

Mains Matrix

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Nations must prepare to deal with stablecoins: Sitharaman

Sub-headline: Innovations in cryptocurrency are transforming the landscape of money and capital flows, and they may force nations to adapt to new monetary architectures or risk exclusion, says Finance Minister; India's economic leverage is evolving.



What is a Stablecoin?

A **stablecoin** is a type of **cryptocurrency designed to maintain a stable value minimize price volatility**. over time, unlike volatile crypto assets such as Bitcoin or Ethereum. Its price is usually “**pegged**” (**linked**) to a stable reference asset like the **US dollar, euro, or even gold**, so that 1 stablecoin \approx 1 unit of that reference asset.

Stablecoins were created to **combine the best of both worlds**:

- The **speed, transparency, and borderless nature** of cryptocurrencies, and
- The **price stability** of traditional fiat currencies.

They make it easier to use crypto for:

- Everyday payments
- Remittances
- Trading on crypto exchanges (as a stable medium of exchange)
- DeFi (decentralized finance) platforms

Types of Stablecoins (by Collateral Type)

1. Fiat-Collateralized Stablecoins

- Backed by real-world fiat reserves (like USD or EUR) held in a bank.

- For every 1 stablecoin issued, there's \$1 kept in reserve.
- Examples: **USDT (Tether)**, **USDC (USD Coin)**
- Managed by **centralized entities** that issue (mint) and redeem (burn) the coins.

2. **Crypto-Collateralized Stablecoins**

- Backed by other cryptocurrencies (e.g., ETH, BTC) locked in smart contracts.
- Often **over-collateralized** (e.g., deposit \$150 worth of ETH to mint \$100 worth of DAI).
- Example: **DAI (by MakerDAO)**
- Operates **decentrally** using smart contracts — no central issuer.

3. **Commodity-Collateralized Stablecoins**

- Pegged to physical assets like **gold, oil, or real estate**.
- Example: **PAX Gold (PAXG)** — each token represents one fine troy ounce of gold.

4. **Algorithmic (Uncollateralized) Stablecoins**

- Not backed by real assets.
- Use **algorithms and smart contracts** to control supply and demand to maintain the peg.
- Example: **UST (TerraUSD)** — which **collapsed in 2022**, showing high risk in this model.

How Stability is Maintained

Mechanism	Explanation
Pegging	Linking coin value to a specific asset (e.g., 1 USDC = 1 USD).
Minting and Burning	New coins are <i>minted</i> when users deposit collateral and <i>burned</i> when redeemed, maintaining a 1:1 ratio.
Reserves and Audits	Centralized issuers hold reserves and undergo audits to prove backing.
Arbitrage Mechanisms	Traders buy/sell coins when the price deviates from the peg, restoring balance.

Risks and Concerns

1. **Centralization Risk:**

- Fiat-backed stablecoins rely on a single company or custodian — vulnerable to misuse or lack of transparency.

2. Reserve Transparency:

- Questions about whether issuers truly hold equivalent reserves (e.g., controversies around **Tether**).

3. Regulatory Concerns:

- Governments and central banks worry stablecoins could affect **monetary policy, capital flow control, and financial stability**.

4. Algorithmic Failures:

- Algorithmic stablecoins can fail spectacularly (e.g., **TerraUSD crash wiped out billions**).

Global Significance

- Stablecoins are becoming the **bridge between traditional finance (TradFi) and decentralized finance (DeFi)**.
- Central banks are studying them while developing **CBDCs (Central Bank Digital Currencies)** as safer alternatives.

- They play a major role in **cross-border payments, remittances, and DeFi lending platforms**.

Summary

A **stablecoin** is a cryptocurrency that maintains a **stable value** by being **pegged to an asset** (fiat, crypto, or commodity). Stability is achieved through **collateral reserves or algorithmic controls**, often managed by a **centralized issuer**. It represents the convergence of **digital innovation and traditional monetary systems**, but also raises **questions of regulation, transparency, and systemic risk**.

