



# Daily Current Affairs



## To The Point

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## 1 Earth's Inner Core is Undergoing Structural Changes

**Context:** A recent study published in **Nature Geoscience** has revealed that **Earth's inner core is undergoing structural changes**, challenging previous assumptions about its stability and composition. Scientists have observed that **the inner core is not as rigid as once believed** and that **its rotation is slowing down**, which could have implications for Earth's day-length and internal dynamics.



### Key Insights from the Study:

#### How Was the Study Conducted?

- **Seismic Waves Analysis:** Researchers used **seismic waves (shockwaves from earthquakes)** to study the Earth's internal layers.
- These waves travel through different layers of Earth, similar to how **CT scans** help visualize the human body's internal structures.

#### Major Observations:

- Previously, scientists assumed that the **inner core was solid and rigid**, but the new study suggests it is **softer near the surface**.
- The **molten outer core** is influencing the **solid inner core**, potentially **altering its rotation** and **impacting Earth's day-length**.
- It was earlier believed that the **inner core rotates independently** due to its interactions with the mantle. However, this new research indicates that **its rotation is slowing down** over time.

### Understanding Earth's Layers:

#### 1. Crust – The Outer Shell:

- The **thinnest layer** (35 km on continents, 5 km on ocean floors).
- **Continental Crust:** Made of **silica and alumina (SIAL)**.
- **Oceanic Crust:** Made of **silica and magnesium (SIMA)**.

#### 2. Mantle – The Middle Layer:

- Extends from the **Moho's discontinuity** to **2,900 km deep**.
- **Asthenosphere (Upper Mantle, up to 400 km deep):** A semi-molten layer, **source of magma**.
- **Lithosphere:** Includes the **crust and upper mantle**, with a thickness of **10-200 km**.
- **Lower Mantle:** Solid and extends beyond the asthenosphere.

#### 3. Core – The Deepest Layer:

- Begins at **2,900 km depth** and has **extremely high temperature and pressure**.
- Composed of **nickel and iron (NiFe layer)**.

#### Outer Core:

- In a **liquid state**.
- Known for its **turbulence**, which generates Earth's **magnetic field**.

**Inner Core:**

- Previously believed to be **rigid and solid**, but **new findings suggest it has a softer surface**.
- The **turbulent outer core was thought to have little impact on the inner core**, but the latest research indicates **it may influence its motion and rotation**.

**Why Are These Findings Important?**

- **Changes in Core Rotation:** The slowing rotation of the inner core could impact **Earth's day-length** over long periods.
- **New Understanding of Earth's Dynamics:** The interaction between the inner and outer core challenges traditional models of Earth's structure.
- **Geophysical Implications:** These findings could help scientists **better understand seismic activities, magnetic field variations, and long-term planetary changes**.

This research **redefines our knowledge of Earth's inner workings** and paves the way for **further studies on planetary evolution and deep-Earth processes**.



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## Could Trump Break the Capital Controls Taboo with a Tobin Tax?

**Context:** The topic of **investment barriers** has traditionally been avoided by U.S. policymakers, driven by concerns that even discussing such measures could spark panic in the global financial market. However, under **Donald Trump's economic agenda**, the conversation around **restrictions on inward investment** has become more open, signaling a potential shift in how the U.S. handles its relationship with foreign capital.

**Understanding Investment Barriers:**

Investment barriers are factors that hinder access to markets or the ability to make investments. These can include:

- **Financial Barriers:** High costs, large capital requirements, and illiquidity.
- **Regulatory Barriers:** Government restrictions, high taxes, and legal limitations.
- **Psychological Barriers:** Risk aversion, lack of knowledge, and behavioral biases.

**Trump's Zero-Sum Trade View:**

Trump's economic strategy is often described through a **zero-sum lens**, viewing **international trade** as a competition where gains by one nation come at the expense of another. His administration has sought to address **U.S. trade deficits**, which he believes arise from countries undervaluing their currencies to gain an advantage in trade. According to this view, countries with trade surpluses tend to **invest their savings** in **U.S. assets**, which increases the value of the dollar and, in turn, worsens U.S. trade competitiveness by making American goods more expensive abroad.

