026 LinkedIn report cited) struggle to identify real talent, with AI-generated applications as a primary culprit. The pattern extends from entry-level hires to executives, pitch decks, and consulting reports.
- **Global Nature of the Crisis:** Lawyers in the US fabricating case citations via AI, media outlets publishing error-ridden AI articles — the phenomenon is worldwide, but it hits India hardest due to pre-existing educational fragility.
- **Root Cause:** A colonial-designed education that prioritises memorisation, pattern recognition, and compliance over curiosity, experimentation, and questioning.
- **Systemic Consequences:** A generation with “polish without substance” erodes intellectual honesty, replaces real capability with the illusion of competence, and ultimately makes a nation an executor of others' ideas rather than a creator of new ones.

- **Counterarguments and Nuances**

- **Not a blanket condemnation:** India still produces outstanding researchers and entrepreneurs. The problem may be more acute in certain domains (life sciences research) than in others (software development where hands-on coding can't be fully faked).
- **AI as a productivity tool** can democratise access and augment capability when used ethically. The issue is not AI per se, but the lack of integrity and a system that permits passing off AI work as one's own.
- **NEP 2020** explicitly recognises the problem of rote learning and recommends reforms. The diagnosis is correct, but implementation lags.
- Some argue that “polish without substance” has existed in Indian software and consulting services for decades; AI merely magnifies an old problem.

- **Historical Evolution of the Issue**
- **1950s-1980s: Nation-Building and Elite Focus**
  - First IITs (1950s) and IIMs (1960s) aimed at industrial and managerial excellence, but admission via fiercely competitive exams inadvertently entrenched rote coaching cultures.
  - Kothari Commission (1964-66): Advocated education for national development, recommended 6% GDP spending, and stressed the need for science education with inquiry. However, ground reality remained exam-centric.
  - 1986 National Policy on Education: Spoke of “child-centred” and “joyful learning,” but systemic exams (board exams, competitive tests) continued to dominate.
- **1990s-2010s: IT Boom and Coaching Industries**
  - Y2K and IT services created massive demand for engineering graduates, reinforcing the perception that a degree credential — not deep knowledge — was the ticket to prosperity.
  - Private engineering colleges mushroomed; quality declined. Rote learning was sufficient for most service-sector jobs, so the urgency for reform diminished.
  - 2005: National Curriculum Framework (NCF) emphasised constructivism, critical thinking, and continuous comprehensive evaluation (CCE), but implementation was uneven.
- **2010s: Internet and Early AI Penetration**
  - Internet access expanded; students began using online resources. Plagiarism became easier; original thinking declined further as “copy-paste” culture spread.
  - National Achievement Surveys (NAS) and ASER reports consistently showed poor foundational learning — children could not read or do basic maths despite years of schooling. This revealed that the system was passing students without real learning.
- **2020s: AI Proliferation and NEP 2020**
  - NEP 2020: Landmark policy that explicitly identifies rote learning as a problem and calls for experiential, inquiry-based pedagogy, multidisciplinary education, and assessment reform. However, rollout is slow.
  - Post-2022, generative AI (ChatGPT, etc.) becomes widely available. Students and job seekers rapidly adopt it for assignments, essays, resumes, and proposals, often without disclosure.
  - 2024-2026: Global and Indian reports highlight the crisis of AI-generated applications eroding trust in credentials and recruitment.



# AXIA

## IAS ACADEMY

AXIA IAS ACADEMY - Rise Above The Rest



1835 → 2022  
Macaulay compliance → LLMs mimicry

### AI SLOOD vs. REAL THINKING

- Signal-to-noise ratio collapse
- Muniiple-based consunntaining
- Revigate caused signaly
- Understandders and rpressures
- Heal-road ckilipes inatereds

### INDIA'S TALENT CRISIS IN THE AI ERA

OUTMODED ROTE  
EDUCATION SYSTEM

#### FACADE

- perfect CV
- generic email

#### HOLLOW SKILLS

#### COGNITIVE ILLITERACY

stress test

### real depth



Log High

### GLOBAL CONSEQUENCES

- US lawyers - aindidate returens, Eamples, stressed on elgoation
- Media corrections - insis view
- Lawyers cred foresst candidates
- Cmamples: detailed questioning

### HISTORICAL EVO.

1835 → 2022  
Macaulay compliance → LLMs mimicry

### URGENT EDUCATIONAL RESET

- Inquiry-based level
- Stress tests level
- Stress tests for AI
- Detailed questioning



- **Logical and philosophical base**

- **Epistemological critique (What is “knowing”?)**

- The passage challenges a “storage” view of knowledge (to know is to have information) and supports a “competence” view (to know is to be able to explain, apply, and create).
- AI shows that mere possession or reproduction of information is now trivial; what matters is the ability to reason, connect, and judge.

- **Philosophy of education**

- It aligns with constructivist pedagogy: learners construct understanding through inquiry, dialogue, and problem-solving, rather than passively absorbing content.
- The colonial legacy embodies a positivist and authoritarian model: curricula as fixed truth, teacher as authority, student as recipient.

- **Ethics and authenticity**

- There is an implied virtue-ethics angle: intellectual honesty, responsibility for one’s own work, and humility about one’s limits are essential to genuine scholarship and professionalism.
- AI-generated content used without disclosure undermines these virtues, encouraging a culture where appearance trumps integrity.

- **Political philosophy and power**

- Colonial education as an instrument of domination: it promoted a compliant, rule-following mentality rather than critical citizenship.
- The continuation of this mindset in post-colonial systems raises questions about the democratic need for dissent, reasoning, and informed participation.

- **Instrumental vs intrinsic value of education**

- The current system treats education primarily as an instrument for jobs and credentials.
- The passage pushes toward an intrinsic view: education as formation of judgement, creativity, and the capacity to “think about thinking”, which remain non-automatable.

- **Multidimensional analysis**

- **Social dimension**

- Over-dependence on AI for cognitive tasks can widen divides between those who internalise knowledge and those who outsource thinking.
    - Social trust in degrees, marksheets, and published work may erode if AI-generated “fake excellence” becomes widespread.

- **Political dimension**

- An education system that discourages questioning may produce citizens less equipped to scrutinise policies, media narratives, and political claims.
    - At the same time, governments may find inquiry-oriented education uncomfortable if it fosters dissent; this tension influences how far reforms truly go.

- **Legal dimension**

- Universities, courts, and regulators will confront disputes over authorship, plagiarism, and fraudulent credentials created or inflated by AI.
    - Data protection laws and AI regulations will need to define acceptable use of AI in examinations, research, and professional practice.

- **Ethical dimension**

- Using AI to produce work presented as one’s own undermines honesty, fairness, and respect for genuine effort.
    - Institutions face ethical choices: ban AI outright (likely unrealistic), ignore it, or integrate it transparently while setting clear norms.

- **International dimension**

- Countries with education systems that quickly pivot to “higher-order thinking + AI literacy” will have comparative advantage in innovation.
    - India’s aspiration to be a knowledge and tech hub depends on whether its graduates can compete in a world where AI automates routine cognitive tasks.