How to use in Mains

Primary Relevance: GS Paper III (Indian Economy)

The topic falls under "Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment" and "Effects of Liberalization on the Economy."

1. Money and Banking:

- **How to use:** Stablecoins challenge the traditional definition of money and the role of central banks.
 - **Private vs. Sovereign Money:** Stablecoins are essentially **private forms of money**. Their rise

poses a fundamental question about the state's monopoly over currency issuance. You can contrast them with the proposed **Central Bank Digital Currency (CBDC)** (Digital Rupee), which is sovereign, state-backed digital money.

- **Monetary**

Policy: Widespread adoption of a foreign-currency-pegged stablecoin (like USDT) could undermine the **Reserve Bank of India's (RBI) ability to conduct monetary policy**. If people transact more in USDT, changes in RBI's repo rate become less effective.

- **Potential Question:** "The emergence of cryptocurrencies and stablecoins presents both opportunities and challenges for the Indian financial system." Discuss."

2. Capital Markets:

- **How to use:** Stablecoins are a key infrastructure component of the modern digital asset ecosystem.
 - They are the primary medium of exchange on crypto exchanges and in **Decentralized Finance**

(DeFi). Understanding them is crucial to understanding the evolution of capital markets beyond traditional stocks and bonds.

3. Security Challenges:

- **How to use:** The "Risks and Concerns" section is critical here.
 - **Financial Stability Risk:** The collapse of an algorithmic stablecoin like **TerraUSD (UST)** in 2022, which "wiped out billions," is a perfect example of a **systemic risk** emanating from the crypto world. It shows how failure in an unregulated sector can have contagion effects.
 - **Regulatory Arbitrage:** The lack of a clear regulatory framework allows these instruments to operate in a grey area, posing risks of **money laundering and terror financing**.

Secondary Relevance: GS Paper II (Governance)

GS Paper II: Government Policies & Interventions

- **How to use:** India's stance on cryptocurrencies, including stablecoins, is a key policy area. Discussing stablecoins allows you to critically analyze the government's and RBI's cautious approach, balancing the need for **innovation with financial stability and consumer protection**.

This clean energy rise needs climate finance expansion

Key Achievements & Current Status

- **Clean Energy Momentum:**
 - In 2024, India added **24.5 GW** of solar energy capacity, ranking as the **third largest contributor globally** after China and the U.S.
 - The UN's 2025 Climate Report recognizes India as a **leading developing country** in scaling solar and wind energy.
- **Economic Impact:**
 - In 2023, the renewable energy sector employed **over a million people** and contributed to **5% of India's GDP growth**.
 - India's leadership in establishing the **International Solar Alliance (ISA)** is highlighted.

- **Sustainable Finance Growth:**

- Cumulative green, social, sustainability, and sustainability-linked (GSS+) debt issuance reached **\$55.9 billion** by December 2024, a **186% increase since 2021**.
- Green bonds account for **83%** of this issuance.
- Green bond investment is projected to cross **\$45 billion in 2025**, with a target of **\$100 billion by 2030**.

The Critical Challenge: The Finance Gap

- **The Need:** A dramatic expansion of climate finance is required to sustain and scale India's energy transition.
- **Estimated Financial Requirement:**
 - **\$1.5 trillion by 2030** to stay on a 1.5°C-aligned pathway (IRENA estimate).
 - **Over \$2.5 trillion by 2030** to meet national targets (Ministry of Finance estimate).
- **The Opportunity:** Following a 1.5°C-aligned pathway could help India achieve an average annual GDP growth of **2.8% through 2050**.

- **Specific Gaps:**

- Current finance flows fall well short of the required targets.
- Difficulty in channeling finance to **Micro, Small, and Medium Enterprises (MSMEs), agri-tech innovators, and local infrastructure developers.**

Proposed Solutions & Strategic Changes

- **1. Diversify and Deepen Climate Finance Strategy:**

- Use government budget allocations and fiscal tools to attract private capital and de-risk investments.

