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THE WORLDONOMICS TIMES

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Cybersecurity Costs and Risk Accounting for CMAs

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President
The Institute of Company Secretaries of India

Auditing in the Digital Age: Transforming Assurance and Compliance

THE WORLDONOMICS TIMES

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EDITOR'S DESK

May 2025: Innovation Ignition: Fueling Economic Growth

Dear Esteemed Readers,

It is with immense pleasure and a profound sense of purpose that I, as Editor-in-Chief, welcome you to the May 2025 edition of **The Worldonomics Times**, a flagship publication of the International Navodaya Chamber of Commerce. This issue marks a significant exploration into a theme that resonates deeply with the spirit of our times: ***Innovation***

In an era defined by rapid technological advancements, shifting global dynamics, and complex socio-economic challenges, innovation stands as the cornerstone of progress. It is the driving force that propels economics forward, unlocks new avenues for growth, and ultimately enhances the quality of life for societies worldwide. This edition, thoughtfully curated under the title "Innovation Ignition: Fueling Economic Growth," seeks to illuminate the critical role of innovation in shaping our collective future.

We are privileged to feature a compelling contribution from CS Dhananjay Shukla, the esteemed President of The Institute of Company Secretaries of India. His insightful article, "Prosperity's Promise: Economic Growth Starts with Human Development," serves as a powerful reminder that innovation is inextricably linked to the cultivation of human potential. Investing in education, skills development, and empowerment is not merely a social imperative; it is an economic necessity that lays the groundwork for a fertile ground where innovative ideas can flourish.

Within these pages, we embark on a journey to unravel the multifaceted dimensions of innovation. We will delve into its diverse manifestations across various industries, examine the policies and frameworks that foster a culture of innovation, and explore the essential mindset that nurtures creativity, risk-taking, and continuous improvement. From disruptive technologies to incremental advancements, we aim to showcase the breadth and depth of innovation's impact on our world.

At **The Worldonomics Times,** we firmly believe that knowledge is power, and collaboration is the catalyst for transformative change. Aligned with the core values of the International Navodaya Chamber of Commerce, we are committed to providing a platform for diverse perspectives, fostering constructive dialogue, and disseminating insights that empower individuals, businesses, and policymakers to make informed decisions and drive positive outcomes.

I extend my heartfelt appreciation to our dedicated editorial board members, our esteemed advisors, and all the contributors who have generously shared their expertise and insights to make this edition a resounding success. Their unwavering commitment to excellence and their passion for advancing economic discourse are truly commendable.

It is our sincere hope that this issue of **The Worldonomics Times** will not only inform but also inspire. May it ignite a spark of curiosity, encourage critical thinking, and motivate you to become an active participant in the innovation ecosystem.

Thank you for joining us on this intellectual exploration. We wish you an enriching and enlightening reading experience.

Sandeep Kumar

EDITOR-IN-CHIEF

The Worldonomics Times

Courtesy Meeting With Shri Sripad Y Naik Ji,
Union Minister of State for Power & New &
Renewable Energy, Govt. of India

Courtesy Meeting With Smt. Annupurna Devi Ji,
Union Minister of Women and Child
Govt. of India

3rd Foundation Day (23.07.2024) of International Navodaya Chamber of Commerce

Courtesy Meeting With
Shri Harsh Malhotra Ji,
Ministry of Road, Transport & Highways
And
Ministry of Corporate Affairs Govt. of India

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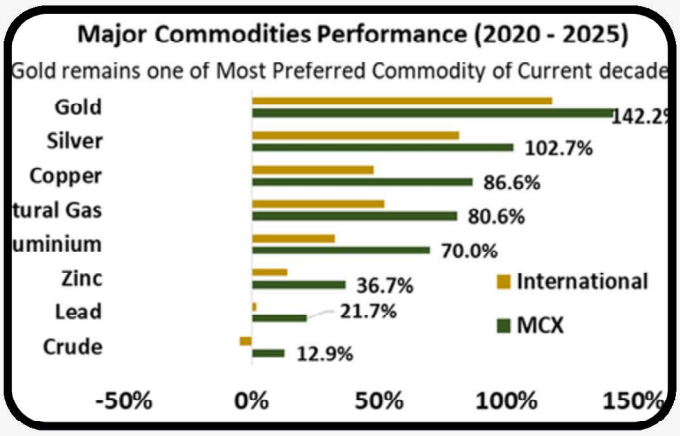
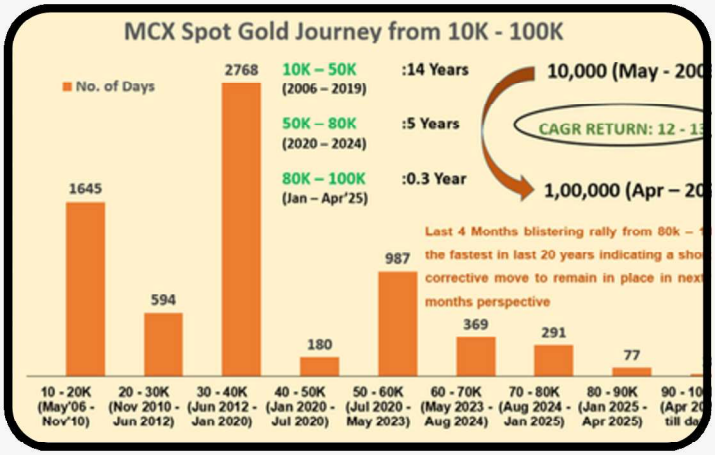
GOLD: AN EFFECTIVE HEDGE AGAINST GLOBAL UNCERTAINTY



2025 have so far remained an exceptional year for gold with unexpected twists & turns in US government global tariff policies especially against China leading to heightened global uncertainty and augmented safe haven flows into Gold. The price of gold witnessed a significant rise, hitting Rs. 1 lakh per 10 grams mark for the first time in history in domestic markets. Historically prices of gold had more than doubled since

global economic shocks, from the Covid-19 pandemic and the Russia-Ukraine war to rising geopolitical tensions and U.S. trade conflicts. Overall the journey of domestic gold from Rs 10,000 to Rs 1 lakh per 10 gm. has taken around 19 years, resulting in an compounded annualized gross return of 13 - 14 % in last 2 decades comparable to returns achieved in other asset classes such as equities and debt markets.

