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DAILY pre PARE
Current affairs summary for prelims

23 July, 2024

Economic Survey 2024

Context: *Finance Minister Nirmala Sitharaman presented the Economic Survey 2023-24 in Parliament a day before delivering a record seventh union budget.*

- **Definition**: An annual document assessing the previous year's economic performance and forecasting the next fiscal year's outlook.
- **Purpose**: Reviews the economy's performance, current status, growth prospects, challenges, and policy recommendations.
- **Preparation**: Compiled by the Chief Economic Advisor of India and presented one day before the Union Budget.

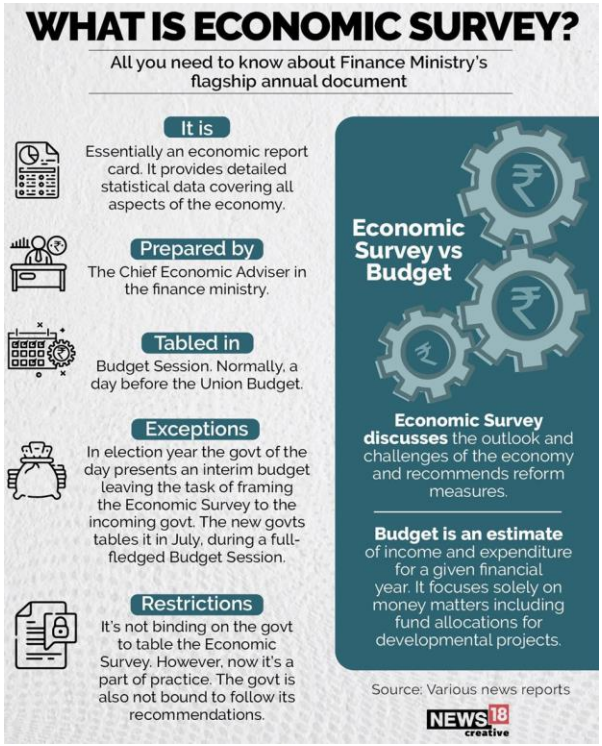
Highlights of the Economic Survey 2024

- **GDP Growth**: India's real GDP grew by 8.2% in FY 2023-24. For FY 2024-25, the projected growth is between 6.5% and 7%.
- **Gross Fixed Capital Formation**: This increased by 9% in real terms during FY 2023-24.
- **Retail Inflation**: Inflation fell to 5.4% during FY 2023-24.
- **Economic Resilience**: The Indian economy remained stable despite geopolitical challenges.
- **Current Account Deficit**: The deficit improved to 0.7% of GDP, down from 2% the previous year.