- **2. Leverage Blended Finance:**

- Use **credit enhancement instruments** like partial guarantees to make green projects more attractive to private lenders.

- **3. Unlock Domestic Institutional Capital:**

- Enable large domestic investors (e.g., Employees' Provident Fund Organisation, Life Insurance Corporation) to allocate funds to climate-aligned investments.

- This requires **regulatory reforms**, clearer ESG guidelines, and risk mitigation instruments.

- **4. Tap Carbon Markets:**

- India's **Carbon Credit Trading Scheme** could unlock new finance streams if it is transparent, well-regulated, and equitable.

- **5. Foster Innovation:**

- Lead on climate finance innovation using **blockchain** for tracking, **AI-driven risk assessment**, and tailored blended finance models.

How to use in Mains

Primary Relevance: GS Paper III (Indian Economy & Environment)

This is the most direct and important fit. The topic sits at the intersection of "Economic Development," "Mobilization of Resources," and "Environmental Conservation."

1. Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment:

- **How to use:** The article highlights a classic challenge of **development financing**.
 - **The Investment Gap:** The staggering financial requirement of **\$1.5 to**

\$2.5 trillion by 2030 is a central point. This can be used to argue that public budgets alone are insufficient, making a strong case for **private investment, innovative financial instruments, and international climate finance**.

- **Role of Domestic Institutions:** The suggestion to unlock capital from institutions like the **EPFO and LIC** is a specific and actionable policy suggestion. It shows an understanding of how to mobilize domestic savings for national priorities.

2. Conservation, Environmental Pollution and Degradation, Environmental Impact Assessment:

- **How to use:** This data proves that environmental action and economic growth are not mutually exclusive.
 - **Co-Benefits of Climate Action:** The statistic that a 1.5°C-aligned pathway could yield **2.8% annual GDP growth** is a powerful argument for aggressive climate action. It reframes the debate from "cost" to "investment."

- **Success Story:** India's achievement as the **3rd largest solar adductor** and the **ISA's success** can be cited as evidence of India's commitment and capability in the global fight against climate change.

3. Security:

- **How to use:** Energy security is a core component of national security.
 - A transition to indigenously produced renewable energy reduces dependence on **fossil fuel imports**, enhancing India's **energy sovereignty** and insulating the economy from global price shocks.

Secondary Relevance: GS Paper II (Governance & International Relations)

1. Government Policies and Interventions for Development:

- **How to use:** The "Proposed Solutions" are essentially a governance roadmap.
 - You can evaluate schemes like the **Production Linked Incentive (PLI) scheme for solar modules** as an

example of using "government budget allocations to attract private capital."

- The **Carbon Credit Trading Scheme** is a direct government intervention to create a market-based solution for decarbonization.

2. International Relations:

- **How to use:** The **International Solar Alliance (ISA)** is a key diplomatic achievement. The article positions India not just as a recipient of climate finance but as a **global leader** in fostering South-South cooperation on clean energy.

The maritime signalling after Operation Sindoor

Core Argument

Following the aerial standoff in May 2025, strategic focus between India and Pakistan has shifted to the maritime theatre. Both nations are using naval movements, capability demonstrations, and official statements to recalibrate their postures and signal readiness for potential escalation, indicating that a future confrontation could unfold at sea.

1. Key Developments and Signaling

India's Actions and Statements:

- **Verbal Warnings:**

- Defence Minister Rajnath Singh warned Pakistan of a "resounding response" that could alter its "history and geography" in the event of a misadventure in the Sir Creek area.
- Naval Chief Admiral Dinesh Tripathi stated the Navy would be the "first to take action" in a future conflict.

• Operational Posture:

- **Operation Sindoor** was described as a "naval forward deterrent posture."
- Conducted first joint patrols with the Philippines in the South China Sea.