**Tariffs as a Tool:**

To reduce the trade deficit, Trump has used **tariffs** as an economic weapon, imposing them on imports to incentivize local production and reduce reliance on foreign goods. However, this strategy has led to an unintended consequence: a **stronger dollar**. While tariffs are meant to limit imports, the increase in the dollar's value worsens the trade balance and further reduces the competitiveness of U.S. manufacturing.

The **core issue**, as critics argue, is the **relentless global demand for U.S. assets**, which sustains the dollar's strength and increases the trade deficit. **Tariffs**, then, do not address the underlying cause.

**Enter the Tobin Tax:**

To combat the growing trade deficit and capital inflows, **James Tobin's idea** of a **Tobin tax**—a tax on currency transactions—has been revisited. Initially proposed in the **1970s**, the Tobin tax aims to **slow down excessive cross-border capital flows**, particularly those driving the **overvaluation of the U.S. dollar**. The goal would be to impose a tax on **foreign investment** coming into the U.S. to curb the financial inflows that exacerbate the dollar's strength and worsen the trade deficit.

**Tobin Tax: A Tool to Regulate Capital Flows:****The Tobin tax would:**

- **Impose a levy** on **currency transactions**, potentially reducing the speed of speculative capital movements.
- **Generate substantial revenue** without significantly reducing the volume of global capital flows, making it an attractive alternative to tariffs.





- Help **manage capital inflows** and prevent the dollar from becoming too strong, which could mitigate trade imbalances.

Some economists believe a **Tobin tax** would be a more effective tool than tariffs for addressing the **trade deficit**. By taxing cross-border capital flows, it would reduce the incentive to invest in U.S. assets purely for speculative reasons, without significantly hurting productive foreign investment.

### Potential Risks of the Tobin Tax:

However, imposing a **Tobin tax** or similar **capital controls** could have significant risks and negative consequences:

1. **Impact on the Dollar:** The mere suggestion of restrictions on foreign investment could lead to a **sharp decline in the dollar's value**, destabilizing both the **U.S. financial markets** and the broader **global economy**.
2. **Impact on U.S. Markets:** A **restriction on foreign investment** could result in a **massive downturn in U.S. stock and bond markets**, causing significant **economic disruption**. Many U.S. companies rely on foreign capital for growth and expansion, and a sudden reduction in investment could lead to **market instability** and **lower corporate valuations**.

### Conclusion: A Bold Shift or Dangerous Gamble?

Would Donald Trump break the **capital controls taboo** by imposing a **Tobin tax**? While the idea of taxing cross-border capital flows could provide a way to address the trade deficit without resorting to tariffs, it also carries substantial risks. The **strong dollar** has been a double-edged sword for the U.S. economy, benefitting investors while hurting manufacturing competitiveness. By taxing foreign investment, Trump could attempt to slow this cycle, but the **potential consequences**—from **dollar devaluation** to **market turmoil**—could outweigh the benefits.

Whether or not Trump will push forward with such a drastic measure remains uncertain, but his **zero-sum view of trade** and the ongoing challenges of balancing the **current account** suggest that **capital controls** may not be entirely off the table in his economic policy toolkit.

TOGETHER WE SCALE HEIGHTS

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## Should Convicted Persons Be Allowed to Contest Elections?

**Context:** The **Supreme Court of India** is currently hearing petitions demanding a **lifetime ban** on convicted individuals from contesting elections. This debate raises critical questions about **legal provisions**, **judicial precedents**, and the broader implications of **criminalization in politics**.

### Legal Provisions Under the Representation of the People Act, 1951:

#### Disqualification Based on Conviction:

- **Section 8(3):** A person convicted of a criminal offense and sentenced to **at least two years of imprisonment** is **disqualified** from contesting elections.
- This **disqualification period lasts for six years** after the person's release from prison.

#### Disqualification for Specific Offenses:

- **Section 8(1)** mandates automatic disqualification for certain serious crimes, irrespective of the sentence length. These include:
  - **Rape**
  - **Offenses under the Protection of Civil Rights Act (Untouchability)**
  - **Unlawful Activities (Prevention) Act (UAPA)**
  - **Prevention of Corruption Act**
- The **disqualification extends for six years beyond release from prison**.

