

TABLE OF CONTENTS

- [1. Social Viability](#)
- [2. Taxation of Non-fungible Tokens](#)
- [3. Revenue Shortfall and GST Compensation](#)
- [4. Impact of ChatGPT on Education](#)
- [5. Dark and Toxic under the Lamp](#)

1. Social Viability

Social Viability

The National Education Policy aims to make education inclusionary and participative. To promote skill-based learning, as highlighted in the new [National Education Policy \(NEP\) 2022](#), the University Grants Commission (UGC) announced the recruitment policy for “**professor of practice**” in higher education institutions (HEIs).

Who is a “Professor of practice”?

- These shall be experts in any area of knowledge, that is, **non-restrictive to engineering, science, technology, entrepreneurship, commerce, social sciences, media, literature, fine arts, civil services, armed forces, the legal profession, and public administration.**
- Eligibility includes “**those who have proven expertise in their specific profession or role with at least 15 years of service/experience, preferably at a senior level.**”
- A person belonging to the teaching fraternity shall not be eligible for consideration. Additionally, the total number of professors of practice should not **exceed 10% of a university’s sanctioned posts.**
- Notably (by virtue of being an expert), **they are exempted from any formal education, specific (teaching) qualification such as UGC-National Eligibility Test/PhD, publications, etc,** which are the general eligibility criteria for a faculty member in an HEI.

Concerns:

- Human capital, in simpler terms, broadly includes the skills and knowledge that allow individuals to perform economically valuable labour.
 - At the same time, the development of human capital to a large extent depends upon monetary wealth. But, **due to unequal access to monetary resources, the development of human capital has taken place in a lopsided manner.**

- From the analysis of the economic censuses of India conducted in 1990, 1998, and 2005, it is revealed that SCs and STs respectively owned only 9.8% and 3.7% of all the existing enterprises in 2005.
- **Social** capital does play a role in the academic output at educational institutions both at school as well as at HEIs.
 - As a result, there is a minimal chance of a person belonging to the disadvantaged communities being an “expert”.
 - There is a relatively **low share of SCs and STs, especially at the topmost level and in those with higher market returns owing to a huge number of dropouts at higher levels of education.**
 - Another equally critical aspect is the relatively low share of SC–ST graduates in labour markets. **The existence of discrimination on caste and religion in the labour market makes it unlikely for people from SC/ST to get the position of professor.**
- The term eminent used in the policy can be interpreted in various ways. It would open **the floodgates for discrimination and exclusion** in the name of an eminent person.

So, without a provision of affirmative action in this policy, it would result in the social reproduction of existing social realities in India, where those belonging to the disadvantaged categories continue to remain marginalised.

2. Taxation of Non-fungible Tokens

What are non-fungible tokens (NFT)?

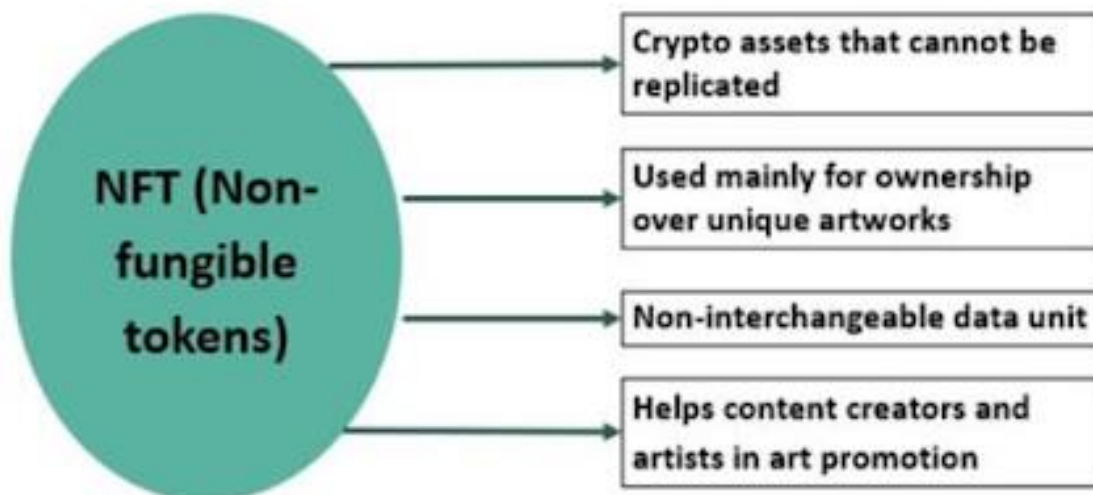
- An NFT is a **special type of digital asset or token** proved to be unique and not interchangeable with another digital asset token.
- The uniqueness of the **NFT exists as a cryptographic record on a blockchain**, or distributed ledger, and can readily be viewed by anyone.