• Capacity Building:

- Induced first indigenously designed diving support vessel, *INS Nistar*.
- This reflects alignment with a wider Indo-Pacific strategy, countering Chinese presence in Karachi and Gwadar.

Pakistan's Actions and Statements:

- **Force Dispersal:** Dispersed naval assets from Karachi to Gwadar in May to mitigate vulnerability.
- **New Capabilities:**

- Launched the Chinese-built *Hanqor*-class submarine, PNS *Mangro*.
- Showcased the domestically developed P282 ship-launched ballistic missile.
- **Exercises and Drills:** Conducted overlapping NOTAMs, missile tests, and live-fire drills, sometimes just 60 nautical miles from Indian activities, creating operational friction.

2. Strategic Implications & Shifting Balance

A Changing Naval Balance:

- The maritime balance of power **can no longer be assumed to mirror past asymmetries** (like Kargil 1999).
- **India's Position:** Retains numerical and geographical advantages, but faces concerns over an aging fleet.
- **Pakistan's Position:** Is steadily expanding capabilities with Chinese-designed submarines and Turkish-made corvettes, equipped with advanced weaponry. India's Navy Chief acknowledged the "surprising growth" of Pakistan's navy.
- **Conclusion:** The capability gap is narrowing, complicating assumptions of India's uncontested dominance.

3. Why This Maritime Shift Matters

a) Escalation Control is Harder at Sea:

- Unlike calibrated aerial skirmishes, any naval engagement (ship-on-ship) carries a higher risk of crossing the war threshold.
- Memories of India's decisive naval role in the 1971 war create existential sensitivity in Pakistan's strategic mindset.
- Pakistan is pursuing Anti-Access/Area Denial (A2/AD) capabilities and a "deterrence-by-denial" doctrine.
- Ports like Gwadar and Karachi are not just economic hubs but **psychological pressure points**.

b) Signaling Readiness and Shaping Future Conflict:

- Both sides' exercises are deliberate efforts to demonstrate readiness and complicate the adversary's planning.
- **India** aims to maintain pressure and shape the post-crisis narrative.
- **Pakistan** signals that its navy is no longer the vulnerable force of 1971.
- Both are actively investing in shaping a future "conflict-template" at sea.

c) The Sharpening External Dimension:

- **China's** involvement in Karachi and Gwadar raises the spectre of PLA Navy (PLAN) support to Pakistan in a crisis.
- **Türkiye's** emerging role, even if limited, adds another layer of uncertainty.

4. Underlying Challenges and Paradoxes

- **The Coercion Dilemma:** India's coercive options may be narrowing due to Pakistan's enhanced capabilities, but domestic pressure to use the navy is increasing.
- **Risk of Strategic Drift:** Both militaries may be operating on outdated assumptions from past crises, while new technologies (hypersonic missiles, drones) are altering the escalatory ladder, increasing the risk of miscalculation.
- **A Stabilizing Paradox:** Intense observation and testing of each other's tactics at sea may, over time, build mutual awareness and reduce the "fog of war."

5. The Broader View and India's Strategic Choice

- The naval element is unlikely to be peripheral in a future India-Pakistan crisis.
- Unlike air skirmishes, naval deployments linger, continuously shaping perceptions of intent and resolve.
- **India's Critical Decision:** Must decide whether to treat the maritime theatre as an arena for **early signaling** or hold it back as a **reserve domain for escalation**. Current investments suggest New Delhi is preparing for both possibilities.

How to use in UPSC Mains

Primary Relevance: GS Paper III (Security)

This is the most direct and critical fit. The topic falls under "Challenges to Internal Security" and "Role of External State and Non-state Actors in Creating Challenges to Internal Security."

1. Security Challenges and their Management in Border Areas:

- **How to use:** The article describes a new, evolving "border" for conflict—the maritime domain.
 - **Shift in Conflict Theatre:** Traditionally, India-Pakistan conflicts have been land and air-centric (e.g., Kargil 1999). The analysis shows a clear shift to the **maritime domain**, which presents a

different set of challenges for security management.