#### Election Commission's Power to Remove Disqualification:

- **Section 11:** The **Election Commission (EC)** has the authority to **reduce or remove** the disqualification period.
- **Controversy:** In **2019**, the EC **reduced the disqualification period** of **Prem Singh Tamang**, allowing him to contest elections despite a **corruption conviction**.

#### Key Supreme Court Judgments on Decriminalization of Politics:

##### Association for Democratic Reforms (ADR) Case (2002):

- **Mandated candidates to disclose their criminal records** while filing nominations.
- Strengthened **voter awareness** and **transparency** in elections.

##### CEC vs. Jan Chaukidar (2013):

- The **Patna High Court** ruled that **undertrial prisoners** are **not eligible to contest elections** since they are not 'electors.'
- The **Supreme Court upheld** this ruling, but **Parliament later overturned it** through an amendment.

##### Lily Thomas Case (2013):

- The Supreme Court **struck down Section 8(4)** of the RP Act, which previously allowed convicted legislators to **continue in office** if they filed an appeal.
- As a result, a **sitting legislator is now immediately disqualified** upon conviction.

#### Arguments For a Lifetime Ban on Convicted Politicians:



**1. Strengthening Electoral Integrity:**

- Politics should be free from **criminal influence**.
- Ensuring **clean governance** promotes **public trust in democracy**.

**2. Preventing Misuse of Power:**

- Convicted individuals may use **political influence** to manipulate legal proceedings.
- A **lifetime ban discourages the misuse of legal loopholes**.

**3. Global Best Practices:**

- Many democracies impose strict disqualification rules on **convicted politicians**.
- **India, as the world's largest democracy, should set a strong precedent.**

**Arguments Against a Lifetime Ban on Convicted Politicians:****1. Right to Rehabilitation:**

- A **lifetime ban violates the fundamental right** to seek public office after serving a sentence.
- Other professionals (doctors, lawyers, bureaucrats) **do not face lifetime bans** for convictions.

**2. Judicial Delays and Misuse:**

- **False cases and politically motivated convictions** are common in India.
- A lifetime ban could be misused to **eliminate political rivals**.

**3. Existing Laws Already Ensure Disqualification:**

- **Current disqualification rules** (six-year ban after release) **strike a balance** between punishment and rehabilitation.

**Conclusion: The Need for a Balanced Approach**

The debate over whether convicted individuals should face a **lifetime ban from elections** is complex. While **preventing criminal elements from entering politics** is crucial, a **blanket lifetime ban may be excessive and prone to misuse**. A potential **middle path** could involve:

- **Stricter scrutiny of cases involving serious crimes like corruption and sexual offenses.**
- **Enhanced judicial safeguards to prevent misuse** of disqualification provisions.
- **Public accountability mechanisms** to ensure greater **transparency** in candidate selection.

As the Supreme Court deliberates on this issue, its verdict will shape the future of **ethical governance and electoral democracy in India**.

## 4 India's Obscenity Laws: Ranveer Allahbadia Case & Legal Perspectives

**Context:** The Mumbai Police have initiated an investigation into YouTuber Ranveer Allahbadia, comedian Samay Raina, and Apoorva Makhija for allegedly making obscene remarks on the YouTube show *India's Got Latent*. The case has sparked discussions on obscenity laws, free speech, and digital content regulation in India.



### Obscenity Laws in India:

#### Section 294 – Punishment for Obscene Material:

- Prohibits the **sale, import, export, advertisement, or profit** from obscene content (books, paintings, electronic media, etc.).
- Defines obscene material as anything **lascivious, excessively sexual, or corrupting** to viewers.
- Punishment:** Up to **2 years imprisonment** and a fine of up to **5,000** (first offense).

#### Obscenity in Digital Spaces: Section 67 of the IT Act, 2000:

- Punishes** the **publishing or transmission** of obscene material online.
- Uses the **same obscenity definition** as Section 294.
- Punishment:** Up to **3 years imprisonment** and a fine of **5 lakh** (first offense).