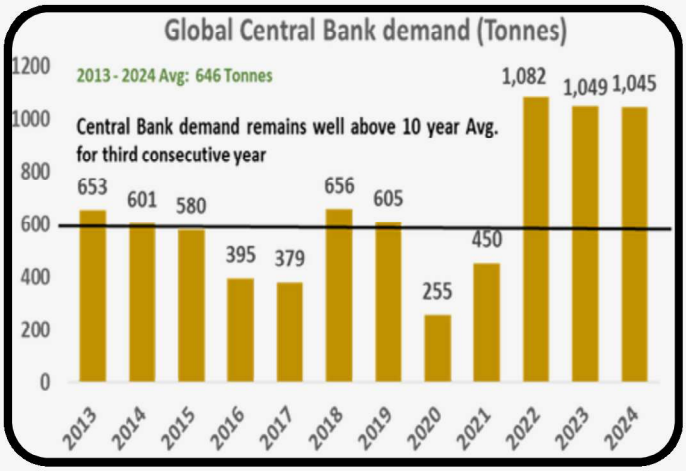


As seen historically, India stands out as one of the major consumers of gold globally, with its citizens always considering gold as a secure investment option. Consequently, India is also the world's second-largest gold importer. Despite witnessing heavy fluctuations over time, the allure of investing in gold has remained strong in India.

Analysis of market trends reveals a consistent upward trajectory in India's gold rate history, punctuated only by occasional minor downturns. Over the past two decade, the gold price trend journey was exceptional as stated above. Last 3 months have witnessed an almost 20 - 25 % rally in prices also leading to a risk of short term corrective moves to an extent of 5 – 8 % in prices.

Why Gold is in Limelight since last 5 years ???

Since the onslaught of Covid Pandemic & Russia Ukraine war in 2022 which led US to freeze over $ 300 billion of Russian foreign reserves, a mad global gold rush was seen by global central banks. Powerful financial institutions on the planet had also hoarded gold at record levels. The primary reason to hoard gold is to diversify away from US dollar holdings so as to reduce the reliance on same. The change in America's global posture with Washington pulling back from international alliances and leaning more heavily into sanctions under a renewed Trump presidency, many countries are now looking to reduce their dependence on the US dollar. Diversifying into gold has become a common strategy.



As a result, central bank gold buying have now exploded in recent years. Before 2022 average of about 400 tonnes a year was seen by global central banks. But since 2022 purchased of over 1,000 tonnes annually persisted till 2025. Today, central banks hold about 36,000 tonnes of gold, which now makes up nearly 18% of their total reserves—up from 15% just a year ago.

Given the current pace of loading, treasury managers at central banks are also at risk to slow their pace of buying given the price rally in the current year, as China was seen slowing in June – October 2024 last year. As consumer demand could adapt to higher prices eventually, the speed of price moves is likely to dampen net buying in the near term. A liquidity-crunch could negatively impact gold as the most liquid asset which could be sold to meet margin calls. Additionally, geopolitical and policy nervousness remains quite elevated in the current scenario, particularly given significant uncertainty about tariffs and its effect on market volatility, which is likely adding a meaningful premium to gold prices. Any resolution brings the risk of lower premiums impacting prices in shorter periods.

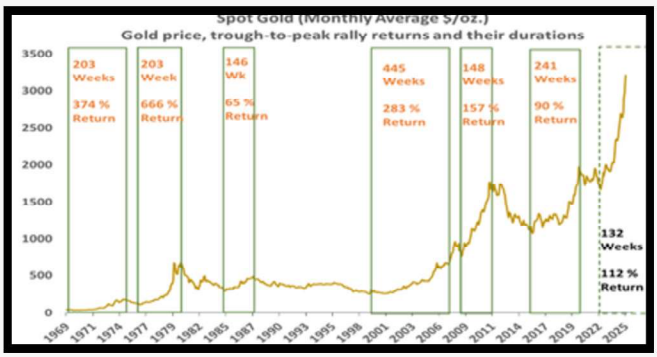
Gold demand remains firm in Q1'25 driven by surging ETF Inflows

Total Q1 gold demand in 2025 (inclusive of OTC investment) was 1% higher YoY at 1,206t which was the highest for a first quarter since 2016. A sharp revival in gold ETF inflows fuelled a more-than-doubling of total investment demand to 552t (+170% YoY) its highest since Q1'22. Only portion of impacted demand remained the Gold jewellery demand which fell sharply in last quarter due to record prices. Here volumes reached their lowest since demand was halted by COVID in 2020. In value terms, consumer spending on gold jewellery grew 9% y/y to US$35bn.

The total known ETF holdings of gold globally is now at its highest level since September 2023. ETF Flows have recorded second highest inflows in history in Q1'25 after Covid struck Q2 2020. Much have changed in the last two decades but Gold's role in an investor's portfolio has increased over time leading gold to act as a portfolio diversifier.

Apart from above reasons, the supply of new gold is not keeping up. Global mining output has remained flat since 2018, held back by lower-quality ore, higher extraction costs, and tighter environmental regulations. This imbalance between rising demand and stagnant supply had helped to push prices even higher. Meanwhile as Gold had touched new highs in 2024 - 2025 period multiple times, Speculators raised their long positions to multi year highs till Oct'24. But afterwards they have started to reduce their net long positions gradually while net shorts have increased modestly since then indicating short term corrective risk in prices persists.

Long term peaks – yet to be achieved



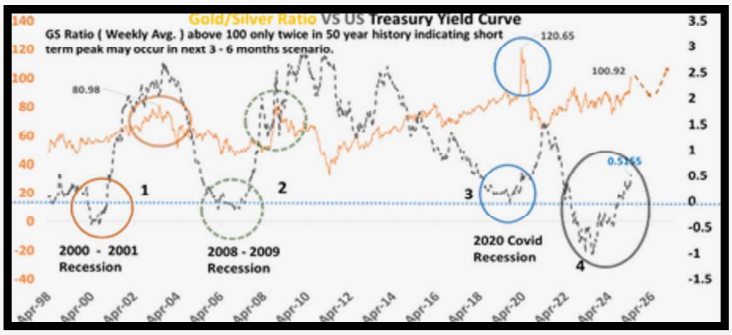
The extent and speed of gold's rally especially in last 4 months has drawn out comparisons to previous peaks. Current rally returns are still lagging 2011 & 1970's peak returns indicating new peak is still far away. While there are headwinds that the gold market may face in current environment, current macroeconomic conditions are quite different to prior periods when the gold market reached previous highs indicating gold is poised to achieve new peaks in the long run.

Conclusion

Global Macroeconomics shifts and uncertain environment makes Gold to emerge as one of the best Investment asset class over next decade.

Silver also eyed for better Investment mix as it's the only sole contender that could outperform Gold in current decade.

Gold/Silver Ratio & US Treasury Yield curve Indicates Upcoming Growth slowdown as Silver remains highly undervalued & poised to deliver higher returns in 2025 - 2026



On the other hand another precious metal which remains in limelight since past decade have been Silver, the shiny white metal.Being an Industrial metals, silver's almost 60 % demand is being met by Industrial uses while remaining 40 % is being met by Investment demand. As Silver market deficit continues to persist for fifth consecutive year, global economic uncertainties could still fuel surge in investment demand for Silver in current year. Stronger fundamental landscape being witnessed for Silver market in recent years could make this commodity a strong contender for higher returns in the current decade while the same also have the potential to outperform gold in next 5 year scenario.