- **Economic dimension**

- A mismatch between paper qualifications and actual capability wastes resources for firms and individuals, increasing hiring friction and training costs.
    - If AI-inflated credentials proliferate, wage premiums for degrees may fall, and employers may move towards alternative credentialing, portfolios, and task-based evaluation.

- **Linkages with NCERTs**

- **Class 6–10 Social Science (History and Political Science)**

- Colonialism and the education system: chapters on British policies, Macaulay’s Minute, Wood’s Despatch, and the rise of an English-educated middle class.
- These explain how colonial education aimed at control and clerical production, not critical inquiry.

- **Class 11 Sociology – “Introducing Sociology” & “Understanding Society”**

- Chapters on social institutions, education as an agent of socialisation and stratification, and how education reproduces or challenges social hierarchies.
- You can link “rote learning + coaching culture” to social reproduction, credentialism, and meritocracy debates.

- **Class 11 Political Science – “Indian Constitution at Work”**

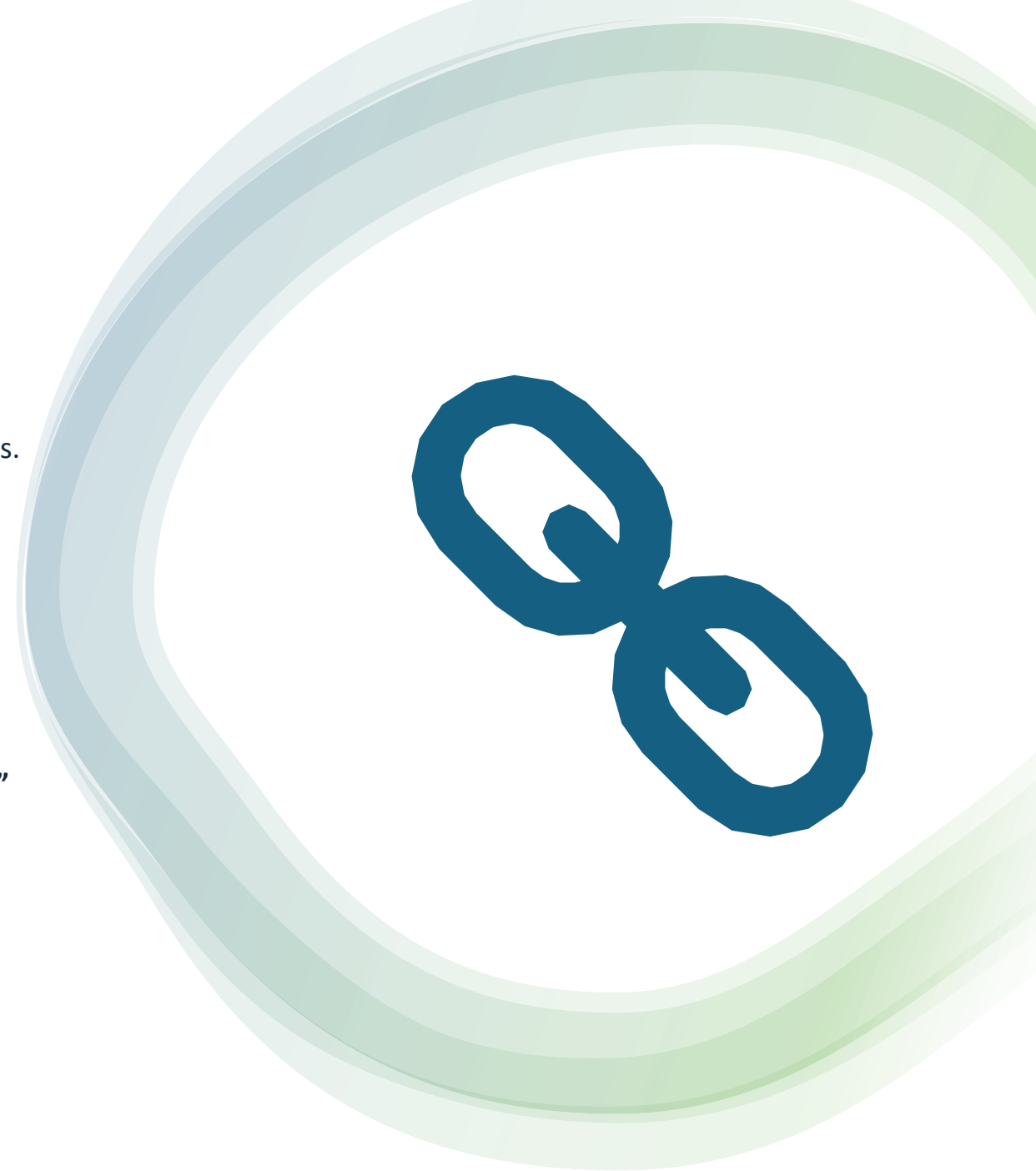
- Concepts like constitutional values, scientific temper, and democratic citizenship.
- Tie the need for independent thinking to constitutional vision of informed, participative citizens.

- **Class 12 Sociology – “Indian Society” & “Social Change and Development in India”**

- Chapters on globalisation, education, and social change; also on the role of science and technology in transforming society.
- Useful to frame AI as a new technological force interacting with old institutional structures.

- **Class 9–10 Information Technology / ICT-related content**

- Basic digital literacy, ethical use of technology, and critical evaluation of online information.
- Can be extended to discuss responsible AI usage by students.



- **Linkages with UPSC CSE syllabus**

- **GS Paper 1**

- Indian society: role of education in social change, inequality, and mobility.
    - Modern Indian history: colonial education policies, their legacy and impact on contemporary institutions.

- **GS Paper 2**

- Issues relating to development and management of education: quality, learning outcomes, NEP 2020.
    - Government policies and interventions for development in various sectors and issues arising out of their design and implementation (education reforms, digital education).
    - Role of NGOs, SHGs, and civil society in improving education quality.

- **GS Paper 3**

- Science and technology: developments and their applications, effects in everyday life (AI in education, employment, governance).
    - Indigenisation of technology and developing new technology: need for original research and innovation ecosystems.
    - Inclusive growth: skilling, employability, and labour market mismatches.

- **GS Paper 4 (Ethics)**

- Ethics in public and private relationships: honesty, responsibility, and integrity in academic and professional work.
    - Work culture and quality of service delivery: competence vs credentials.
    - Case studies on plagiarism, use of AI in exams, fake research, and misleading credentials.



- **Way forward**

- **Pedagogy and curriculum**

- Integrate inquiry-based and problem-based learning from early grades: simple experiments, projects, and discussions where “why” matters more than “what”.
- Reduce factual overload in syllabi; shift towards core concepts, inter-disciplinary links, and application-oriented tasks aligned with NEP 2020.
- Encourage reading of original texts, case studies, and conflicting viewpoints to cultivate reasoning and tolerance for ambiguity.