### Evolution of the Court's Understanding of Obscenity:

#### Early Rulings: The Hicklin Test

- Ranjit D Udeshi v. State of Maharashtra (1964):** The Supreme Court ruled that the novel *Lady Chatterley's Lover* was obscene.
- Based on the **Hicklin test** (UK, 1868), which judged material by whether it could "deprave and corrupt" vulnerable individuals.

#### International Shifts in Obscenity Laws:

- UK (1959):** Introduced the **Obscene Publications Act**, requiring works to be judged "as a whole."
- US (Roth v. United States, 1957):** Adopted the **community standards test**, assessing material based on contemporary social norms.

#### India's Shift to the Community Standards Test:

- Aveek Sarkar v. State of West Bengal (2014):** The Supreme Court ruled that **obscenity must be assessed in context**, rejecting the **Hicklin test**.
- Example: A **nude photograph** of Boris Becker and his fiancée was **not** considered obscene, as the content was judged based on **evolving community standards**.

### Obscenity in Online Content: Court Rulings

#### Supreme Court Ruling on *College Romance* (March 2024):

- The court **quashed obscenity charges** against the makers of the web series *College Romance* under **Section 292 IPC** and **Section 67 IT Act**.
- Key Arguments:**
  - Obscenity ≠ Profanity:** Foul language alone does not constitute obscenity.



- **Context Matters:** Obscenity must arouse sexual or lustful thoughts, which the show did not.

## Application of the Community Standards Test:

- The **court ruled** that language reflecting **anger, frustration, or humor** is not inherently obscene.
- Set a **precedent for online content**, making it **harder for authorities to misuse obscenity laws**.

## Ranveer Allahbadia Controversy: Legal Charges & Implications

### The FIR Against Ranveer Allahbadia & Others:

- Mumbai Police have filed an **FIR against YouTuber Ranveer Allahbadia**, comedian **Samay Raina**, and **Apoorva Makhija**.
- The controversy stems from **alleged offensive remarks** made on *India's Got Latent*, targeting the **Indian family system and religious sentiments**.

### Legal Provisions Invoked:

Section	Description	Punishment
<b>Section 79</b>	Insulting the modesty of a woman through words or gestures.	Up to <b>3 years imprisonment</b> + fine.
<b>Section 196</b>	Promoting enmity between groups based on religion, race, etc.	Up to <b>3 years imprisonment</b> , fine, or both.
<b>Section 296</b>	Publicly performing obscene acts, songs, or words.	Up to <b>3 months imprisonment</b> , fine, or both.
<b>Section 3(5)</b>	If multiple people act with a common intent, all are equally liable.	Punishment based on the offense committed.

### Key Allegations:

- **Demeaning Indian family values** and **offending religious sentiments**.
- **Inappropriate discussions on sex and parents** on a public platform.
- Complaints claim that the **show crossed ethical boundaries** of free speech and responsible content creation.

## Conclusion: Balancing Free Speech & Obscenity Laws

The **Ranveer Allahbadia case** highlights the **complex intersection of free speech, morality, and obscenity laws** in India. While **obscenity laws** are necessary to regulate harmful content, they **must not be misused** to suppress artistic freedom and open discussions.

## 5 Rare Einstein Ring Discovered by ESA's Euclid Telescope

**Context:** The European Space Agency's (ESA) Euclid space telescope has spotted a rare **Einstein ring** surrounding the galaxy NGC 6505, located nearly **590 million light-years** from Earth.

**Did you know?** A **light-year** is the distance light travels in a year, approximately **9.46 trillion kilometers**!



### What is an Einstein Ring?

#### Overview:

An **Einstein ring** is a **circular halo of light** that appears around a **massive celestial object**, such as a **galaxy, black hole, or dark matter cluster**.

#### How Does It Form? – Gravitational Lensing:

This phenomenon occurs due to **gravitational lensing**, where a **massive object's gravity bends and amplifies light** from a distant background galaxy. When the alignment is nearly perfect, it creates a **complete ring of light**.