Gold's correction from last month's record high at USD 3,500 per Oz & from Rs. 1 lakh mark reached had continued to unfold, while could gather pace in current month as global risk sentiment shows tentative signs of improvement. Meanwhile the structural drivers underpinning gold's strength remain firmly in place. Chinese investors have emerged as a dominant source of demand, particularly through local gold-backed ETFs this year. Since increased US tariffs over its trading partners have increased the probability of Stagflation, we could now witness increased risk of growth slowdown materialising even into a recessionary scenario. Whether Gold could now deliver similar returns it had delivered since last year, its only time which could tell the remaining story. But one this is for sure Gold appeal as a safe haven asset have remained intact over past several decades.

SHRI NAVEEN MATHUR

Director Commodities, Currencies & GIFT City, IFSC
Anand Rathi Group

FINANCE UPDATE FOR MARCH - APRIL 2025

The Finance Act 2025 has been notified on 29th March 2025. The Finance Act sections 1 to 91 (Page 1 to 39) amends Income Tax Act, section 136 (Page 49 to 49) amends Unit Trust of India (Transfer of Undertaking and Repeal) Act. The key amendments are summarised as follows:

Revision in Income Tax Slab Rates under new regime for AY 2026-27

The Income Tax rates applicable under section 115BAC(1A)(ii) i.e. new regime, has been revised for determining the income-tax payable in respect of the total income of a person, being an individual or Hindu undivided family or association of persons [other than a co-operative society], or body of individuals, whether incorporated or not, or an artificial juridical person.

	Existing Slab Rates AY 2025-26		Revised Slab Rates AY 2026-27	
Sl. No	Total Income	Rate of Tax	Total Income	Rate of Tax
1	Up to Rs 3,00,000	Nil	Up to Rs 4,00,000	Nil
2	Rs 3,00,001 to 7,00,000	5%	Rs 4,00,001 to 8,00,000	5%
3	Rs 7,00,001 to 10,00,000	10%	Rs 8,00,001 to 12,00,000	10%
4	Rs 10,00,001 to 12,00,000	15%	Rs 12,00,001 to 16,00,000	15%
5	Rs 12,00,001 to 15,00,000	20%	Rs 16,00,001 to 20,00,000	20%
6	Above Rs 15,00,000	30%	Rs 20,00,001 to 24,00,000	25%
			Above Rs 24,00,000	30%

The amount of income-tax computed in accordance with the provisions (including capital gains under section 111A, 112 and 112A), shall be increased by health and education cess, and surcharge at the applicable rates. (Effective from AY 2026-27)

Revision in Rebate of Income Tax under section 87A:

Proviso to section 87A provide rebate of income-tax up to Rs.25,000/-, in cases where the total income of individual taxpayers is chargeable to tax under section 115BAC(1A) i.e. under new regime, and the total income does not exceed Rs. 7,00,000/-, and marginal relief where the total income exceeds Rs. 7,00,000/-. The tax on incomes chargeable at special rates (for e.g. capital gains u/s 111A, 112, 112A etc.) are not included while determining the rebate of income-tax. It has been amended to enhance the limit of rebate from Rs. 25,000/- to Rs. 60,000/-

and limit of total income for rebate from Rs. 7,00,000/- to Rs. 12,00,000/- with marginal relief where the total income exceeds Rs. 12,00,000/-. (Effective from AY 2026-27)

Effect of changes in Slab rate and Rebate:

As a result of changes in slab rates and revision in rebate of income-tax, there will be no income tax payable up to income of Rs. 12 lakh (i.e. average income of Rs.1 lakh per month other than special rate income such as capital gains) under the new regime. This limit will be Rs.12.75 lakh for salaried tax payers, due to standard deduction of Rs. 75,000. The total tax benefit due to changes in slab rate and rebate, at different income levels, is illustrated in the table below:

Income	Slab Rates		Benefit Slab Rate	Benefit Rebate	Total Benefit	Tax after Benefits
	Existing AY 2025-26	Revised AY 2026-27				
8,00,000	30,000	20,000	10,000	20,000	30,000	Nil
9,00,000	40,000	30,000	10,000	30,000	40,000	Nil
10,00,000	50,000	40,000	10,000	40,000	50,000	Nil
11,00,000	65,000	50,000	15,000	50,000	65,000	Nil
12,00,000	80,000	60,000	20,000	60,000	80,000	Nil
16,00,000	1,70,000	1,20,000	50,000	Nil	50,000	1,20,000
20,00,000	2,90,000	2,00,000	90,000	Nil	90,000	2,00,000
24,00,000	4,10,000	3,00,000	1,10,000	Nil	1,10,000	3,00,000
50,00,000	11,90,000	10,80,000	1,10,000	Nil	1,10,000	1,08,0000

Increase in the limits on the income of the employees for the purpose of calculating perquisites:

Section 17(2) provide that 'perquisite' includes the value of any benefit or amenity granted or provided free of cost or at concessional rate by any employer to an employee whose income under the head 'Salaries' as a monetary benefit, does not exceed fifty thousand rupees. It also provides that any expenditure incurred by the employer for travel outside India on the medical treatment of an employee or any member of the employee's family shall not be included in 'perquisite', subject to the condition that the gross total income of such employee does not exceed two lakh rupees l. It has been amended to provide 'such amount as may be prescribed', thus government having powers to amend the limits. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Effect of changes in Slab rate and Rebate:

The NPS Vatsalya Scheme, enables parents and guardians to start a National Pension Scheme (NPS) account for their children. When a minor attains 18 years, the account continues to be operational, and transferred to the child's name with the accumulated corpus. It has been provided to allow a deduction to the parent/guardian, of the amount paid or deposited in the account of any minor under the NPS for a maximum of Rs 50,000/- under section 80CCD(1B). (Effective from 1st day of April 2026 i.e. AY 2026-27)

Exemption to withdrawals by Individuals from National Savings Scheme from taxation:

Section 80CCA, provides for a deduction to an individual, or a Hindu undivided family, for any amount deposited in the National Savings Scheme (NSS). It also provides that where such amount, together with the interest accrued on such amount standing to the credit of the assessee under the scheme is withdrawn, it shall be deemed to be the income of the assessee and shall be chargeable to tax. Since this provision has been sunset from 01.04.1992, the amounts taxable on withdrawal are those which were deposited in financial year 1991-92 and earlier. It has been amended to provide exemption to the withdrawals made by individuals on or after 29th day of August, 2024, from these deposits. (Effective from 29th day of August 2024)

Bringing clarity in income on redemption of Unit Linked Insurance Policy (ULIP)

It has been amended to provide that ULIPs to which exemption under section 10(10D) does not apply, is a capital asset, under section 2(14). Thus, the profit and gains from the redemption of such ULIPs, shall be charged to tax as capital gains, under section 45(1B). Further, it has been amended to provide that ULIPs to which exemption under section 10(10D) does not apply, shall be included in the definition of equity oriented fund, under clause (a) of Explanation to section 112A. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Annual value of the self-occupied property simplified:

Section 23(2) provides that where house property is in the occupation of the owner for the purposes of his residence or owner cannot actually occupy it due to his employment, business or profession carried on at any other place, in such cases, the annual value of such house property shall be taken to be nil.