- **Assessment reform**

- Introduce open-book and take-home components focused on analysis, synthesis, and reflection rather than recall; combine with viva voce and oral exams where feasible.
- Use project portfolios, presentations, and peer-review to evaluate process and thinking, not just final answers.
- For high-stakes exams, pilot sections that test reasoning in new contexts rather than reproduction of coaching material.

- **Teacher development**

- Large-scale, continuous professional development focused on questioning techniques, facilitation skills, and AI literacy.
- Incentivise teachers to design original questions and tasks, share best practices, and collaborate across disciplines.
- Reform teacher recruitment and evaluation to reward classroom innovation and student engagement.

- **Regulating and leveraging AI**

- Establish clear institutional policies: what forms of AI assistance are allowed in assignments, research, and exams; require disclosure where needed.
- Use AI as a learning assistant (feedback, personalised practice, language support) rather than a ghostwriter, with teachers explicitly modelling responsible use.
- Develop indigenous, open-source educational AI tools aligned with Indian curricula and languages to democratise access.



- **UPSC CSE – Mains**

- **GS-2 (Education / Social sectors)**

- Year ~2015–2023: Questions on quality of school education, learning outcomes, rote-learning vs competency-based education, implementation of RTE and NEP.
- Questions on digital education, online learning, and challenges of equity and quality in EdTech.

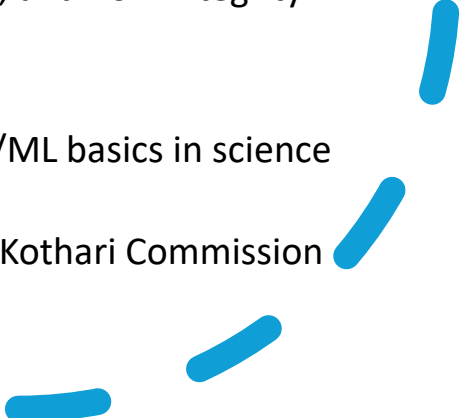
- **GS-3 (Science and technology)**

- Questions on impact of AI and emerging technologies on employment, governance, and ethics.
- Questions on innovation ecosystem, research and development, and why India lags in high-quality research despite a large talent pool.

- **GS-4 (Ethics)**

- Case-study-type questions on plagiarism, research ethics, cheating in exams, and integrity of public officials.
- Questions on “work culture”, professional competence, and how integrity relates to competence.

- **UPSC CSE – Prelims**

- Questions on RTE Act provisions, NEP-related themes, and AI/ML basics in science and tech segments.
  - Questions on commissions and policies related to education (Kothari Commission etc.) in some years.
- 

# Economic security in an insecure world

What's needed is a revamped economic architecture predicated on proactive risk management and improved shock absorption



Photo: iStockphoto.com

Over the past decade, the world has experienced the most turbulent economic conditions in its history. The global financial crisis has led to a sharp decline in economic growth, a rise in unemployment, and a loss of confidence in financial institutions. The global economy is now in a state of economic uncertainty, with many countries facing a double-dip recession. The global financial crisis has led to a sharp decline in economic growth, a rise in unemployment, and a loss of confidence in financial institutions. The global economy is now in a state of economic uncertainty, with many countries facing a double-dip recession. The global financial crisis has led to a sharp decline in economic growth, a rise in unemployment, and a loss of confidence in financial institutions. The global economy is now in a state of economic uncertainty, with many countries facing a double-dip recession.

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- **Key Terms and Explanations**

**Chokepoints**

Strategic narrow passages or concentrated sources through which essential goods must pass. Disruption at these points can cripple an economy.

**Price Takers (in geopolitics)**

Small and middle powers that cannot influence global shocks or prices significantly; they must adapt their domestic policies to absorb external volatility.

**Risk Mitigation**

Actions taken to reduce the probability or impact of an adverse event. In this context, it involves diversifying suppliers, building stockpiles, or creating alternative domestic capacity.

**Import Substitution**

A policy of replacing foreign imports with domestic production, often through tariffs and subsidies. It aims to achieve self-sufficiency but can lead to inefficiency and resource misallocation.

**Autarky**

Complete economic self-sufficiency, cutting off trade with the rest of the world. Historically associated with closed economies and lower growth.

**Fiscal Buffers**

Surplus or untapped government revenue capacity that can be deployed in a crisis. It implies maintaining prudent deficit and debt levels so that the state can spend when needed.

**Hedging (Price Risk)**

Using financial instruments like futures or options to lock in prices and reduce uncertainty.

**Creative Destruction**

Coined by economist Joseph Schumpeter, the process where new technologies and innovations replace outdated industries, driving long-term growth but causing short-term job losses and disruption.

**Prisoner's Dilemma (in trade policy)**

A situation where individual countries adopt tit-for-tat protectionist measures, leaving everyone worse off compared to cooperative free trade.

## Main Arguments and Substantive Parts

The core thesis is that **in an increasingly volatile world, economic security must become a paramount national objective**, achieved through a two-pronged approach: proactive tactical risk management and strategic domestic shock-absorption capacity.

### Global Context of Permanent Disruption

The last decade has seen geopolitical crises, trade wars, supply chain reconfiguration, and rapid technological change. This “old geopolitical rebound” is pushing the world towards an unknown equilibrium, making it harder to tackle existential challenges like climate change, pandemics, AI governance, and inequality.

### Small and Middle Powers as Price Takers

Nations like India cannot alter the frequency or severity of external shocks. Therefore, the best response is to build internal resilience—identifying vulnerabilities and creating an economic architecture that absorbs shocks and reallocates resources quickly.

### Tactical Pillar: Identifying Chokepoints and Mitigating Risks

- **Mapping vulnerabilities:** Example—90% of India’s LPG through Hormuz, 70% of Active Pharmaceutical Ingredients (APIs) from China, over 90% of lithium-ion batteries imported from China, almost all polysilicon (for solar panels) from a single source. Such concentration risk is dangerous.
- **Multi-pronged mitigation approach:**
  - *Build Physical Buffers:* Strategic stockpiles of crude, natural gas, critical minerals (like South Korea, Japan, China). Even if scale is limited, the principle can be applied to high-vulnerability areas.
  - *Diversify Imports:* Source from multiple countries—e.g., more LNG from the US, LPG from Australia.
  - *Hedge Price Risk:* Use financial markets. India could hedge crude imports to protect against oil price swings that destabilise inflation, fiscal deficit, and current account.
  - *Allow FDI from China:* In sectors where China has a virtual monopoly and there are no substitutes, welcoming Chinese FDI can create domestic production capability, transfer technology, and reduce weaponisation risk. The recent relaxation of Press Note 3 is a start but needs expansion.
  - *Address Digital Vulnerabilities:* Bugs, cyber-warfare threats to digital infrastructure need dedicated assessment and redundancy building.
  - *Institutional Mechanism:* A multi-disciplinary “war room” across public and private sectors to continuously identify economic chokepoints and suggest mitigations.

### Caution Against Conflating Risk Mitigation with Import Substitution

Risk mitigation does not justify wholesale reshoring of supply chains. That would be a gross misallocation of resources. The goal is to identify and address specific vulnerabilities, not to abandon comparative advantage. The argument explicitly warns against lapsing into autarky under the guise of resilience.