- **Higher Escalation**

Risk: The point that naval engagements are harder to control and more likely to cross the "war threshold" is crucial. It means that future crises could escalate more rapidly and unpredictably than before.

2. Various Security Forces and Agencies and their Mandate:

- **How to use:** The article highlights the evolving role and capabilities of the **Indian Navy**.
 - **From Deterrence to Action:** The statements by the Naval Chief and the Defence Minister signal a more proactive and central role for the Navy, moving beyond its traditional role of sea denial and power projection to being the "first to take action."
 - **Indigenisation:** The induction of **INS Nistar** (indigenous diving vessel) can be cited as an example of India's push for **self-reliance (Atmanirbharta)** in defence.

Primary Relevance: GS Paper II (International Relations)

This issue is deeply intertwined with India's foreign policy and regional strategy.

1. India and its Neighborhood-Relations:

- **How to use:** This is a direct analysis of the India-Pakistan relationship in a new dimension.
 - **Changing Power Balance:** The acknowledgment that the "capability gap is narrowing" due to Chinese and Turkish assistance to Pakistan is a key strategic insight. It means India can no longer assume naval supremacy, complicating its strategic calculus.
 - **Coercion and Signaling:** The naval posturing (joint patrols with the Philippines, forward deployment) is a form of **coercive diplomacy** aimed at signaling resolve to Pakistan and its allies.

2. Effect of Policies and Politics of Developed and Developing Countries on India's Interests:

- **How to use:** The role of **China and Turkey** is critical.

- **The China**
Factor: China's presence in **Karachi and Gwadar** and its supply of submarines (Hanqor-class) to Pakistan directly threaten India's security and its command of the Arabian Sea. This is a classic case of a "third party" complicating a bilateral rivalry.
- **Indo-Pacific**
Strategy: India's joint patrols with the Philippines in the South China Sea are a signal to China, linking the India-Pakistan dynamic to the larger **Indo-Pacific geopolitical contest**.

Domestic Vitality - Domestic firms show more faith in India than foreign investors

Overview

Investment announcement data for the first half of the current financial year reveals contrasting trends between domestic and foreign investors, with significant implications for India's economic policy and growth trajectory.

1. Domestic Investment Trends (Positive)

- **Record High Announcements:**

- Private sector new project announcements reached a **15-month high** of ₹9.9 lakh crore in H1 of the current fiscal year.

- **Growing Dominance of Indian Firms:**

- Share of Indian firms in private sector announcements increased from **77% in 2018-19 to 94% in H1 current fiscal**.

- **Strong Execution Track Record:**

- Value of projects **actually completed** by Indian firms also hit a **near 15-month high**.

- **Sectoral Focus:**

- Majority of new investments targeted at the **manufacturing sector**.

2. Foreign Investment Trends (Concerning)

- **Steady Decline:**

- Project announcements by foreign companies fell to **₹0.6 lakh crore** in H1 FY26
- Marks **third consecutive year of decline** during this period

- Represents a **five-year low**

- **Global Context:**

- Decline occurs despite **global investment outflows increasing 11% in 2024 and 3% in 2023**

3. Government Investment Trends

- **Reduced Public Spending:**

- Fresh government announcements stood at **₹1.5 lakh crore** in H1
- Represents a **71% decline** compared to same period last year
- Aligns with Centre's warning about slowing capex growth

4. Key Implications & Analysis

Positive Signals:

- Domestic confidence appears **deep-rooted** - most investments announced before August 15 GST rate cuts
- Manufacturing focus aligns with long-term economic goals
- Successful execution provides validation of domestic optimism
- Reduces pressure on government finances for

developmental and defense needs

Areas of Concern:

- **Growing divergence** between domestic and foreign investor outlook
- Foreign investor skepticism predates recent US tariff friction
- **Increased pressure** on Indian firms as government and foreigners pull back
- **Sustainability concerns** - domestic firms must maintain investment momentum

Policy Imperatives:

- Urgent need for **ease of doing business reforms**
- Must address underlying causes of foreign investor hesitation
- Need to maintain domestic investment momentum through supportive policies

The data presents a paradox of strong domestic confidence alongside persistent foreign skepticism, creating both opportunities and challenges for India's economic management.