It has been amended to provide that the 'annual value of the property consisting of a house or any part thereof shall be taken as nil, if the owner occupies it for his own residence or cannot actually occupy it due to any reason'. This benefit shall continue to apply in respect of two of such houses only. (Effective from 1st day of April 2025 i.e. AY 2025-26)

Extending the time-limit to file the updated return

Section 139(8) provides that an updated return can be filed up to 24 months from the end of the relevant assessment year. It can be filed within 12 months from the end of the relevant assessment year, with payment of additional income-tax of 25% of aggregate of tax and interest payable, and can be filed after expiry of 12 months and up to 24 months from the end of the relevant assessment year, with payment of additional income-tax of 50% of aggregate of tax and interest payable.

. It has been amended to extend the time-limit to file the updated return from existing 24 months to 48 months from the end of relevant assessment year. The rate of additional income-tax payable after expiry of 24 months and up to 36 months shall be 60% and after expiry of 36 months and up to 48 months shall be 70% of aggregate of tax and interest payable. (Effective from 1st day of April 2025)

Date of Filing Updated Return	Additional Tax Payable
Within 12 months from the end of relevant assessment year	25% of aggregate of additional tax and interest
After 12 months and up to 24 months from the end of relevant assessment year	50% of aggregate of additional tax and interest
After 24 months and up to 36 months from the end of relevant assessment year	60% of aggregate of additional tax and interest
After 36 months and up to 48 months from the end of relevant assessment year	70% of aggregate of additional tax and interest

Equalisation levy on online advertisement services withdrawn

The Equalisation Levy was introduced in 2016 to tax online advertisement services provided by non-residents to Indian businesses. It was expanded to cover e-commerce transactions by foreign companies. The levy on e-commerce transactions was already removed by Finance No 2 Act 2024 from 01-08-2024. Now it has been amended to provide that Equalisation Levy will not apply to payments for online advertisements from 01-04-2025. (Effective from 1st day of April 2025)

Removal of higher TDS/TCS for non-filers of return of income:

Section 206AB requires deduction of tax (TDS) at higher rate when the deductee specified therein is a non-filer of income-tax return. Section 206CCA requires for collection of tax (TCS) at higher rate when the collectee specified therein is a non-filer of income-tax return. It has been amended to omit section 206AB and section 206CCA from the 1st day of April, 2025. (Effective from 1st day of April 2025)

Removal of TCS on sale of specified goods

Section 206C(1H) requires any person being a seller who receives consideration for sale of any goods of the value or aggregate of value exceeding Rs 50 lakhs in any previous year, to collect tax from the buyer at the rate of 0.1% of the sale consideration exceeding Rs 50 lakhs, subject to certain

conditions. It has been amended to provide that provisions of section 206C(1H) will not be applicable from the 1st day of April, 2025. (Effective from 1st day of April 2025)

TDS rate reduction for section 194LBC – Payments by Securitization Trust:

Section 194LBC requires that where any income is payable by a securitisation trust to an investor, being a resident, in respect of an investment in a securitisation trust, the person responsible for making the payment shall, deduct income-tax, at the rate of 25%, if the payee is an individual or a Hindu undivided family and 30%, if the payee is any other person. The TDS rates has been reduced from 25% and 30% to 10%. (Effective from 1st day of April 2025)

TDS threshold rationalization

TDS provisions have various thresholds of amount of payment or amount of income, beyond which tax is required be deducted. The thresholds have been revised as below:-

Sr No	Section	Current threshold	Revised threshold
1	193 - Interest on securities	Nil	Rs. 10,000/-
2	194A - Interest other than Interest on securities	(i) Rs. 50,000/- for senior citizen; (ii) Rs. 40,000/- in case of others when payer is bank, cooperative society and post office (iii) Rs. 5,000/- other cases	(i) Rs. 1,00,000/- for senior citizen (ii) Rs. 50,000/- in case of others when payer is bank, co- operative society and post office (iii) Rs. 10,000/- other cases
3	194 - Dividend for an individual shareholder	Rs. 5,000/-	Rs. 10,000/-
4	194K - Income in respect of units of a mutual fund or specified company or undertaking	Rs. 5,000/-	Rs. 10,000/-
5	194B– Winnings lottery, crossword puzzle, etc.	Aggregate of amounts exceeding Rs. 10,000/- during the financial year	Rs. 10,000/- in respect of a single transaction
6	194BB Winnings from horse race		
7	194D Insurance commission	Rs. 15,000/-	Rs. 20,000/-
8	194G - Income by way commission, prize etc. on lottery tickets	Rs. 15,000/-	Rs. 20,000/-
9	194H- Commission or brokerage	Rs. 15,000/-	Rs. 20,000/-
10	194-I Rent	Rs. 2,40,000/- during the financial year	Rs. 50,000/- per month or part of a month
11	194-J Fee for professional or Technical services	Rs. 30,000/-	Rs. 50,000/-
12	194-LA Income by way of enhanced compensation	Rs. 2,50,000/-	Rs. 5,00,000/-

Section 193

Interest on securities: It requires that any person responsible for paying to a resident any income by way of interest on securities shall, at the time of credit of such income to the account of the payee or at the time of payment thereof, whichever is earlier, deduct income-tax at the rate of 10% on the amount of the interest payable. Currently there is no threshold. The amendment provides that tax shall be deducted only when the amount or the aggregate of amounts of income by way of interest on securities exceeds Rs. 10,000/- during a financial year. (Effective from 1st day of April 2025)

Section 194A

Interest other than interest on securities: It requires that any person, not being an individual or a Hindu undivided family, responsible for paying to a resident any interest income other than interest income on securities, shall deduct income-tax thereon at the rate of 10%. Current threshold relating to banking company/ post office/ cooperative society is Rs 50,000/- for senior citizens and Rs 40,000/- for others. For any other case it is Rs 5,000/-. The amendment revise the threshold to Rs 1,00,000/-, Rs 50,000/- and Rs ₹1,00,000/- during a financial year respectively. (Effective from 1st day of April 2025)