## Historical Evolution of the Issue

### Pre-Independence and Early Post-Independence Era

- Colonial India was integrated into British supply chains, with little control over its economic destiny.
- Post-1947, India adopted a mixed economy with a strong tilt towards self-reliance and import substitution. The industrial licensing system, high tariffs, and public sector expansion aimed to reduce dependence on foreign goods.
- The Swadeshi movement's legacy informed early policy.

### 1960s–1980s: Self-Sufficiency Focus

- Green Revolution achieved food security, reducing import dependence for grains.
- India built strategic industries (steel, heavy machinery) but remained technologically behind.
- The oil shocks of 1973 and 1979 exposed energy vulnerability, leading to the creation of strategic oil reserves much later.

### 1991 Economic Reforms

- Balance of payments crisis forced liberalisation. India shifted from import substitution to export promotion and global integration.
- The economy opened to foreign investment and technology, which boosted growth but also created new dependencies (e.g., critical imports).

### 2008 Global Financial Crisis

- Exposed India's financial sector linkages and the importance of fiscal and monetary buffers. India's relatively conservative regulations helped cushion the blow, reinforcing the value of prudent macro-management.

### 2014–2020: Supply Chain and Geopolitical Realignments

- China's rise as the "world's factory" deepened import concentrations. Border tensions (Doklam 2017, Galwan 2020) highlighted strategic vulnerabilities.
- The US-China trade war and technology decoupling prompted global supply chain diversification. India launched the Production Linked Incentive (PLI) schemes to boost domestic manufacturing in critical sectors.

### COVID-19 Pandemic (2020-2022)

- Exposed the fragility of global medical supply chains. India's heavy reliance on Chinese APIs for pharmaceuticals became a national security concern.
- Lockdown-induced reverse migration revealed the inadequacy of urban-centred safety nets, spurring interest in portable, digital welfare.

### Ongoing Geopolitical Turmoil (2022-present)

- Russia-Ukraine war disrupted energy and food supply chains, causing inflation spikes. Sanctions weaponised trade and finance, forcing nations to reconsider dependencies.
- The push for "friend-shoring" and resilient supply chains has gained momentum, along with India's efforts to strengthen its role as a trusted partner through initiatives like the Indo-Pacific Economic Framework (IPEF).



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RISE ABOVE THE REST

Co-brand on behalf of

# ECONOMIC SECURITY IN A VOLATILE WORLD:

## A STRATEGIC BLUEPRINT FOR INDIA'S FUTURE

### 1 CORE VULNERABILITIES (The Case for Risk Management)

- Simplified high-fidelity inspired by IMAGE 0)
- Global trade routes as critical inputs as ai inputs as 'chokepoints'



#### IDENTIFYING CHOKEPOINTS

- Key dependence from from aon: 90% (Source: Image 0)
- Key dependence from from oe china; using global trade moputs



#### FROM PRICE TAKER TO RISK MANAGER



Sajid Z. Chinoy

“ India must transition to proactive risk management. ”

RISK MANAGER

PRICE TAKER



### 2 STRATEGIC RESILIENCE FRAMEWORK (The Blueprint)



CASH RESERVE



URBAN SAFETY NET



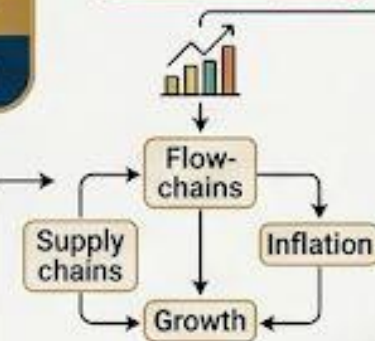
SKILL INDIA



CREATIVE DESTRUCTION

### 3 LINKAGES FOR UPSC CSE (Multidimensional Analysis)

#### ECONOMIC (GS 3)



#### INTERNATIONAL (GS 2)



FRIEND-SHORING

#### POLITICAL/SOCIAL (GS 2, 3)



#### ETHICAL (GS 4)



### 4 WAY FORWARD & AXIA IAS ACADEMY CALL TO ACTION

#### UPSC RELEVANCE

- GS 1, 2, 3
- GS 1, 2, 3
- Essay
- Points and optional subjects



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- **Logical and Philosophical Base**

- **Risk-Return Trade-off**

The proposal treats economic security like insurance. Paying a cost (fiscal, efficiency, opportunity) today can prevent catastrophic losses later. This is rooted in expected utility theory—rational agents prefer a certain small cost over a large uncertain loss.

- **Pragmatic Realism**

Small and middle powers are “price takers.” This realist international relations perspective acknowledges that power asymmetries leave countries with little choice but to adapt internally. The focus, therefore, shifts from changing the world to building domestic resilience.

- **Comparative Advantage vs. Strategic Autonomy**

The article upholds the classical Ricardian idea that nations should specialise based on relative efficiency. However, it amends this by carving out a narrow exception for strategic sectors where dependency becomes a weapon. This reflects a logical synthesis: openness is the default, but security trumps efficiency in defined critical areas.

- **Opportunity Cost and Resource Allocation**

Every rupee spent on stockpiling or subsidising domestic production has an alternative use (health, education, infrastructure). The framework implicitly demands a cost-benefit analysis: mitigate risks only to the extent that the marginal benefit of reduced vulnerability exceeds the marginal cost of foregone alternatives.

- **Dynamic Resilience Over Static Protection**

The article moves beyond static self-sufficiency towards an economy that can reallocate resources quickly after a shock. This aligns with Schumpeter’s “creative destruction” and Hayek’s emphasis on adaptability. It is a philosophical shift from trying to prevent change to building systems that can absorb and harness it.

- **Ethical Underpinning: Intergenerational Equity and Inclusivity**

Building fiscal buffers is an ethical duty towards future generations who would otherwise bear unsustainable debt. Redesigning safety nets to be state-contingent reflects a Rawlsian concern for the worst-off during crises, without creating permanent dependence.

- **Institutional Rationality**

The call for a multi-disciplinary war room reflects an institutional logic: complex vulnerabilities require coordination across silos. It assumes that collective intelligence can map risks better than fragmented agencies.

- **Multidimensional Analysis**
- **Social:** Economic shocks lead to reverse migration and poverty. Resilience strategies must protect the most vulnerable via state-contingent welfare.
- **Political:** Energy and food security are central to political stability. Volatile prices can lead to civil unrest.
- **Legal/Constitutional:** The need for a robust regulatory framework that allows the state to intervene in markets during emergencies without violating trade laws (WTO compliance).
- **International:** Shift from Multilateralism (WTO) to "**Friend-shoring**" (trading only with trusted allies).
- **Economic:** Balancing the high cost of resilience with the need for high growth.
- **Ethical:** Does the state have an obligation to provide "economic security" even if it means higher taxes for the middle class?



- **Linkages with NCERTs**

- **Class 10 Economics: 'Globalisation and the Indian Economy'**

Discusses supply chains, MNCs, and the integration of markets. The concept of chokepoints and import dependency here is a direct extension—globalisation creates both opportunity and vulnerability.