How to use in UPSC MAINS

Primary Relevance: GS Paper III (Indian Economy)

This is the most direct and important fit. The topic falls under "Indian Economy and issues relating to Planning, Mobilization of Resources, Growth, Development and Employment" and

"Effects of Liberalization on the Economy."

1. Investment Models:

- **How to use:** The data reveals a significant shift in the drivers of investment in India.
 - **Rise of Domestic Private Investment:** The record high of **₹9.9 lakh crore** in announcements by domestic firms, focusing on manufacturing, is a strong indicator of the success of government initiatives like the **Production Linked Incentive (PLI) scheme** and the push for **Atmanirbhar Bharat (Self-Reliant India)**. It shows that Indian businesses are becoming the primary engine of capital formation.
 - **Declining Role of Foreign Direct Investment (FDI):** The consistent decline in foreign investment announcements to a **five-year low (₹0.6 lakh crore)** is a major concern. This can be used to discuss the limitations of relying on FDI and the need to address its root causes.

2. Growth & Development:

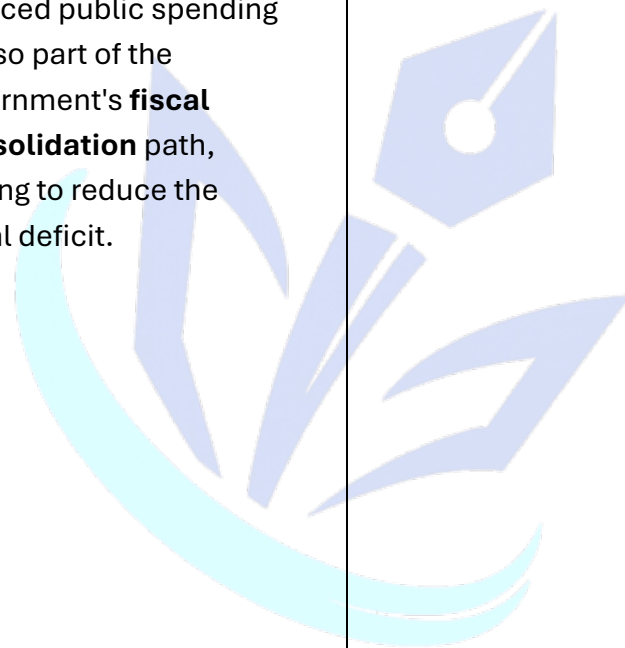
- **How to use:** The divergence between domestic and foreign investor sentiment is a critical analytical point.
 - **Domestic Confidence:** The fact that domestic investment is "deep-rooted" and focused on manufacturing suggests optimism about **long-term domestic demand** and the government's industrial policy. This is a very positive sign for sustainable growth.
 - **Foreign Skepticism:** The decline in FDI, despite growing global investment flows, points to **persistent structural issues** in India's business environment that deter foreign capital. This could include regulatory unpredictability, infrastructure bottlenecks, or bureaucratic hurdles.

3. Government Budgeting:

- **How to use:** The 71% decline in fresh government investment announcements aligns with the fiscal strategy of the central government.
 - **Crowding-In:** The government's pullback in capital expenditure

(capex) is likely a deliberate strategy to **"crowd-in" private investment**. The data suggests this is working for domestic firms, as they are stepping in to fill the investment gap.

- **Fiscal Consolidation:** This reduced public spending is also part of the government's **fiscal consolidation** path, aiming to reduce the fiscal deficit.



MENTORA IAS

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