Section 194

It requires that the principal officer of an Indian company or a company which has made the prescribed arrangements for the declaration and payment of dividends (including dividends on preference shares) within India, shall, before making any payment by any mode in respect of any dividend or before making any distribution or payment to a shareholder, who is resident in India, of any dividend within the meaning of section 2(22), deduct from the amount of such dividend,

income-tax at the rate of 10%. The current threshold is Rs 5,000/-. The amendment provides that no tax is required to be deducted when the amount or aggregate of amounts of such dividend to the shareholder, being an individual, does not exceed Rs. 10,000/- during a financial year. (Effective from 1st day of April 2025)

Section 194B

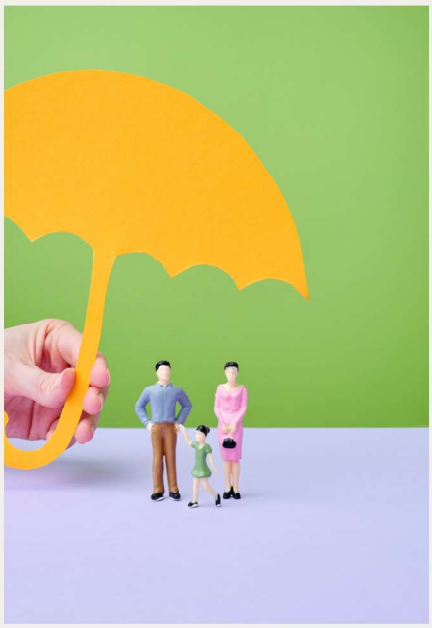
Winnings from lottery or crossword puzzle: It requires that any person responsible for paying to any person any income by way of winnings from any lottery or crossword puzzle or card game and other game of any sort or from gambling or betting of any form or nature whatsoever, being the amount or the aggregate of amounts exceeding Rs. 10,000/- during the financial year shall, at the time of payment thereof, deduct income-tax thereon at the rate of 30%. The amendment revise the threshold, Rs 10,000/- now to apply for each single transaction. (Effective from 1st day of April 2025)

Section 194BB

Winnings from horse race: It requires that any person, being a bookmaker or a person to whom a license has been granted by the Government under any law for the time being in force for horse racing in any race course or for arranging for wagering or betting in any race course, who is responsible for paying to any person any income by way of winnings from any horse race , being the amount or aggregate of amounts exceeding Rs. 10,000/- during the financial year, shall, at the time of payment thereof, deduct income-tax thereon at the rate of 30%. The amendment revise the threshold, Rs 10,000/- now to apply for each single transaction. (Effective from 1st day of April 2025)

Section 194D

Insurance commission: requires that any person responsible for paying to a resident any income by way of remuneration or reward, whether by way of commission or otherwise, for soliciting or procuring insurance business (including business relating to the continuance,



renewal or revival of policies of insurance) shall, deduct income-tax thereon at the rates of 5% (other than companies) and 10% (domestic companies) provided that the amount of such payment exceeds Rs 15,000/- in a financial year. The amendment revise the threshold to Rs 20,000/- in a financial year. (Effective from 1st day of April 2025)

Section 194G

Commission, etc., on sale of lottery tickets: It requires that any person who is responsible for paying, to any person, who is or has been stocking, distributing, purchasing or selling lottery tickets, any income by way of commission, remuneration or prize (by whatever name called) on such tickets, shall deduct income-tax thereon at the rate of 2%, if the amount paid during a financial year exceeds Rs. 15,000/-. The amendment revise the threshold to Rs 20,000/- in a financial year. (Effective from 1st day of April 2025)

Section 194H

Commission or brokerage: It requires that any person, not being an individual or a Hindu undivided family, who is responsible for paying, to a resident, any income by way of commission (not being insurance commission referred to in section 194D) or brokerage, shall deduct income-tax thereon at the rate of 2%, if the amount paid during a financial year exceeds Rs. 15,000/-. The amendment revise the threshold to Rs 20,000/- in a financial year. (Effective from 1st day of April 2025)

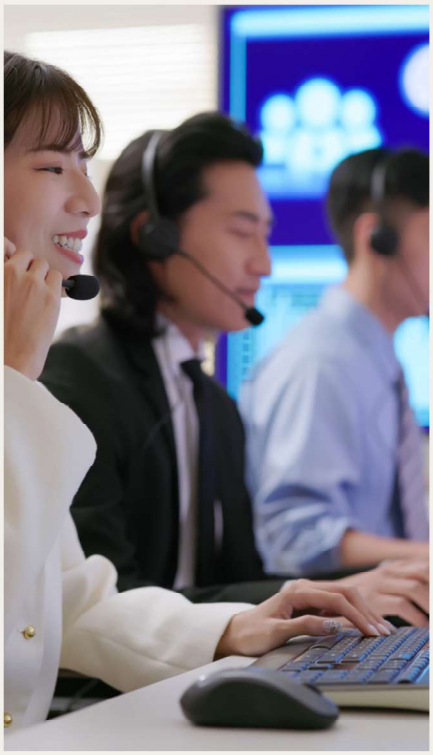
Section 194-I

Rent: It requires that any person, not being an individual or a Hindu undivided family, who is responsible for paying to a resident any income by way of rent,

shall deduct income-tax at the rate of 2%, when the amount of such rental income exceeds Rs. 2,40,000/- in a financial year. The amendment revise the threshold to Rs. 50,000/- in a month or part of a month. (Effective from 1st day of April 2025)

Section 194J

Fees for professional or technical services:
It requires for deduction of tax at source on payment by any person, not being an individual or a Hindu undivided family, who pays to a resident any sum of the nature of fees for professional or technical services, any remuneration or fees or commission by whatever name called, other than those on which tax is deductible under section 192, to a director of a company, or royalty, or any sum referred to in section 28(va), at the rate of 10%. The current threshold is Rs 30,000/-. The amendment revise the threshold to Rs 50,000/- in a financial year. (Effective from 1st day of April 2025)



Section 194K

Income in respect of units:It requires that for any person responsible for paying to a resident any income in respect of units of a Mutual Fund specified under clause (23D) of section 10; or units from the Administrator of the specified undertaking; or units from the specified company, shall, deduct income-tax at the rate of 10%, provided the amount of such income to a payee exceeds Rs. 5,000/- in a year. The amendment revise the threshold to Rs 10,000/- in a financial year. (Effective from 1st day of April 2025)

Section 194LA

Payment of compensation on acquisition of certain immovable property:It requires that any person responsible for paying to a resident any sum, being in the nature of compensation or the enhanced compensation or the consideration or the enhanced consideration on account of compulsory acquisition,

under any law for the time being in force, of any immovable property (other than agricultural land), shall, deduct an amount equal to 10% of such sum as income-tax thereon, provided that such amount exceeds Rs. 2,50,000/- in a financial year. The amendment revise the threshold to Rs 5,00,000/- in a financial year. (Effective from 1st day of April 2025)