- **Class 11 Indian Economic Development: Chapter 3 – Liberalisation, Privatisation and Globalisation**

Explains the shift from import substitution to outward-looking policies. The article's caution against returning to autarky resonates with this chapter's evaluation of pre-1991 policies.

- **Class 12 Macroeconomics: Chapter 5 – Government Budget and the Economy**

The idea of fiscal buffers, deficit management, and public expenditure reorientation towards capital and human development is directly linked to concepts like revenue vs. capital expenditure, fiscal deficit, and the FRBM Act.

- **Class 12 Economics: Chapter 6 – Open Economy Macroeconomics**

Exchange rate, balance of payments, and trade deficits. Hedging price risk and diversifying imports are means to manage the current account and exchange rate volatility—practical applications of open economy concepts.

- **Class 12 Indian Economic Development: Chapter 10 – Comparative Development Experiences of India and Its Neighbours**

China's industrial policy and its cost (5% of GDP) can be compared with India's approach, illustrating the trade-offs discussed in the article.

## Linkages with UPSC CSE Syllabus

### GS Paper 1:

- Effects of globalisation on Indian society.
- Modern world history – trade wars, Cold War legacies, new geopolitical alignments.

### GS Paper 2:

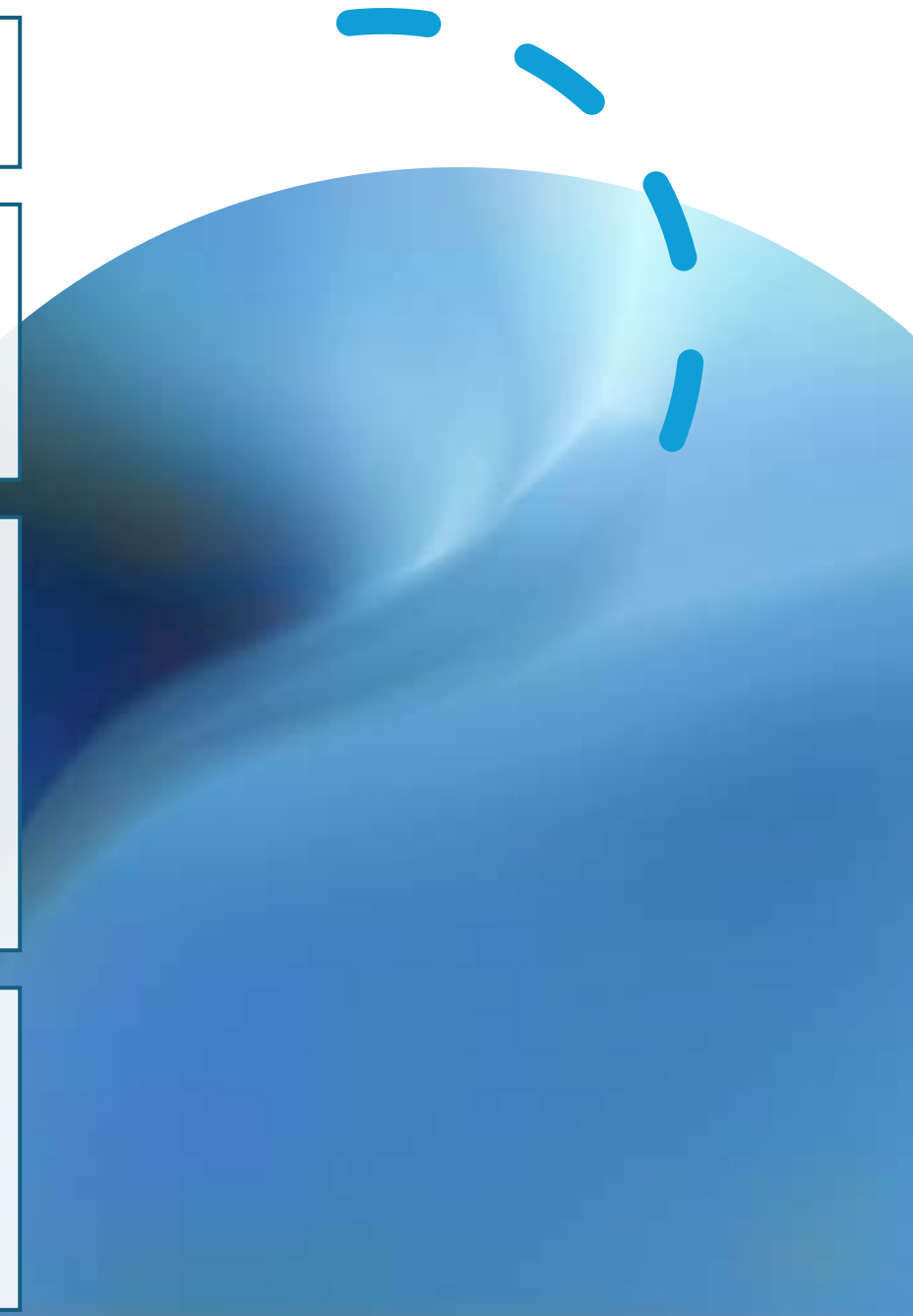
- Bilateral, regional and global groupings involving India.
- Government policies and interventions; issues arising out of their design and implementation.
- Role of civil services in a democracy – coordination for a war room, policy implementation.

### GS Paper 3:

- Indian Economy and issues relating to planning, mobilisation of resources, growth, development.
- Inclusive growth and issues arising from it – safety nets, job displacement.
- Government Budgeting – fiscal buffers, FRBM.
- Food processing and supply chain management.
- Science and technology – cyber security, digital vulnerabilities.
- Security issues – role of energy security, economic security in national security.
- Disaster and crisis management – absorbing and responding to shocks.

### GS Paper 4 (Ethics):

- Governance and ethical concerns: misuse of national security for protectionism; transparency in subsidy reforms.
- Probity in public life: redirection of electoral freebies towards strategic goals.
- Corporate ethics: sharing data with a war room without compromising confidentiality.
- Case studies on resource allocation during crises, balancing national interest with global commitments.



- **Way Forward**

- **Institutionalise a National Economic Security Council (NESC)**

A statutory body under the PMO, with public-private experts, mandated to map vulnerabilities across physical, digital, and financial domains, and recommend mitigation. It must report to Parliament to ensure transparency and democratic legitimacy.

- **Adopt a Targeted Resilience Principle**

Only identify the most critical chokepoints (energy, pharma, chips, rare earths) and design custom solutions for each—stockpile, diversify, or invite FDI—rather than blanket self-sufficiency. This prevents wasteful spending.

- **Leverage the JAM Trinity for Dynamic Safety Nets**

Use Aadhaar-linked accounts to automatically trigger temporary cash transfers during economic downturns (like an unemployment shock), and taper them as recovery takes hold. This requires a pre-defined transparent formula.