What constitutes NFTs?

- Soundtrack album, music publishing, live performance, the print publication, “making of” books, comic books and novelization, in audio and electronic formats as well, (as applicable), interactive media, theatrical and television sequel and remake rights, and television series constitutes NFTs.

Image: NFT

What is NFT (Non-fungible tokens)?



Source wall street

The Tax Regime

- The NFT industry is valued at an estimated \$3.3 billion and a **CAGR (compound annual growth rate) of 61.6%**, and the need to regulate this industry has been well recognised.
- **Section 2(11) of the Income Tax Act of 1961**, draws the distinction between tangible and intangible assets. Patents, copyrights, trademarks, and any other business rights that may be considered as [intellectual property](#) are included among the non-tangible assets.
- **Section 9(1)(vi) defines royalty and outlines the taxation of income** in the form of royalties that are deductible as either business expenses or income.
 - NFTs offer a number of benefits due to the fact that decentralised marketplaces that deal in art are naturally accommodating to their creators.
- The first steps in the process of managing the NFTs took place in the form of **the Finance Bill, 2022, particularly Section 2(47A) coupled with notifications 74 and 75 of 2022**
 - The Income Tax Act was amended to include virtual digital assets (VDAs), under which [cryptocurrencies](#), NFTs, and other digital assets as and when notified by the government.
 - **Section 115BBH was introduced**, through which any gains from VDAs would be taxable at **30% without any allowance for deduction for expenses, or set-offs for losses.**
 - **Section 194 S** was also introduced, which would accordingly **deduct TDS at 1% on all transfers of VDAs** with an intention of expanding the tax base.

Limitation of the Bill:

- There is no centralised authority that can shut down NFTs. In other words it is very difficult to track the person against whom the wallet is created and money is being invested.
- Additionally, it **does not differentiate between a resident and non-resident taxpayer** and fails to take into account cases of VDAs listed on exchanges or platforms based outside India.
- It is very difficult to classify the assets in different forms based on their varied nature and functionality.
- Any **loss incurred from transfer of VDA may not be allowed for set-off or adjustment against any other income**, whether multiple transactions of the same assessment year leading to both losses and gains would be eligible for set-off inter se is still doubtful.
- NFTs may also result in the unconsented misuse of the individual's personality when an individual's identity is exploited to sell a product or service without the explicit agreement of the subject.

3. Revenue Shortfall and GST Compensation

What is GST?

- It is an indirect tax which has replaced many indirect taxes in India such as **excise duty, VAT, services tax**, etc. **It came into effect on 1st July 2017.**

Provision related to compensation to the states:

- The Bill provides for compensation to states for any loss in revenue due to the implementation of GST.
- Compensation will be provided to a state for a **period of five years from the date on which the state brings its State GST Act into force.**
- For the purpose of calculating the compensation amount in any financial year, the year 2015-16 will be assumed to be the base year, from which revenue will be projected. The growth rate of revenue for a state during the **five-year period is assumed to be 14% per annum.**
- The compensation payable to a state has to be provisionally **calculated and released at the end of every two months.**
- A [GST Compensation Cess](#) may be levied on the supply of certain goods and services, as recommended by the [GST Council](#). The receipts from the cess will be deposited to a GST Compensation Fund.

Recent development:

- The demand for GST compensation by the states was **projected to be 3 lakh crore in 2020–21**. Given the projected **GST compensation cess collection of 65,000 crore**, the **shortfall in the GST compensation fund was expected to be 2.35 lakh crore in 2020–21**.