TCS rates on timber and forest produce, and definition of forest produce rationalised:

Section 206C(1) states that every seller shall collect tax at source at 2.5 per cent from the buyer of goods of certain specified nature i.e. timber obtained under a forest lease, timber obtained by any mode other than under a forest lease, and any other forest produce not being timber or tendu leaves. It has been amended to provide that "forest produce" shall have the same meaning as defined in any State Act for the time being in force, or in the Indian Forest Act, 1927. Further TCS rates have been reduced to 2 percent, for timber or any other forest produce (not being tendu leaves) obtained under a forest lease, and timber obtained by any mode other than under a forest lease. (Effective from 1st day of April 2025)

Specified Undertaking of the Unit Trust of India

SUUTI was created as a successor of the erstwhile Unit Trust of India (UTI) and is mandated to liquidate the Government liabilities on account of erstwhile UTI. Section 13(1) of the UTI Repeal Act 2002, exempt SUUTI from payment of income-tax up to 31st day of March, 2025. The exemption has been extended till 31st day of March, 2027. (Effective from 1st day of April 2025)

Extension of timeline for tax benefits to start-ups

The existing provisions of Section 80-IAC of the Act, provide for a deduction of an amount equal to hundred percent of the profits and gains derived from an eligible business by an eligible start-up for three consecutive assessment years out of ten years, beginning from the year of incorporation, at the option of the assessee, subject to the condition that the total turnover of its business does not exceed one hundred crore rupees,

it is holding a certificate of eligible business from the Inter-Ministerial Board of Certification, and it is incorporated on or after the 1st day of April, 2016 but before the 1st day of April, 2025. It has been amend extend the benefit for another period of five years, i.e. for start-ups incorporated before 1st April 2030. (Effective from 1st day of April 2025)

Scheme of presumptive taxation extended for non-resident providing services for electronics manufacturing facility:

A comprehensive program for the development of semiconductors and display manufacturing ecosystem in India was approved by Government of India. In this context, non-residents will be providing support in setting up of such electronics manufacturing facilities by deploying the technology and providing support services. A new section 44BBD has been inserted, which deems twenty-five per cent of the aggregate amount received/ receivable by, or paid/ payable to, the non-resident, on account of providing services or technology, as profits and gains of such non-resident from this business.

A new proviso has also been added to provide that Section 44DA (Income by way of royalties, etc., in case of non-residents) and Section 115A (Tax on dividends, royalty and technical service fees in the case of foreign companies) will not apply to income calculated under Section 44BBD. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Extension of benefits of tonnage tax scheme to inland vessels

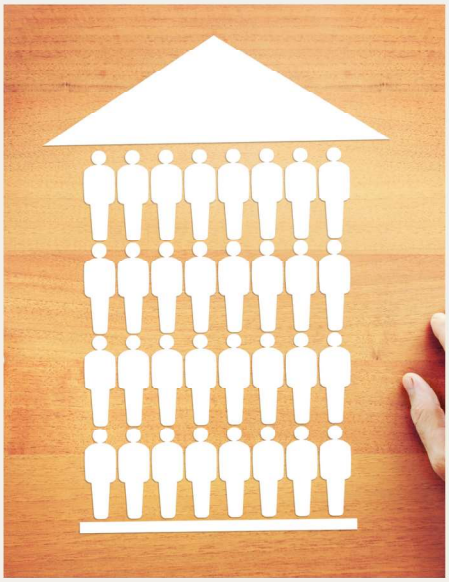
Tonnage tax scheme is applicable for Indian shipping industry wherein the qualifying shipping companies are given the choice to opt for the tonnage tax regime or continue to remain within the normal corporate tax regime. Section 115VD has been amended to include inland vessels being eligible to be a qualified ship so as to extend the benefits of tonnage tax scheme to Inland Vessels registered under Inland Vessels Act, 2021. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Rationalisation of transfer pricing provisions for carrying out multi-year arm's length price determination:

Transfer pricing provisions contained in sections 92 to 92F, enable computation of income arising from an international transaction or a specified domestic transaction with regard to an arm's length price. It has been amended to provide that the arm's length price (ALP) determined in relation to an international transaction or a specified domestic transaction for any previous year, at the option of the assessee, shall apply to the similar transaction for the two consecutive previous years immediately following such previous year. The assessee shall be required to exercise an option,

Transfer Pricing Officer (TPO) may by an order within one month from the end of the month in which such option is exercised, declare that the option is valid, TPO shall determine the ALP in relation to such similar transaction for such consecutive previous years, Assessing Officer (AO) shall recompute the total income of the assessee in conformity with the ALP so determined by the TPO. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Rationalisation of provisions related to carry forward of losses in case of amalgamation



Section 72A and 72AA provide provisions relating to carry forward and set-off of accumulated loss and unabsorbed depreciation allowance in cases of amalgamation or business reorganization. It has been amended to provide that any loss forming part of the accumulated loss of the predecessor entity, which is deemed to be the loss of the successor entity, shall be eligible to be carried forward for not more than eight assessment years immediately succeeding the assessment year for which such loss was first computed for original predecessor entity. (Effective from 1st day of April 2026)

Incentives to International Financial Services Centre:

International Financial Services Centre (IFSC) is a jurisdiction that provides financial services to non-residents and residents, to the extent permissible under the current regulations, in any currency except Indian Rupee. In order to promote the development of world-class financial infrastructure in India, several tax concessions have been provided to units located in IFSC.

Extension of sunset dates for several tax concessions pertaining to IFSC: The sunset dates for commencement of operations of IFSC units for several tax concessions, or relocation of funds to IFSC has been extended to 31st day of March, 2030. This extension of sunset date relates to sub-section 2(d) of section 80LA (Deductions in respect of certain incomes of Offshore Banking Units and International Financial Services Centre), clause (4D), clause (4F) and clause (4H) of section 10 (Incomes not included in total income) and clause (viiad) of section 47 (Transactions not regarded as transfer). (Effective from 1st day of April 2025)

Exemption on life insurance policy from IFSC Insurance offices:

Section 10(10D) provides exemption to sum received under a life insurance policy including the sum allocated by way of bonus on such policy, subject to proviso that exemption under the said clause is not available if annual amount of premium or aggregate of premiums payable is above Rs. 2.5 lakhs for unit linked insurance policies, and Rs. 5 lakhs for life insurance policies other than unit linked insurance policies. This clause has been amended to provide that proceeds received on life insurance policy issued by IFSC insurance office shall be exempt without the condition related to the maximum premium payable on such policy as mentioned above. (Effective from 1st day of April 2025)

Exemption to capital gains and dividend for ship leasing units in IFSC:

Section 10(4H) has been amended to provide exemption to non-residents or units of IFSC engaged in ship leasing on capital gains tax on transfer of equity shares of domestic companies being units of IFSC, engaged in ship leasing. Further section 10(34B) has been amended to provide exemption to dividend paid by a company being a unit of IFSC engaged in ship leasing, to a unit of IFSC engaged in ship leasing. (Effective from 1st day of April 2025)

Rationalisation of definition of 'dividend' for treasury centres in IFSC: Section 2(22) has been amended to provide that any advance or loan between two group entities, where one of the group entity is a "Finance company" or a "Finance unit" in IFSC set up as a global or regional corporate treasury centre for undertaking treasury activities or treasury services and the 'parent entity' or 'principal entity' of such 'group entity' is listed on stock exchange in a country or territory outside India, other than the country or territory outside India as may be specified by the Board in this behalf, shall not be treated as 'dividend'. The conditions for a 'group entity', 'Principal entity' and the 'parent entity' shall be separately prescribed. (Effective from 1st day of April 2025)

Simplified regime for fund managers based in IFSC:

There is a need to provide a specific simplified regime for IFSC based fund managers, managing funds situated in other jurisdiction so that fund managers in IFSC are at par with the fund management entities in competing foreign jurisdiction. The provisions of section 9A have been so amended. (Effective from 1st day of April 2025)

Amendment of Section 10 related to Exempt income of Non-Residents

Section 10 (4E) has been amended to provide that the income of a non-resident on account of transfer of non-deliverable forward contracts or offshore derivative instruments or over the-counter derivatives, or distribution of income on offshore derivative instruments or over the-counter derivatives, entered into with Foreign Portfolio Investors being an IFSC unit shall not be included in the total income subject to certain conditions as may be prescribed. Thus both offshore ant OTC derivatives get tax exemption. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Inclusion of retail schemes and Exchange Traded Funds (ETFs) in the existing relocation regime of funds of IFSCA:

The income of retail schemes and Exchange Traded Funds (ETFs) located in the IFSC and, is regulated under the International Financial Services Centres Authority Act, was granted exemption along with previously exempted specified funds as per section 10(4D).

Such retail schemes/ ETFs have now been included within the definition of resultant fund for the purposes of section 47(viiad) so that relocation of original funds to such funds in the IFSC is also a tax-neutral transaction. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Extension of date of making investment by Sovereign Wealth Funds, Pension Funds & others and rationalisation of tax exemptions:

Section 10(23FE) provides for the exemption to specified persons from the income in the nature of dividend, interest, long-term capital gains or certain other incomes arising from an investment made by it in India. Specified persons are Sovereign Wealth Fund (SWF), Pension Fund (PF) which fulfils conditions prescribed therein and are specified for this purpose by notification. Section 10(23FE) has been amended to provide that long-term capital gains arising from an investment made by it in India, shall not be included in the total income of a specified person, and the date of investment under the said clause has been extended to 31st day of March, 2030. (Effective from 1st day of April 2025)

Simplification of tax provisions for charitable trusts/institutions:

Income of any trust or institution registered under section 12AB of the Act is exempt subject to the fulfilment of the conditions provided in the Act. Section 12A and 12AB provides for procedure relating to application, approval and cancellation of the registration and to claim exemption under section 11 and 12 of Income Tax Act.

Period of registration of smaller trusts or institutions: Section 12AB has been amended to increase the period of validity of registration of trust or institution from 5 years to 10 years, in cases where the trust or institution made an application under section 12A(1)(ac) and the total income of such trust or institution, without giving effect to the provisions of sections 11 and 12, does not exceed Rs. 5 crores during each of the two previous year, preceding to the previous year in which such application is made. (Effective from 1st day of April 2025)

Rationalisation of 'specified violation' for cancellation of registration of trusts or institutions:

Section 12AB(4) provides that where registration or provisional registration of a trust or an institution has been granted and subsequently, the Principal Commissioner or Commissioner has noticed occurrence of one or more specified violations during any previous year, he shall, pass an order in writing, cancelling the registration of such trust or institution. Section 12AB(4) has been amended to provide that the situations where the application for registration of trust or institution is not complete, shall not be treated as specified violation for the purpose of the said sub-section. (Effective from 1st day of April 2025)

Rationalisation of persons specified under section 13(3) for trusts or institutions:

Section 13 provides, that section 11 or section 12 shall not apply to exclude any income from the total income of trust of institution, if such income or any property of the trust or the institution is used or applied, directly or indirectly for the benefit of any person so specified. It has been amended to provide that persons referred to in Section 13(3)(b), shall be any person whose total contribution to the trust or institution, during the relevant previous year exceeds one lakh rupees, or, in aggregate up to the end of the relevant previous year exceeds ten lakh rupees. The relative of any such person or any concern in which such person has a substantial interest shall not be included. (Effective from 1st day of April 2025)

Rationalisation in taxation of Business trusts:

Real Estate Investment Trust (REIT) and Infrastructure Investment Trust (InVIT) are commonly referred to as business trusts. The special taxation regime under section 115UA, provides a pass-through status to business trusts in respect of interest income, dividend income and rental income subject to conditions. Such income is taxable in the hands of the unit holders unless specifically exempted.

Section 115UA(2) provides that the total income of a business trust shall be charged to tax at the maximum marginal rate, subject to the provisions of section 111A (tax on short term capital gain) and section 112 (tax on long term capital gain). It has been amended to include section 112A (tax on long term capital gain in certain cases) as well. Thus the total income of a business trust shall be charged to tax at the maximum marginal rate, subject to the provisions of section 111A, section 112 and section 112A. (Effective from 1st day of April 2026 i.e. AY 2026-27)

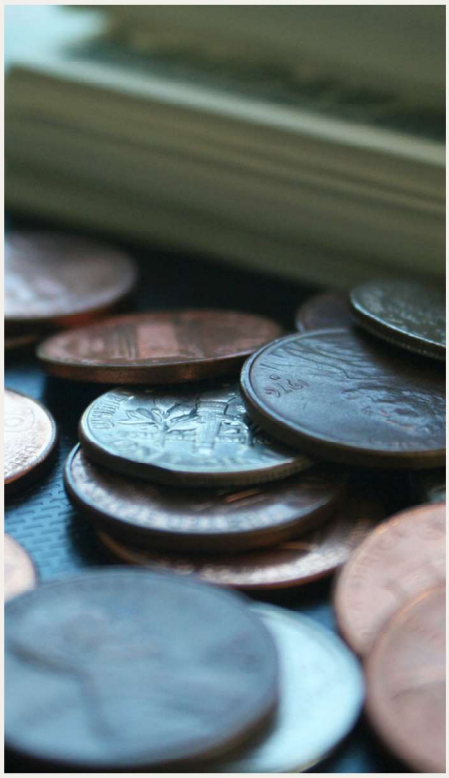
Harmonisation of 'Significant Economic Presence' applicability with 'Business Connection'

