



TODAY'S ANALYSIS

(11 February 2025)

TOPICS TO BE COVERED

- ISRO'S NVS-02 MISSION
- ECONOMIC SURVEY
 - CHAPTER 1: GLOBAL ECONOMIC CONDITION & DOMESTIC ECONOMIC CONDITION [2/2]
- MCQs

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ISRO'S NVS-02 MISSION

The **Indian Space Research Organisation (ISRO)** faced a setback in its mission to place the **NVS-02** satellite into its designated orbit after the satellite's **thrusters** failed to ignite. This issue prevented the necessary **orbit adjustment**.

- **What Went Wrong:** The thrusters, **which are meant to raise the satellite's orbit, could not be fired because the valves** needed to release the **oxidizer** didn't open.
- This meant that the **planned operations to place the satellite in its correct orbit could not be carried out.**
- **Current Status:** Although the satellite is now in an **elliptical orbit**, which is **not ideal for its intended function**, **ISRO** is now looking into **alternative mission strategies**.
- They are working to figure out how to use the satellite for **navigation** in this orbit.

KEY POINTS

- **Launch Details:** The **NVS-02** satellite, which is a key part of India's **NavIC** system (Navigation with Indian Constellation), was launched on **January 29**.

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- It was carried aboard the **GSLV-Mk 2** rocket and marked a significant milestone for ISRO as it was their **100th launch** from the **Sriharikota spaceport**.
- **Current Position:** After the launch, the satellite was successfully placed in a **Geosynchronous Transfer Orbit (GTO)**, an elliptical orbit, which is not ideal for **NavIC**.
- This orbit isn't suitable for the satellite's navigation system, which is why the **orbit raising** operation didn't go as planned.

WHAT WENT WELL?

- **Even though the thrusters failed to fire, there were several positive** aspects of the mission:
 - The satellite's **solar panels** deployed as expected.
 - **Power generation** has been stable.
 - Communication between the satellite and the ground station was successfully established.
- ISRO confirmed that the launch was a success, with the rocket's stages performing perfectly and the satellite reaching the **initial orbit** with high precision.

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WHAT'S NEXT FOR NVS-02?

- The **NVS-02** satellite is the **2nd in India's next-generation NavIC** system.
- This regional navigation system is designed to provide precise **positioning, velocity, and timing** information to users across India and up to **1,500 km** beyond its borders.
- Despite the current orbit issues, NVS-02 will still **enhance the NavIC system**, helping with various applications like:
 - **Navigation**
 - **Precision agriculture**
 - **Emergency response**
 - **Fleet management**
 - **Mobile device location services**
- The satellite features an advanced **navigation payload** that operates on **three frequency bands (L1, L5, and S)**, ensuring high accuracy.

ABOUT NAVIC

NavIC is India's regional navigation satellite system, developed by ISRO to provide accurate **Position, Velocity, and Timing (PVT)** services within India and up to 1,500 km

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beyond its borders. It is **designed to serve a variety of applications, including transportation, surveying, and scientific research.**

IRNSS

Indian Regional Navigation Satellite System

IRNSS (NavIC) is designed to provide accurate real-time positioning and timing services to users in India as well as region extending up to 1,500 km from its boundary

NAVIGATION CONSTELLATION CONSISTS OF SEVEN SATELLITES

- 3** in geostationary earth orbit (GEO) and
- 4** in geosynchronous orbit (GSO) inclined at 29 degrees to equator

Each sat has three rubidium atomic clocks, which provide accurate locational data

IT WILL PROVIDE TWO TYPES OF SERVICES

- 1 Standard positioning service** | Meant for all users
- 2 Restricted service** | Encrypted service provided only to authorised users (military and security agencies)

Applications of IRNSS are: Terrestrial, aerial and marine navigation; disaster management; vehicle tracking and fleet management; precise timing mapping and geodetic data capture; terrestrial navigation aid for hikers and travellers; visual and voice navigation for drivers

While American GPS has **24 satellites** in orbit, the number of sats visible to ground receiver is limited. In **IRNSS, four satellites** are always in geosynchronous orbits, hence always visible to a receiver in a region **1,500 km** around India

The diagram illustrates the IRNSS constellation. It shows the Earth with the Indian subcontinent highlighted. Seven satellites are shown in orbit: three in geostationary earth orbit (GEO) and four in geosynchronous orbit (GSO). The GEO satellites are positioned at 32.5°E, 83°E, and 129.5°E. The GSO satellites are positioned at 55°E and 111.75°E with an inclination of 29°. The coverage area of the system is shown as a yellow shaded region extending up to 1,500 km from the boundary of India.