- **Establish a Sovereign Commodity Hedging Fund**

Create a dedicated fund with a professional treasury to hedge crude and other critical imports. The cost of premiums can be treated as a security expense. Build public communication around it as insurance, not speculation.

- **Reform the FRBM Act with a Golden Rule**

Allow borrowing only for capital expenditure during normal times, and define clear escape clauses for crises. At the same time, set a path to phase out revenue deficits, freeing resources for resilience building.

- **Link FDI from Rivals with Technology Transfer and Export Obligations**

In sectors like polysilicon or batteries, allow Chinese FDI only through joint ventures with mandatory R&D centers in India, phased manufacturing, and compulsory licensing provisions to ensure genuine capacity creation.

- **Strengthen Federal Coordination**

Create a platform within NITI Aayog where Centre and states jointly review subsidies and reorient schemes from consumption to investment. Finance Commission could incentivise states that reduce freebies and invest in health, education, and infrastructure.

- **Invest in a National Digital Twin for Supply Chains**

Use AI and big data to create real-time visibility of critical supply chains. This improves the war room's effectiveness and helps simulate shock scenarios.

- **Communicate the Vision as “Security with Opportunity”**

Frame economic security not as closure but as the foundation for sustained high growth, job creation, and global competitiveness. Public opinion must be shaped to accept short-term costs for long-term national interest.

- **UPSC CSE Mains**

- **2023, GS3:** “What are the direct and indirect subsidies provided to farm sector in India? Discuss the issues raised by WTO regarding these subsidies.” (Link: subsidy redirection and fiscal buffers)
- **2023, GS2:** “The G20 took bold decisions to address economic issues. Discuss.” (Link: global economic architecture, supply chains)
- **2022, GS3:** “Why is Public Private Partnership (PPP) required in infrastructural projects? Examine the role of PPP in the energy sector.” (Link: energy security and infrastructure)
- **2021, GS3:** “Discuss the measures required to make India a manufacturing hub.” (Link: industrial policy, supply chain resilience)
- **2020, GS3:** “Explain intra-government and extra-government fiscal risks.” (Link: fiscal buffers, guarantees)
- **2019, GS3:** “What are the challenges of disinvestment in India? Suggest measures.” (Link: opportunity cost, resource allocation)
- **2018, GS3:** “How are the principles of fiscal federalism reflected in the 15th Finance Commission’s recommendations?” (Link: federal coordination of subsidies)
- **2017, GS3:** “Discuss the role of land reforms in agricultural development. Identify the factors that were responsible for the success of land reforms in certain states and not in others.” (Link: resource reallocation and inclusive growth)
- **2016, GS3:** “Discuss India’s achievements in the field of Space Science and Technology. How has the application of this technology helped India in its socio-economic development?” (Link: technology and security)
- **2015, GS3:** “In what way could replacement of price subsidy with Direct Benefit Transfer (DBT) change the scenario of subsidies in India? Discuss.” (Directly linked to safety net redesign)
- **2024, GS2:** “Explain how India’s Act East Policy is a diplomatic tool for economic integration and security.” (Link: diversification of economic partners)



- **Key Terms and Explanations**

- **Employment Elasticity:** A measure of how much employment grows in response to GDP growth.

- *Example:* If elasticity is 0.41, a 1% GDP rise adds 0.41% more jobs. At 0.01 (the "0.01 Trap"), a 1% rise adds almost no jobs.

- **0.01 Trap:** A state where economic output (GDP) decouples from labor demand, often due to automation or capital-intensive growth, leaving the majority of the workforce stagnant despite rising national wealth.

- **Global Capability Centres (GCCs):** Units of MNCs that provide specialized functions like R&D and IT. While high-value, they employ few people relative to their revenue.

- **Regulatory Dwarfism:** A phenomenon where small firms choose not to grow to avoid the "Inspector Raj"—the complex web of labor laws and taxes that kick in once a company hits specific employee thresholds (e.g., 50 or 100 workers).

- **Gazingas:** A term for high-growth, agile small businesses (less than five years old) that are primary job creators but lack the collateral to get bank loans.

- **Account Aggregator (AA) Framework:** A digital system that allows users to share their financial data (like GST filings or UPI history) securely with lenders, enabling "information-based" rather than "asset-based" credit.

- **Care Economy:** The sector of the economy focused on providing care for children, the elderly, and the ill. Professionalizing this can create millions of "automation-proof" jobs.

- **Main Arguments and Substantive Parts**

- **The Core Thesis**

- India is experiencing a **structural rupture**. While the "Penthouse" (large corporations/tech hubs) thrives through capital and AI, the "Basement" (informal sector/MSMEs) is starved of capital and suffocated by regulation. Without a "Roadmap B" that bypasses legacy hurdles, India risks an aging population before it becomes wealthy.

- **Key Supporting Points**

- **Productivity Apartheid:** There is a widening gap between high-productivity, tech-driven sectors and low-productivity informal work.

- **The Collateral Trap:** The banking system rewards those with "ancestral land" (legacy wealth) rather than those with "technical merit" (innovative ideas).

- **The 51st Worker Barrier:** Regulatory burdens increase exponentially at specific hiring milestones, incentivizing firms to stay small (dwarves) rather than becoming medium-sized job engines.

- **The Graduate Chasm:** Highly educated women are staying out of the workforce due to domestic care burdens, representing a massive loss of human capital.



## Historical Evolution of the Issue

**Pre-1991 (License Raj):** Strict state control, high barriers to entry, and "Hindu Rate of Growth." Jobs were largely in the public sector or subsistence agriculture.

**1991 (LPG Reforms):** Liberalization, Privatization, and Globalization. Employment elasticity was relatively high (~0.41) as services and manufacturing began to expand.

**2000s–2010s:** The "Service-Led" growth model. India bypassed the traditional manufacturing stage, moving straight to IT and services. Job growth began to slow relative to GDP.