- The object bending the light is called a **gravitational lens**.
- The Euclid telescope detected this ring due to the bending effect of **NGC 6505**, which distorted light from an **unnamed galaxy located 4.42 billion light-years away**.

### Why is it Called an Einstein Ring?

The concept originates from **Albert Einstein's General Theory of Relativity**, which predicted that **massive objects warp space-time**, curving the path of light around them.

#### How Rare are Einstein Rings?

- First discovered in **1987**, Einstein rings are **extremely rare**, appearing in **less than 1% of observed galaxies**.
- They are **not visible to the naked eye** and require **advanced space telescopes** like **Euclid, Hubble, or James Webb** for observation.

#### Scientific Importance of Einstein Rings:

Einstein rings serve as **natural cosmic magnifying glasses**, helping astronomers:

1. **Study distant galaxies** that would otherwise be invisible.
2. **Investigate dark matter**, revealing its distribution in the universe.
3. **Explore dark energy**, the mysterious force driving the universe's accelerated expansion.

#### Similar Phenomena: Einstein Cross:

**Einstein Cross** is another **gravitational lensing effect**, where instead of a ring, a **distant galaxy's light splits into four distinct images**, creating a **cross-like pattern** around the foreground galaxy.

#### Final Thought:

The discovery of an Einstein ring around **NGC 6505** is a **fascinating breakthrough** in astrophysics, offering deeper insights into the universe's **hidden structures and cosmic forces**.

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## P-8I Aircraft: India's Cutting-Edge Maritime Patrol Aircraft

**Context:** India is set to **revive its proposal** to acquire **six additional P-8I** long-range maritime patrol aircraft from the **United States**. This move aims to **bolster the Indian Navy's surveillance capabilities**, reinforcing its strength in maritime operations.

### About the P-8I Aircraft:

The **P-8I Poseidon** is a **long-range, multi-mission maritime patrol aircraft** designed and built by **Boeing**, a leading **U.S. aerospace company**.

- It serves as a **successor** to the **Indian Navy's aging Tupolev Tu-142** aircraft.
- The **P-8I** is a **specialized variant** of the **P-8A Poseidon**, which is extensively used by the **United States Navy**.
- With **cutting-edge sensors, advanced weapons systems, and exceptional range**, the P-8I can **detect and neutralize threats** from **submarines, surface vessels, and aerial adversaries**.

### Key Capabilities of the P-8I:

The **P-8I Poseidon** is a versatile aircraft capable of executing multiple missions, including:

1. **Anti-Submarine Warfare (ASW)** – Tracking and neutralizing enemy submarines.
2. **Anti-Surface Warfare (AsuW)** – Engaging hostile surface vessels.
3. **Maritime Surveillance & Reconnaissance** – Conducting long-range patrolling and intelligence gathering.
4. **Intelligence, Surveillance & Reconnaissance (ISR)** – Providing real-time battlefield awareness.

### P-8I Aircraft Specifications:

Feature	Details
Length	39.47 m
Wingspan	37.64 m
Height	12.83 m
Crew Members	9
Maximum Takeoff Weight	85,139 kg
Maximum Speed	789 km/h
Maximum Altitude	12,496 m
Operational Range	2,222+ km
Time on Station	4+ hours

The **P-8I's endurance and high-speed capabilities** make it a **formidable asset** for maritime security, ensuring that India maintains **dominance over its waters**.

### Why is the P-8I Important for India?

**Strengthens India's Maritime Defense:** Enhances surveillance and tracking of **hostile submarines** and **warships**.





**Supports Regional Stability:** Plays a **pivotal role in Indo-Pacific security**, helping counter growing threats in the **Indian Ocean Region (IOR)**.

**Enhances Strategic Partnerships:** Strengthens India's **defense ties with the U.S.**, promoting **defense cooperation and interoperability**.

### Conclusion:

The **P-8I Poseidon** is a game-changer in **maritime security**, offering **unmatched reconnaissance, warfare, and surveillance capabilities**. With India planning to **procure more P-8Is**, the Indian Navy will further **fortify its maritime defense**, ensuring **enhanced security and strategic dominance** in the region.