THE NAVIC SYSTEM

- **Constellation of 7 Satellites:** 3 satellites in geostationary orbit at 32.5°E, 83°E, and 129.5°E;
- **4 satellites in inclined geosynchronous orbit** at 55°E and 111.75°E with an inclination of 29°.

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- **Ground Network:** Consisting of a control centre, precise timing facility, range and integrity monitoring stations, and two-way ranging stations.
- **Accuracy:** Provides positioning accuracy better than **10 m** throughout India and **20 m** in the surrounding **1,500 km area**. Timing accuracy is better than 50 nanoseconds.
- **Services:** NavIC offers 2 services – Standard Position Service (**SPS**) for civilians and **Restricted Service (RS)** for strategic users, available in both L5 (1176.45 MHz) and S bands (2498.028 MHz).

APPLICATION OF NAVIC

- Transportation (terrestrial, aerial, and marine)
- Location-based services
- Personal mobility
- Resource monitoring
- Surveying and geodesy
- Scientific research
- Time dissemination and synchronization
- Safety-of-life alert dissemination

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ECONOMIC SURVEY

CHAPTER 1: GLOBAL ECONOMIC CONDITION & DOMESTIC

ECONOMIC CONDITION [1/2]

Agriculture:

- a. **H1 FY 25 Growth:** Agriculture remained strong in the first half of FY25, with **Q2 growing by 3.5%**, showing improvement over the previous four quarters.
- b. **Kharif Production:** Total crop production is **estimated at a record 1647.05 lakh metric tonnes**, higher by 5.7% compared to 2023-24 and 8.2% higher than the average of the past five years.
- c. **Monsoon Impact:** Normal rainfall in 2024 improved water levels in reservoirs, ensuring enough water for farming during the next crop season. As of January 2025, more wheat and gram were planted compared to the previous year.

• Manufacturing:

- **H1 F Y25 Growth:** The industrial **sector grew by 6% in the first half of FY25**, with Q1 seeing strong growth of 8.3%. However, growth slowed in Q2 due to weak global demand, seasonal factors, and festival timing.

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- **Recovery Expectations:** Despite challenges, India's manufacturing growth is the fastest. Expectations of recovery in sectors like cement, iron, and steel after the rainy season are high, with mining and electricity expected to normalize after rain-related disruptions.

Geopolitical Uncertainties:

- a. **Risks:** Political risks are high due to ongoing conflicts, affecting global economic outlooks.
- b. **Trade Disruptions:** Disruptions in trade through important **shipping routes like the Suez Canal have led to higher shipping costs**, affecting global trade.
- c. Problems in global shipping, like delays in the **Red Sea and Panama Canal, have pushed up goods prices and pressured global supply chains. This** is shown by higher levels of the Global Supply Chain Pressure Index (GSCPI) in the quarter ending September 2024.
- d. **Trade Uncertainty:** The World Trade Uncertainty Index has risen, driven by trade tensions and policy changes in major economies. The number of trade restrictions within G20 countries continues to grow, affecting 12.7% of G20 imports, posing risks to global economic growth.

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- **Services Sector Performance:**

- **Growth in H1 FY25:** The services sector did well in the first half of FY25, growing by 7.1%.
- **Sub-Sectors:** All parts of the services sector have done well.
- **High-Frequency Indicators (HFIs):** Services PMI has been in the growth zone, supported by new orders, higher output, better sales, and more jobs.
- **Hospitality Sector:** Did well with hotel occupancy rates similar to the previous year. Average daily rates and revenue per room increased due to more business and leisure travel.
- **Air Cargo and Port Traffic:** Air cargo activity grew strongly, while port traffic remained stable.
- **Information Technology (IT):** IT companies did better than the previous quarter.

- **GDP Growth:**

- **Q1 and Q2 FY 25:** India's GDP grew by 6.7% in Q1 and 5.4% in Q2 FY25, resulting in a real GDP growth of 6.0% in the first half of the current fiscal year.
- **Private Final Consumption Expenditure (PFCE):** Grew by 6.7% YoY in H1 FY 25. Rural demand contributed significantly to private spending growth, as shown by sales of two-wheelers, three-wheelers, and tractors.

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- **Rural Economic Conditions:** NABARD's survey reported that 78.5% of rural households increased their spending over the last year.
- **Urban Demand:** Mixed trends with slower growth in passenger vehicle sales but steady growth in air travel.