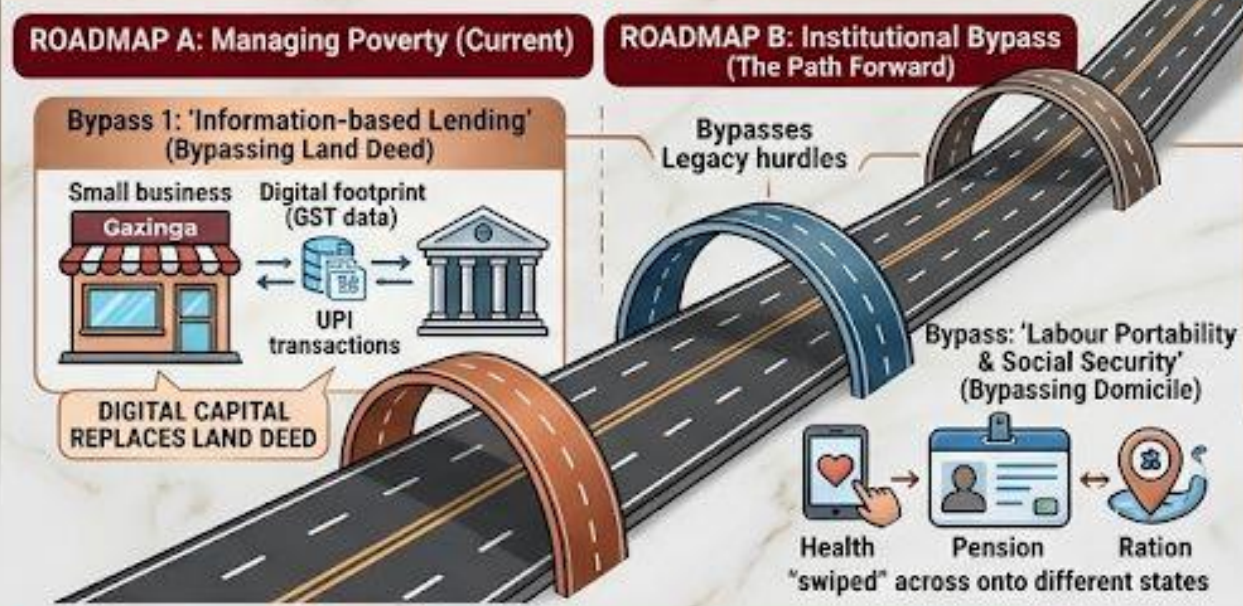
**2020–2025 (The Digital Leap):** The pandemic accelerated AI adoption and automation. The "K-shaped" recovery emerged, where large firms grew faster while the informal sector struggled.

**2026 (The 0.01 Junction):** Automation and capital-intensity have reached a point where GDP growth no longer effectively "sponges up" the surplus labor from agriculture.

# BREAKING INDIA'S 0.01 JOBLESS GROWTH TRAP: THE ROADMAP TO VIKSIT BHARAT



## INDIA'S STRUCTURAL SHIFT (1991 - 2047)



## THE '0.01 TRAP':

Employment Elasticity Plummeted to 0.01.  
ECONOMIC GROWTH CAN DOUBLE WITHOUT WELLBEING IMPROVEMENT

### DEMOGRAPHIC CLOCK

28.8 Current median age

37 Permanent human capital erosion from underemployment

**Race against Ageing:**  
Reach High-Income Status BEFORE Ageing!



- **Logical and Philosophical Base**

- **Logic of Structural Dualism**

The core logic rests on Arthur Lewis's dual-sector model: an economy with a modern, capital-intensive formal sector and a traditional, labour-surplus informal sector. In classic theory, growth gradually pulls labour from the traditional to the modern sector. The analysis argues that India's modern sector is now capital-deepening so aggressively (through AI and automation) that the traditional sector cannot be absorbed; instead, informal workers remain trapped, and the link between the two sectors has snapped.

- **Assumption of Rational Entrepreneurial Behaviour**

Regulatory dwarfism is premised on the rational choice model: small entrepreneurs weigh the cost of compliance against the benefits of scaling up. When compliance costs jump disproportionately at certain thresholds, staying small becomes the utility-maximising decision. This echoes the concept of "informality as exit" from Hirschman—entrepreneurs exit the formal regulatory space rather than voice grievances.

- **Collateral Trap as Institutional Path Dependency**

The banking system's preference for land collateral reflects institutional inertia. Colonial-era property and credit laws shaped a system where land records became the primary proof of creditworthiness. Post-independence, despite bank nationalisation, the underlying institutional logic remained unchanged. This is a classic case of informal institutions (norms, practices) persisting despite changes in formal policy.

- **Philosophical Underpinning: Dignity vs. Metrics**

The distinction between "transactional velocity" (GDP numbers, stock indices) and "household dignity" invokes a capabilities approach reminiscent of Amartya Sen. Development is not merely about aggregate output but about expanding people's substantive freedoms—the ability to lead lives they value. The 0.01 trap is a capabilities failure: growth without the expansion of dignified livelihoods is hollow development.

- **Information vs. Property as Currency**


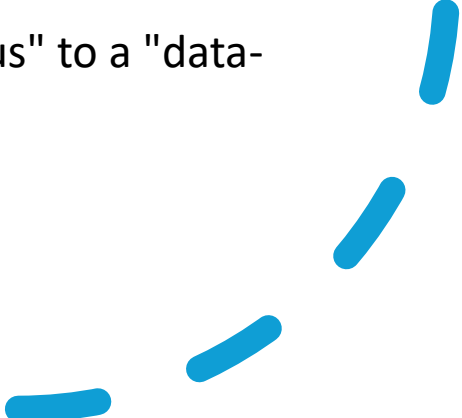
Proposing that "data replace the deed" reflects an epistemological shift in how we assess economic worth. Traditional banking epistemology equates value with tangible, inherited property. The new paradigm sees value in transactional data, cash flow patterns, and digital behavioural signals. It recognises that economic potential is not always stored in land but can be revealed through digital footprints—a more dynamic, real-time measure of productive capacity.

- **Unused Skills as Irreversible Loss**

The argument that underemployment leads to permanent human-capital erosion invokes the economic concept of skill atrophy and hysteresis. Once lost, skills cannot be recovered without cost; prolonged unemployment or underemployment permanently reduces a worker's future productivity.

- **Temporal Logic: The Race Against Demography**

The "demographic clock" framework sets up a race condition: India must achieve high-income status before its population ages. If it fails, the dependency burden becomes unmanageable. This logic underpins the urgency of reform—not just for growth, but for growth before a hard deadline.

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- **Multidimensional Analysis**
  - **Social:** Risk of social unrest if the youth remain underemployed while the stock market reaches record highs.
  - **Political:** Pressure on governments to provide "freebies" (populism) because the economy isn't generating enough "dignified" jobs.
  - **Legal:** The need for "Sunset Clauses" on regulations that penalize growth in firm size.
  - **Ethical:** Addressing the "Productivity Apartheid" to ensure inclusive growth (Sabka Saath, Sabka Vikas).
  - **International:** India must remain competitive against other "labor-surplus" nations like Vietnam or Bangladesh.
  - **Economic:** The transition from a "land-finance nexus" to a "data-finance nexus."
- 

- **Linkages with NCERTs**

- **NCERT Class 10: Understanding Economic Development – Chapter 2: Sectors of the Indian Economy**

Distinction between organised and unorganised sectors, disguised employment in agriculture, and need for creation of more formal employment opportunities directly relates to the penthouse-basement framework.