Image: GST compensation

Table 1: Goods and Services Tax Compensation Cess Collection and Compensation Payment to States/Union Territories with Legislature (₹ crore)

Description	2017–18	2018–19	2019–20	2020–21	2021–22
GST compensation cess collection (A)	62,611.59	95,080.71	95,553.09	85,191.91	1,04,768.66
GST compensation released to states and union territories with legislature (B)	41,146.00	69,275.00	1,20,498.29	1,36,988.47	97,500.00
Balance amount in the GST compensation fund (A-B)	21,465.59	25,805.71	-24,945.20	-51,796.56	7,268.66

Source: EP&W

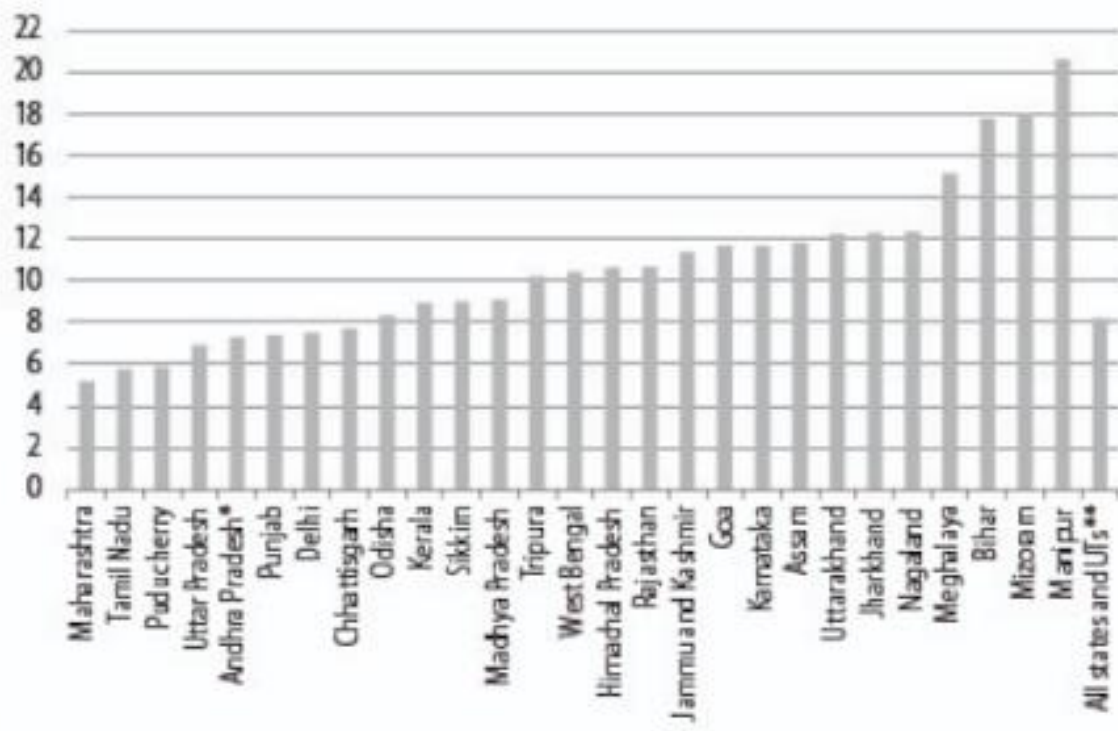
- Out of the total projected shortfall of **2.35 lakh crore in the GST compensation fund**,
 - The shortfall arising out of the GST implementation was estimated to be Rs 97,000 crore and
 - The rest of the amount (**that is, 1.38 lakh crore**) is attributed to the [COVID-19 pandemic](#).

Difference in the Revenue Impact of GST across States

- Except for Maharashtra, Tamil Nadu, and Uttar Pradesh (UP), for other major states, the average annual growth rate in the SGST collection has declined in the post-GST period (2017–20) as compared to the average annual growth rate in the subsumed taxes in GST for the pre-GST period (2014–17).
- The average annual growth rate of revenue corresponding to taxes subsumed in GST was 8.2% between 2013–14 and 2016–17.

Image: Average annual growth rate of state

Figure 1: Average Annual Growth Rate of Revenue from Taxes Subsumed in GST during 2012–13 to 2016–17* (%)