Summary of Economic Survey 2024

- **Economic Outlook**: The survey presents a positive view of the economy, highlighting a solid post-COVID recovery.
- **GDP Growth**: The economy expanded by 20% from 2020 levels, and strong growth is anticipated to continue beyond FY 2024-25.
- **Employment Landscape**:
  - Per capita income is projected to reach Rs.14.9 lakh by 2047.
  - Currently, 57.3% of the workforce is self-employed, and 18.3% work as unpaid household workers.
  - Major factory employment is concentrated in Tamil Nadu, Gujarat, and Maharashtra.
  - Factories with fewer than 100 employees are improving in their contribution to employment.
  - Net payroll additions to EPFO more than doubled from FY 2018-19 to FY 2023-24.
  - PLI Schemes have created 8.5 lakh jobs with Rs.1.28 crore in investments.
  - Restrictions on women's participation in certain factory processes remain, while rural wages increased above 5% YoY due to strong agriculture growth.
- **Monetary Management:**
  - Bank credit growth reached ₹164.3 lakh crore, growing by 20.2% in FY 2023-24.
  - The GNPA ratio decreased to 2.8%, marking a 12-year low.
  - The GNPA ratio for the agriculture sector remained high at 6.5% but showed improvement in the second half of FY 2023-24.
  - Lending by non-banking financial companies (NBFCs) accelerated, and their asset quality improved.
- **Price and Inflation:**
  - Retail inflation was effectively managed at 5.4%.
  - Food inflation rose due to adverse factors.
  - The RBI increased the repo rate by 250 basis points since May 2022 to address inflationary pressures.
- **External Sector:**
  - The trade openness indicator increased to 45.9.
  - India's share in global goods exports rose to 1.8%, while its share in global services exports increased to 4%.
  - India is now the seventh-largest services exporter globally.
  - There was a significant rise in technology start-ups, with EdTech being the leading sector.
- **Climate Change and Energy Transition:**
  - Solar power capacity increased to 82.64 GW.
  - The Carbon Credit Trading Scheme regulations were notified.
  - India achieved 40% of its installed energy generation from non-fossil fuels.
- **Social Sector:**
  - Compliance with CSR obligations has been growing, with annual spending exceeding ₹25,000 crore.
  - Enrolment in higher education has increased, with notable growth in female enrolment.
  - There has been rapid progress in R&D, with nearly one lakh patents granted.
  - The National Institute of Nutrition is promoting healthy eating due to rising obesity rates.
- **Agriculture and Food Management:**
  - The agriculture sector has grown at an average rate of 4.18% over the last five years.
  - It supports 42.3% of the population and contributes 18.2% to GDP.
  - Total credit disbursed to agriculture amounted to ₹22.84 lakh crore, with the Kisan Credit Card (KCC) improving access to agricultural credit.
- **Industry: Small and Medium Enterprises:**
  - MSMEs contributed 35.4% to manufacturing output.
  - The Udyam Registration portal has registered 4.69 crore MSMEs.

- **Service Sector:**
  - The services sector accounted for about 55% of the economy.
  - Services exports represented 44% of total exports in FY 2023-24.
  - FDI equity inflows to the services sector declined.
- **Infrastructure Sector:**
  - Significant investments have been made in road, rail, air, and digital infrastructure.
  - The Central and State Governments contributed 49% and 29% of the total investments, respectively, while the private sector contributed 22%.

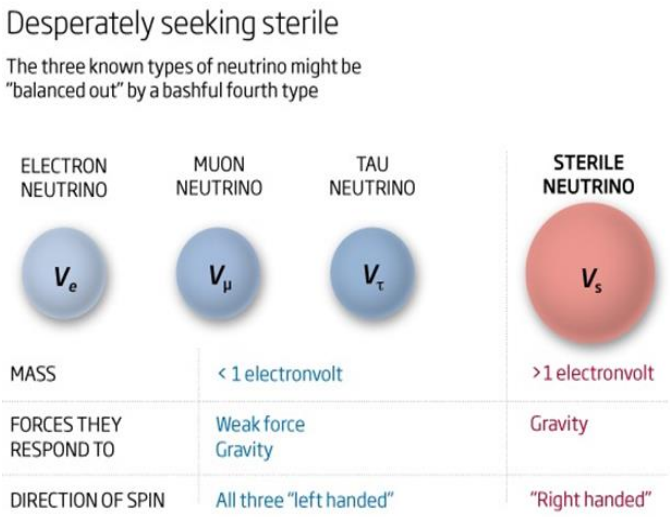


Neutrinos

***Context**: Researchers reported for the first time observing electron-neutrinos in the Large Hadron Collider during an experiment.*

About Neutrinos

- **Definition**: Neutrinos are subatomic particles similar to electrons but lack an electrical charge and may have a very small or zero mass.
- **Prevalence**: Neutrinos are among the most common particles in the universe.
- **Interaction**: They interact very weakly with matter, making them extremely difficult to detect.
- **Nuclear Forces:** Neutrinos, like electrons, are affected by the weak nuclear force but not the strong nuclear force. This trait categorizes them as leptons.
- **Other Leptons:** Besides electrons, there are muons and taus, which are much heavier (200 and 3,500 times the mass of an electron, respectively). Each has corresponding neutrinos—muon-neutrinos and tau-neutrinos.
- **Neutrino Oscillation:** The transition between different types of neutrinos is known as neutrino oscillation.