- **NCERT Class 11: Indian Economic Development – Chapter 2: Indian Economy 1950–1990**

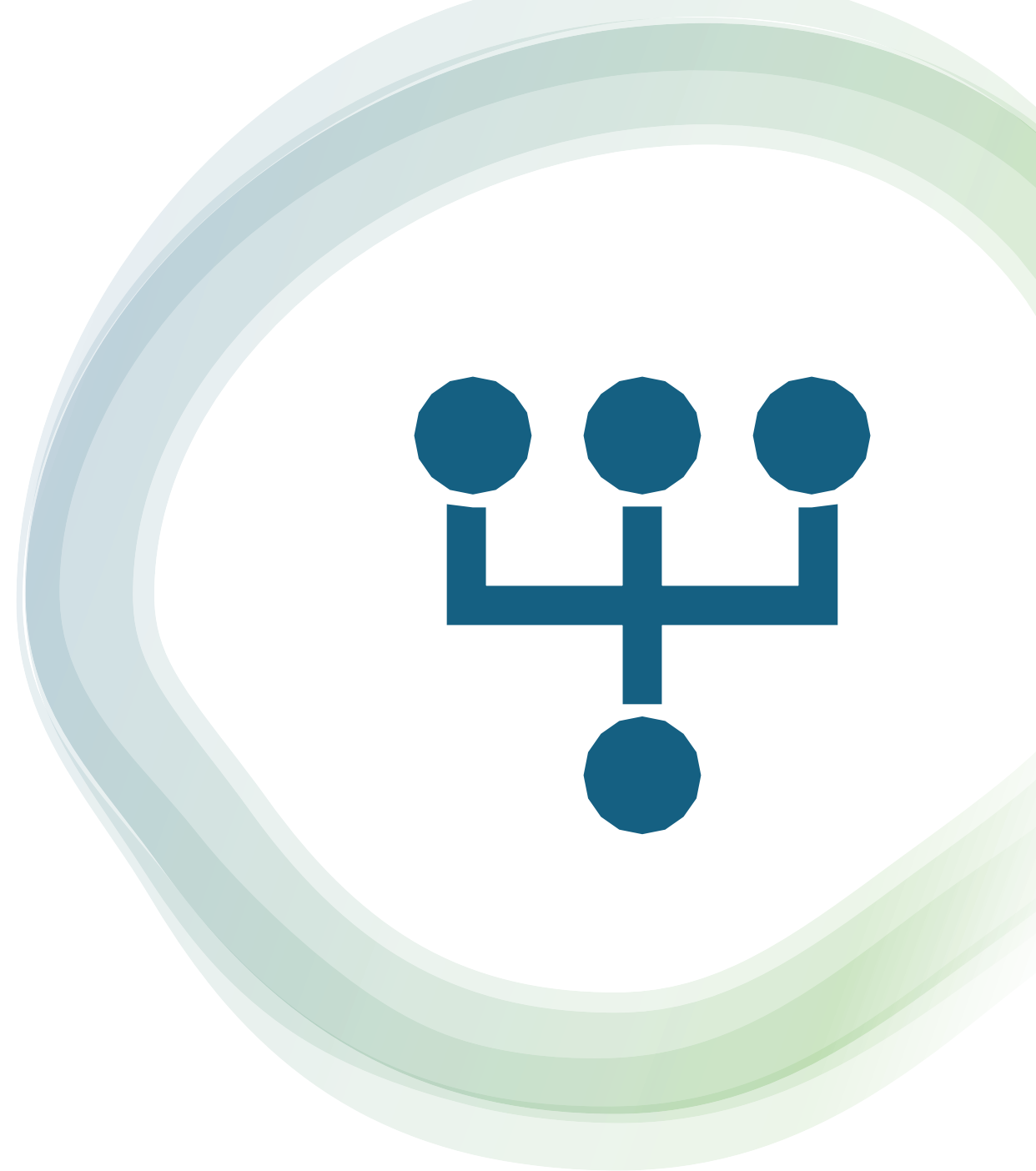
The industrial policy's capital-intensive thrust, small-scale industry reservation, and Licence Raj explain the historical roots of regulatory dwarfism and the collateral-based banking approach.

- **NCERT Class 11: Indian Economic Development – Chapter 3: Liberalisation, Privatisation and Globalisation: An Appraisal**

The structural shift post-1991, employment elasticity trends, and the rise of IT-BPM as the penthouse sector emerge from this chapter's appraisal.

- **NCERT Class 11: Indian Economic Development – Chapter 7: Employment: Growth, Informalisation and Other Issues**

Directly treats jobless growth, formal-informal workforce distribution (88% informal), and the concept of employment elasticity. Students can connect the 0.01 trap to the text's discussion on casualisation and informalisation.

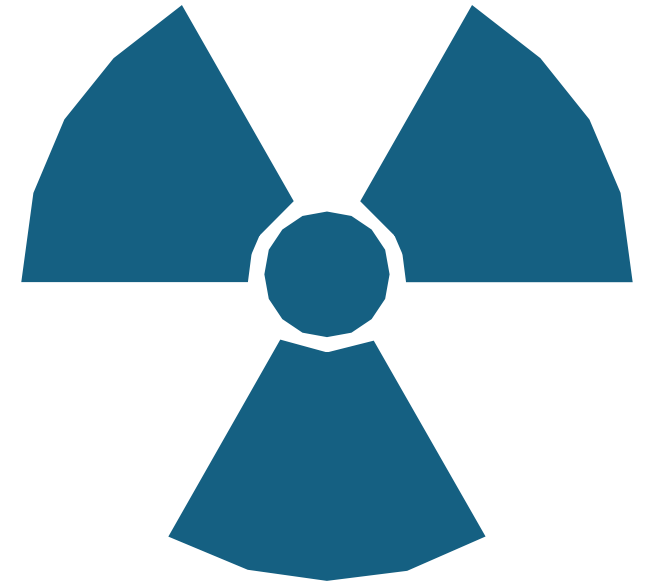


- **Linkages with UPSC CSE Syllabus**
- **GS Paper 3:** Indian Economy (Growth, Development, Employment), Inclusive Growth, MSMEs, and Investment Models.
- **GS Paper 2:** Governance, Welfare Schemes for vulnerable sections, and Issues relating to the Development of the Social Sector (Health, Education, HR).
- **GS Paper 1:** Social Issues (Poverty and Developmental issues, Urbanization, Globalization).
- **GS Paper 4 (Ethics):** Ethical concerns in the K-shaped recovery; justice in capital allocation.



- **Way Forward**

- **Enact Labor Code Reforms:** Simplify the transition for firms hiring past the 50-worker mark to eliminate "Regulatory Dwarfism."
- **Scale the Account Aggregator (AA) Framework:** Mandate all scheduled commercial banks to offer cash-flow-based lending for MSMEs.
- **National Labor Mobility Policy:** Create a unified digital ID for workers that links health, pension, and food benefits across all states.
- **Care Economy Subsidies:** Provide tax incentives for private childcare and elderly care centers to bring women back into the formal workforce.
- **Skill-Based Education:** Shift focus from "degree inflation" to technical vocational training that aligns with GCC and "Gazinga" needs.



- **Previous Years' UPSC Questions (PYQs)**
- **GS 3 (2023):** "Is the Indian economy experiencing a K-shaped recovery? Give reasons for your answer."
- **GS 3 (2021):** "Explain the difference between computing methodology of India's Gross Domestic Product (GDP) before 2015 and after 2015."
- **GS 3 (2017):** "Industrial growth rate has lagged behind in the overall growth of GDP in the post-reform period. Give reasons."
- **Essay (2020):** "Economic growth without distributive justice is bound to breed violence."





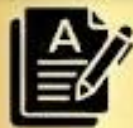
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