Source: EP&W

- There are the states that are expected to experience a **low rate of tax collection** in a post-compensation regime, **for example**, Punjab, Uttarakhand, Bihar, Jharkhand, Goa, Karnataka, Chhattisgarh, and Odisha.
- The growth rate in GST collection also depends on the growth rate in consumption expenditure on goods and services in a state.
 - For a majority of the states, the average annual tax buoyancy has declined during the post-GST period as compared to the pre-GST period. **This implies that reviving the growth rate in consumption (or GSVA) will be important for the states to improve their GST collections.**
- During 2020–21, the states (including union territories with legislature) have received a GST compensation of 2,47,196.47 crore (1,36,988.47 crore from the GST compensation fund and 1,10,208 crore from the special borrowing programme as back-to-back loans).
 - Together, states (including union territories with legislature) **have faced a shortfall of at least 2,47,196.47 crore in the SGST collection** (including IGST settlement) **as against the aggregate revenue under the protection of Rs 7,65,034 crore in 2020–21.**
 - Therefore, the shortfall in SGST collection vis-à-vis revenue under protection was **at least 32.31% in 2020–21.**

Availability of Fiscal Space to Accommodate Extension of GST Compensation:

- The states are demanding GST compensation beyond the period of 2022 **in order to fill the vacuum caused due to the GST regime.**
 - If the states do not receive any GST compensation beyond the GST transition period, what will be its revenue impact on state finances?
- The union government has borrowed 1,10,208 crore by issuing GoI securities of five and three-year tenures in 20 weekly tranches during 2020–21.
 - **The weighted average interest rate of aggregate borrowing in 2020–21 is 4.82%.**
- By the end of 2021–22, the cumulative special market borrowing liability becomes 2,69,208 crore, which will be serviced by using the proceeds of the GST compensation cess collections.
- Taking the experience of GST cess collection during the last two years (2021–23), it seems that meeting the obligations of servicing the special market borrowings from the proceeds of GST cess collections **may not be an issue during 2023–25.**
- **But**, in 2025–26, it is likely that the GST cess collection may fall short of the servicing liability of market borrowings.
 - Therefore, there is a need to keep adequate provisions in the union finances during 2023–25 to repay the principal payment liability of the 5.63% government stock in 2026.

The centre must make adequate provisions for compensating the states for GST. In the absence of compensation from the centre, the states would fail to uphold their constitutional promises which would dent the democratic credentials of the country.

Any development in the world of cryptocurrencies must be done in consonance with the legal regime that exists in the world.

4. Impact of ChatGPT on Education

Introduction:

- ChatGPT is a language model developed by OpenAI that has been trained on a vast corpus of text, enabling it to generate human-like responses based on the inputs it receives.
- ChatGPT has been gaining popularity in the field of education, as it has the potential to transform it by providing students with personalised and real-time support and making information more accessible.

Positive impact:

- ChatGPT can provide personalised learning experiences for students by adapting to their individual learning styles, preferences, and pace. With its natural language processing capabilities, it can engage in conversations with students and provide them with customised feedback and guidance.
- ChatGPT has the ability to access vast amounts of information and knowledge from various sources. This can help students and educators to quickly access information and learn new things. ChatGPT can also help to bridge language barriers by providing translations in real-time.
- ChatGPT can assist teachers by grading assignments, providing feedback, and answering questions. This can save time and allow teachers to focus on other aspects of teaching, such as lesson planning and classroom management.
- ChatGPT can be used as an assistive technology to help students with learning disabilities or other special needs. For example, it can help to read text aloud, provide definitions for unfamiliar words, or offer explanations in simpler language.
- ChatGPT can also be used for research and analysis in education. It can help to analyse data, identify patterns, and provide insights that can inform educational practices and policies.

Negative Impact:

- Over reliance on ChatGPT and other AI technologies can create a culture of dependence on technology, which can diminish critical thinking and problem-solving skills in students.
- AI technologies can replace human interaction and face-to-face communication, which are important for social and emotional development. This can lead to a lack of interpersonal skills and empathy in students.
- Chatbots, despite their sophisticated language capabilities, lack the emotional intelligence to understand and respond to students' feelings, which can lead to a lack of motivation and engagement.
- Chatbots can still make mistakes and provide inaccurate and biased information. This can have severe consequences for students' education and their understanding of the subject matter.
- The use of ChatGPT requires access to student work and personal information, which further raises concerns about privacy and data security.
- It can also lead to information overload. Students may struggle to filter through the information and determine what is relevant and accurate, leading to confusion and a lack of understanding.
- The use of ChatGPT and other AI technologies can potentially replace certain jobs in the education sector, such as grading and administrative roles. This could lead to job loss and unemployment.