Discovery of Neutrinos

- **Initial Hypothesis:** Wolfgang Pauli proposed the existence of neutrinos in 1930 to address issues with energy and angular momentum conservation in beta decay.
- **First Detection:** Neutrinos were first discovered by Clyde Cowan and Frederick Reines in 1955 when they observed antineutrinos from a nuclear reactor.

Sources of Neutrinos

- **Natural Sources:** Neutrinos are produced by the radioactive decay of primordial elements within the Earth, resulting in a flux of low-energy electron-antineutrinos.
- **Solar Neutrinos:** Fusion reactions in the sun release neutrinos that account for about 2% of the sun's energy.
- **Supernovae: N**eutrinos are crucial in supernovae, where they penetrate the dense material of collapsing stars, with only a small fraction of the energy being converted to light.

India-Based Neutrino Observatory

- **Location**: The India-based Neutrino Observatory is planned for the Theni area in Tamil Nadu.
- **Objective**: A research project is being set up in a cave 1,200 meters (3,900 feet) deep to study atmospheric neutrinos.
- **Primary Experiment:** The main experiment proposed is the Iron-Calorimeter Detector (ICAL).

- **Why the Mountain is Necessary for INO**
  - **Filtering Cosmic Rays:** The mountain's 1 km of solid rock filters out most charged particles from cosmic rays.
  - **Neutrino Detection:** Only a portion of cosmic ray protons, pions, and nearly all neutrinos pass through the rock.
- **How the Iron Calorimeter Detects Neutrinos**
  - **Detector Structure:** The Iron-Calorimeter Detector (ICAL) consists of 150 alternating layers of iron slabs.
  - **Interaction**: When a muon-neutrino interacts with the iron, it produces a charged muon.
  - **Detection**: Sensitive components detect the charge of the muon.
  - **Analysis**: By tracing the muon's path and analyzing the detected pulses, scientists can infer the properties of the original neutrino

India's Deep Ocean Mission

Context: *The National Centre for Polar and Ocean Research (NCPOR) is building a new research vessel to explore the Indian Ocean for rare minerals and metals as part of India's Deep Ocean Mission.*

- **Overview**: Launched in 2021, India's first manned ocean mission, "Samudrayaan," is led by the Ministry of Earth Sciences (MoES).
- **Objectives**: The mission aims to explore deep-sea environments and mine rare minerals like polymetallic manganese nodules, gas hydrates, hydrothermal sulfides, and cobalt crusts from depths between 1,000 and 5,500 meters.
- **Coordination**: Managed by the National Institute of Ocean Technology (NIOT) under MoES.
- **Site Allocation:** India has been granted a 75,000 sq km area in the Central Indian Ocean Basin by the International Sea Bed Authority (ISA) for polymetallic nodule exploration under a 15-year contract.
- **Resource Potential:** Preliminary studies estimate 380 million tonnes of polymetallic nodules, containing manganese, nickel, copper, and cobalt.
- **Mission Components:**
  - Development of deep-sea mining technologies and manned submersibles.
  - Ocean climate change advisory services.
  - Sustainable marine bio-resource usage technologies.
  - Deep ocean survey and exploration.
  - Ocean energy production and offshore desalination.
  - Advanced marine biology stations.

➢ Deep-Sea Vehicle Matsya

- **Description**: Matsya 6000 is a manned submersible capable of exploring depths up to 6,000 meters.
- **Specifications**: Developed by ISRO and NIOT, the vehicle is made of titanium alloy, has a 2.1-meter diameter, and an endurance of 12 hours.
- **Testing**: Underwent shallow water tests in 2022-23 and will be ready for qualification trials by 2024. It has also been tested in the Bay of Bengal.
- **Functions**: Used for high-resolution bathymetry, biodiversity assessment, geoscientific observation, salvage operations, and engineering support.
- **Global Comparison:** China's Fendouzhe submersible reached 11,000 meters in 2020.