Gross Fixed Capital Formation (GFCF):

- a. **Growth in H1 FY25:** Slowed from 10.1% in H1 FY24 to 6.4% in H1 FY25.
- b. **Capital Expenditure:** Slowed across different levels of government due to elections and weak private investment.
- c. **Residential Investment:** Slowed in Q2 FY25, showing market normalization after a period of strong performance.
- d. **Green Shoots:** Government spending on infrastructure increased by 8.2% in July – November 2024. RBI's survey shows capacity utilization above the long-term average.

Trade and Remittances:

- a. **Merchandise Exports:** Grew by 1.6% YoY in April – December 2024, with non-petroleum exports up by 7.1%.
- b. **Merchandise Imports:** Rose by 5.2%, driven by non-oil, non-gold imports and gold

imports.

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- c. **Services Trade Surplus:** Helped balance the overall trade deficit. India has the **7th-largest share in global services exports.**
- d. **Remittances:** India received the most money from abroad, driven by job creation in developed countries. **(129 bn USD)**
- e. **Current Account Deficit (CAD):** Contained at 1.2% of GDP in Q2 FY 25.

Fiscal Management:

- a. **General Government Dis-savings:** Better control has helped macro-stability.
- b. **Union Government:** Improved fiscal discipline with a strong focus on capital expenditure.
- c. **State Finances:** Tax revenue of the central government and states' own tax revenue increased at a similar pace. Increased tax sharing by the central government improved the overall tax revenue position of state governments.

Inflation Trends:

- d. **Retail Headline Inflation:** Dropped from 5.4% in FY24 to 4.9% in April – December 2024.
- e. **Core Inflation:** Dropped by 0.9 percentage points between FY24 and April – December 2024.

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f. **Food Inflation:** Increased from 7.5% in FY24 to 8.4% in FY25 (April-December), driven by vegetables and pulses.

- **Financial Sector Prospects:**

- **Credit Disbursal:** Growing strongly but has recently slowed.
- **Stability Indicators:** Declining bad loans, strong capital buffers, and good operational performance. Bad loans declined to a 12-year low of 2.6%.
- **Capital-to-Risk-Weighted Assets Ratio (CRAR):** Stands at 16.7% as of September 2024.
- **Profitability:** Banks' profits surged by 22.2% YoY in H1 FY25.

- **Labour Market:**

- **Unemployment Rate:** Dropped from 6% in 2017-18 to 3.2% in 2023-24.
- **Labour Force Participation Rate (LFPR) and Worker-to-Population Ratio (WPR):** Both increased.
- **Formal Sector Growth:** Net EPFO subscriptions more than doubled from 61 lakh in FY19 to 131 lakh in FY24.
- **Technological Developments:** AI integration offers chances to boost productivity and create jobs. **ADDRESS:**



Outlook and Way Forward:

- a. **Growth Trajectory:** Steady but varies by region. Services sector drives global growth.
- b. **Inflationary Pressures:** Easing globally but risks remain due to political issues.
- c. **Monetary Policies:** More supportive but varies by region.
- d. **Domestic Outlook:**
 - i. **Rural Demand:** Recovering, which is good for spending.
 - ii. **Investment Activity:** Expected to increase, supported by higher government spending and better business expectations.
 - iii. **Food Inflation:** Likely to ease in Q4 FY25 with seasonal drops in vegetable prices and crop arrivals.
 - iv. **Growth Prospects:** Expected growth in FY26 between 6.3% and 6.8%.

CONCLUSION

The global economic landscape in 2024 is characterized by moderate growth, influenced by geopolitical tensions, supply chain disruptions, and climate-related shocks. Advanced economies have shown resilience, while Asia faces challenges due to domestic issues and weak global demand. The services sector remains a bright spot, with manufacturing showing signs of recovery. Inflation is easing, but risks persist due to ongoing geopolitical tensions and commodity price volatility.

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MCQs

1. Consider the following statements wrt NAVIC and mark the correct one:
1. It is a constellation of 7 satellites, all of them deployed in the Geostationary orbit.
 2. NAVIC can cover 1500 km from east & west of India.

- (A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2

Ans. (B)

2. Which of the following are the applications of NAVIC?

1. Location Services
2. Resource Mobility
3. National Security

- (A) Only 1
(B) Only 1 & 2
(C) Only 1 & 3
(D) All of the above

Ans. (D)

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3. Consider the following statements wrt Remittances received by India in 2024 and mark the correct one:

1. It was the highest ever remittance received by India.
2. Majority of remittances came from the developed countries.

- (A) Only 1
(B) Only 2
(C) Both 1 & 2
(D) Neither 1 nor 2



Ans. (C)

4. The term Core Inflation refers to which of the following?

- (A) Retail Inflation
(B) Wholesale Inflation
(C) Retail inflation minus food inflation
(D) Retail Inflation minus food & fuel inflation

Ans. (D)

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