Way Forward:

- To maximise the benefits and minimise the drawbacks of using ChatGPT in education, it is important to strike a balance between utilising technology and preserving the human element in the learning process.
- This can be achieved by incorporating human teachers in the process, regularly monitoring and updating the information provided by chatbots, and encouraging students to develop independent learning skills.
- The technology should be used in conjunction with human interaction and assessment, rather than as a replacement, to maximise its positive impact on education.

5. Dark and Toxic under the Lamp

Context: Industrial Pollution and Health Damage.

What is Industrial Pollution?

- Industrial pollution is characterised as pollution that is directly linked to industries. This form of pollution has become very common in today's urbanised world.
- Industrial operations are a significant cause of pollutants in the **air, water, and soil, resulting in sickness and death all over the world.**

Causes of Industrial Pollution

- **Unplanned Industrial Growth:** Unplanned development occurred in most industrial townships, with corporations flouting laws and norms and polluting the atmosphere with both air and water pollution.
- **Inefficient Waste Disposal:** Water contamination and soil pollution are often the results of inefficient waste disposal. Long-term exposure to contaminated air and water leads to chronic health issues, rendering industrial emissions a serious concern.
- **Use of Outdated Technologies:** The majority of companies continue to use outdated technology to manufacture waste-generating materials. Many businesses do use conventional technology to manufacture high-end goods in order to save money and time.

Industrial pollution: Singrauli, A case study

- The Singrauli region produces **16% of coal and 13% of thermal power** in India.
- Singrauli district of Madhya Pradesh (MP) and Sonbhadra district of Uttar Pradesh: **this region has been called the energy capital of the country** and has thermal power plants with a combined capacity of 21,164 megawatts (MW).

- The Singrauli region **contributed 9.75% of all electricity or 13.4% of thermal power produced in India in 2021.**

A peculiar case with Singrauli:

- As per the 2011 census, **31% of all households in the Singrauli district and 29% of households in the Sonbhadra district are electrified.** Thus, not even 0.4% of the electricity generated in this energy capital reaches the homes of the people inhabiting the region.

Outcomes of such thermal power plants:

- Singrauli mines are opencast mines, i.e, **large open pits with huge dumps of overburden alongside.** In June 2021, three people were killed and one critically injured because of overburden slippage from the Khadia coal mine.
- Compounds and elements present in **coal are extremely toxic, a number of which are highly toxic heavy metals.** When coal is burnt, these elements get released into the environment.
 - It is estimated that about 1.9 metric tonnes of chromium, 4.2 tonnes of lead, 1.4 tonnes of arsenic, 1 tonne of nickel, and 0.1 tonnes of mercury are released into the environment from the coal burnt every day in Singrauli.
- It found **high concentrations of fluoride and mercury in the air, indicating the substantial impact of fugitive and stack emissions of coal combustion, aluminium smelting, and caustic soda manufacturing.**
 - The [CPCB](#) has declared the Singrauli region as one of the **critically polluted industrial clusters to be monitored through the comprehensive environmental pollution index.**
- The CPCB had proposed a standard **limit of 12 ng/m³ in 2009 for mercury in the air,** but levels of gaseous mercury were higher than this proposed standard throughout Sonbhadra.
- It is also seen that a **large fraction of particulate matter is fine particulate matter,** which indicates that the particulate matter is an outcome of combustion from thermal power plants that travels large distances.
- It was also found that inadequately treated wastewater is being discharged into the Rihand reservoir through various small drains. Due to this, **the reservoir had high levels of total suspended solids, fluoride, and mercury.**
 - The [National Green Tribunal \(NGT\)](#)-appointed committee that looked at the water quality in the region in 2015 revealed high concentrations of **mercury, cadmium, nickel, aluminium, chromium, and fluoride** in the underground water.
- **Impact on health:** Many symptoms of **peripheral neuropathy** were found, additionally some of them had **blue lines on their gums suggestive of lead toxicity.**
- On average, the lung function of **the residents of the Singrauli region was 42.7% less than that of an average Indian.**
-

- This was slightly more pronounced in women whose **lung function showed a decrease of 44% as compared to men whose lung function showed a decrease of 41.6%.**
- Exposure to heavy metals, such as mercury, is known to affect the nervous system, lungs, kidneys as well as fetuses, **and has been linked to miscarriages.**

Industrial growth is necessary to provide livelihood opportunities to a large number of people in the country. But such an economic activity should not become an end in itself. Therefore, it is essential that economic growth is supplemented by quality of life in order to achieve the target of sustainable development goals.