➢ Significance of Deep Ocean Mission

- **Impact**: Promotes growth in exploring ocean resources for clean energy, drinking water, and the blue economy.
- **Program Scope**: A multi-ministerial and multi-disciplinary initiative focusing on developing deep-sea technology, manned submersibles, research vessels, and marine biology.
- **Global Standing:** The success of Samudrayaan would position India as a leader among developing nations in deep ocean exploration.

NEWS IN BETWEEN THE LINES

Godavari River

Recently, water levels of river Godavari have reached 51.10 feet at Bhadrachalam in Telangana.

About the Godavari River:

- The Godavari River is the **second-longest river in India after the Ganges**, with a length of about 1,465 km.
- It is often **referred to as the 'Dakshina Ganga' or 'Ganga of the South'** due to its length and cultural importance.
- It originates in the Western Ghats **near Trimbak in the Nashik** district of **Maharashtra**.
- This river has many tributaries, including the **Pravara**, **Manjira** and Maner **on the right bank** and the **Purna**, **Pranhita**, **Indravathi** and Sabari **on the left bank**.
- The river **flows eastward across the Deccan Plateau** through the states of **Maharashtra**, **Telangana**, **Andhra Pradesh, Chhattisgarh** and **Odisha** before emptying into the **Bay of Bengal.**

- Important dams and projects on the Godavari include the **Jayakwadi** Dam, **Sriram Sagar Project** and **Polavaram Project**.
- The **Nashik Kumbh Mela** (it takes place every after 12 years), also known as the Nashik-Trimbak Kumbh Mela, is held on the banks of the Godavari River in the Nashik district of Maharashtra.

Carbon Border Adjustment Tax

Recently, the Economic Survey echoed the Centre's concerns on "protectionism" and noted that the European Union's proposed Carbon Border Adjustment Tax (CBAT) "went against the spirit of the Paris Agreement".

About the Carbon Border Adjustment Tax:

- The Carbon Border Adjustment Tax (CBAT), also **known as a Carbon Border Adjustment Mechanism** (CBAM), is a **proposed tariff on carbon-intensive products** imported into the **European Union (EU).**
- Its primary **goal is to prevent carbon leakage**, where companies relocate production to countries with less stringent climate policies, thereby undermining global climate efforts.
- It is intended to put a **fair price on the carbon emitted** during the production of these goods, and to **encourage cleaner industrial production** in non-EU countries.
- It was **passed by the European Parliament in May 2023** and is set to **take effect in 2026**, with reporting starting in 2023.
- It will initially cover specific products in some of the most carbon-intensive sectors, such as **steel**, **cement,** fertilizers, aluminum and some electricity.
- It is **part of the European Green Deal**, which aims to make Europe the first climate-neutral continent by **2050**.
- According to the Global Trade Research Initiative report, India is among the top eight countries that will be adversely affected by the Carbon Border Adjustment Mechanism,
- In **2022, 27%** of India's exports of iron, steel and aluminium products **worth $8.2 billion** went to the EU.

Competition Commission of India

Recently, the Competition Commission of India (CCI) has scrutinized the Reliance-Disney merger, asking about 100 questions.

About the Competition Commission of India:

- The Competition Commission of India (CCI) is an **independent statutory** and **antitrust body** of the Indian government.
- It was **established under the Competition Act, 2002,** which **replaced the Monopolies** and **Restrictive Trade Practices Act, 1969.**
- Its main goal is to create a **competitive business environment**, **protect consumers** and small businesses and **ensure freedom of trade.**
- It **investigates** and **takes action against anti-competitive practices**, such as abuse of dominance, **anti-competitive agreements** and combinations that could lead to monopolies or restrict competition.
- It can **imposes penalties** for unfair trade practices and **violations of competition norms**.
- The Commission **consists of one Chairperson** and **six Members**, all of whom are **appointed by the Central Government.**
- Its headquarter is located in **New Delhi.**

Genetically Modified Pig

Recently, a genetically modified pig seen that was housed inside a protective barrier at a United Therapeutics pathogen-free facility in Christiansburg, Virginia with the aim of supplying organs for clinical trials.

About:

- Genetically modified pigs (GMO pigs) are pigs whose **genetic material has been altered** to have certain traits that don't occur naturally.
- They can be **used to produce organs for human transplants,** as well as **human hemoglobin** (Hb) for use as a blood substitute.
- They can also be used to **model human diseases**, such as **cardiovascular diseases**, **cancers**, diabetes, **Alzheimer's**, **cystic fibrosis** and **Duchenne muscular dystrophy**.
- These pigs can be used in a variety of research studies, such as studying myocardial injury and xenotransplantation.
- The first **gene-edited pig organs were transplanted from pigs** bred on a secure research farm in the **Blue Ridge Mountains**.
- The U.S. has conducted **four "compassionate** use" transplants (two hearts, two kidneys) with gene-edited pig organs.

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Personality in News
Chandra Shekhar Azad

Today, on 23rd of July 2024, the Prime Minister of India paid tribute to renowned freedom fighter and revolutionary Chandra Shekhar Azad on his birth anniversary.

Chandra Shekhar Azad (23 July 1906 – 27 February 1931):

Chandra Shekhar Sitaram Tiwari, an Indian revolutionary, popularly known as Chandra Shekhar Azad was born in Bhabhra village in the princely-state of Alirajpur, Madhya Pradesh.

Contributions:

- Chandra Shekhar Azad **joined a Non-Cooperation Movement** in December **1921** at the age of **15 years.**
- After the suspension of the Non-Cooperation Movement, **Azad joined the Hindustan Republican Association (HRA)**, a revolutionary organization estab lished in 1924.
- He worked alongside prominent revolutionaries such as **Bhagat Singh, Ram Prasad Bismil**, **Ashfaqulla Khan** and **Rajendra Lahiri**.
- He played a key role in the **Kakori Train Robbery of 1925**, which was a significant event to fund revolutionary activities.
- In **1928**, the Hindustan Republican Association was **reorganized into the Hindustan Socialist Republican Association** (HSRA) with Azad, Bhagat Singh, **Sukhdev Thapar** and others as key members.
- The **Hindustan Socialist Republican Association**, **under Azad's leadership,** planned and executed the shooting **of J.P. Saunders in 1928** to avenge the death **of Lala Lajpat Rai.**

Place in News
Egypt

Recently, External Affairs Minister Dr. S. Jaishankar noted that India's longstanding relationship with Egypt has intensified in recent years.

Egypt (Capital: Cairo)

Location: Egypt is a transcontinental country located in the northeast corner of Africa and the Sinai Peninsula in **Western Asia.**

Boundaries: Egypt shares its borders with **Israel** and the **Red Sea** (East), **Libya** (West), **Mediterranean Sea** (North) and **Sudan** (South).

Physical Features:

- The highest point in Egypt is Mount **Catherine**, also known as **Jebel Katherin.**
- The **Nile River**, the world's longest river, flows through Egypt.
- Large parts of Egypt are covered by the **Sahara Desert**.
- Egypt has several plateaus and mountainous regions, including the **Gilf Kebir Plateau** and the **Red Sea Mountains**.
- Egypt has significant deposits of **phosphate**, **gold**, **iron ore**, **manganese**, limestone, gypsum, clay and salt.

Membership: Egypt is a member of the **United Nations, African Union, Arab League**, **World Bank, International Monetary Fund** and the Non-Aligned Movement.

POINTS TO PONDER

- Which two water bodies are separated by Adam's Bridge? **– Gulf of Mannar and Palk Strait**
- Which country recently declared an animal health emergency due to a Newcastle disease case? **– Brazil**
- Which organizations are responsible for implementing the Modified Interest Subvention Scheme (MISS)? **– NABARD and RBI**
- Which organization developed the Pralay Missile? **– DRDO (Defence Research and Development Organisation)**
- In which city was the National Landslide Forecasting Centre recently inaugurated? **– Kolkata**