Section 9 provides that all income accruing or arising, whether directly or indirectly, through or from any business connection in India shall be deemed to accrue or arise in India. Explanation 1 provides that in the case of a non-resident, no income shall be deemed to accrue or arise in India to him through or from operations which are confined to the purchase of goods in India for the purpose of export. Explanation 2A provides that the significant economic presence of a non-resident in India shall constitute "business connection" in India and "significant economic presence" for this purpose shall mean transaction in respect of any goods carried out by a non-resident with any person in India. Explanation 2A has been amended

so that the transactions or activities of a non-resident in India which are confined to the purchase of goods in India for the purpose of export shall not constitute significant economic presence. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Exclusion of Indirect Participation from 5% Threshold in Section 9A

Section 9A ensures that an eligible investment fund managed by an Indian fund manager is not considered to have a business connection or residency in India. It provides that Indian residents' investment in the fund should not exceed 5% of its corpus. The both direct and indirect investments by Indian residents were counted under the 5% limit. It has been amended to remove inclusion of indirect investments. (Effective from 1st day of April 2025)



Amendment of Definition of 'Capital Asset'

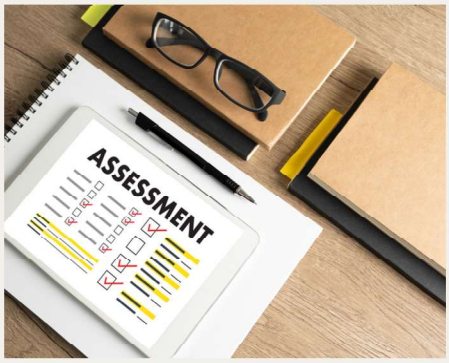
It has been amended to provide that any security held by investment funds referred to in Section 115UB which has invested in such security in accordance with the regulations made under SEBI and IFSCA would be treated as capital asset only so that any income arising from transfer of such security would be in the nature of capital gain. (Effective from 1st day of April 2026 i.e. AY 2026-27)

Rationalisation of taxation of capital gains on transfer of capital assets by non-residents:

Section 115AD provide that where the total income of a specified fund or Foreign Institutional Investor includes, income by way of short-term or long-term capital gains arising from the transfer of securities (other than units referred to in section 115AB), the income-tax on the income by way of long-term capital gains included in the total income, shall be calculated at the rate of ten per cent. The provisions of section 115AD has been amended to provide that income-tax on the income by way of long-term capital gains shall be calculated at the rate of twelve and one-half per cent. (Effective from 1st day of April 2026 i.e. AY 2026-27)

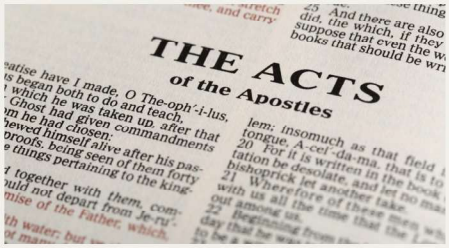
Amendments proposed in provisions of Block assessment for search and requisition cases:

The concept of block assessment was introduced by amending sections 158B to 158BI to be made applicable where a search under section 132 of the Act is initiated or requisition under section 132A is made, on or after 1st September, 2024. Section 158B has been amended to add the term "virtual digital asset" to the definition of "undisclosed income". Section 158BE has been amended to provide that time-limit for completion of block assessment is proposed to be made as twelve months from end of the quarter in which the last of the authorisations for search or requisition has been executed. The undisclosed income will be directly computed as the sum of income declared by the assessee and income determined by the Assessing Officer. (Effective from 1st day of February 2025)



Adjustments to be made for inconsistencies in ITR compared to previously filed ITRs:

Section 143(1)(a) of the Income-tax Act allows the Income tax department to process Income-tax Returns and check for basic errors, incorrect calculations, and mismatches in tax payments. It has been amended to provide that if there is a difference between the details provided in the current ITR and the ITRs of previous years, the tax department can make adjustments while processing the return. It will define what qualifies as an inconsistency under this provision. If any such mismatch is found, the taxpayer may be asked to clarify or correct the return before final processing. (Effective from 1st day of April 2025)



Non-applicability of Section 271AAB of the Act:

Section 271AAB(1A) relates to penalty in respect of searches initiated after 15th December 2016. It has been amended to provide that these provisions shall not be applicable to the assessee in whose case search has been initiated under provisions of Block Assessment under section 132 on or after the 1st day of September, 2024. (Effective from 1st day of September 2024)

Amendments proposed in sections 132 and 132B for rationalising provisions:

Section 132 relates to search and seizure. Section 132(8) provides that the last date for taking approval for retention of seized books of account or other documents is 30 days from the date of the assessment or reassessment or re-computation order. It has been amended to provide that the time limit for taking approval for retention shall be one month from end of the quarter in which the assessment or reassessment or re-computation order has been made. The clause (ii) of Explanation 1 to the section 132B has been amended to update referencing to section 158B instead of the present section 158BE. (Effective from 1st day of April 2025)

Time limit to impose penalties rationalised:

Section 275 provide for the bar of limitation for imposing penalties, and is having multiple timelines for imposition of penalties in various cases. It has been amended to provide that any order imposing a penalty under Chapter XXI shall not be passed after the expiry of six months from the end of the quarter in which the connected proceedings are completed, or the order of appeal is received by the jurisdictional Principal Commissioner or Commissioner, or the order of revision is passed, or the notice for imposition of penalty is issued, as the case may be. (Effective from 1st day of April 2025)

Clarification regarding commencement date and the end date of the period stayed by the Court:

Section 144BA, section 153, section 153B, section 158BE, section 158BFA, section 263, section 264 and Rule 68B of Schedule-II, provide that period during which the proceedings under respective provisions are stayed by an order or injunction of any court, shall be excluded in computing the time limit for conclusion of the proceedings. The provisions have been amended so as to exclude the period commencing on the date on which stay was granted by an order or injunction of any court and ending on the date on which certified copy of the order vacating the stay was received by the jurisdictional Principal Commissioner or Commissioner. (Effective from 1st day of April 2025)

Obligation to furnish information in respect of crypto-asset:

Section 115BBH provides that the transfer of virtual digital assets (VDA) is to be taxed at the rate of 30% with no deduction in respect of expenditure (other than cost of acquisition) to be allowed. Section 194S provide for deduction of tax on payment for transfer of VDA at the rate of 1% of transaction value including cases where the transaction occurs in kind or partly in cash. Section 285BAA has now been inserted to provide for obligation to furnish information of crypto-asset. The definition of VDA under section 2(47A) has been expanded to include any crypto-asset being a digital representation of value that relies on a cryptographically secured distributed ledger or a similar technology to validate and secure transactions, whether or not already included in the definition of virtual digital asset or not. (Effective from 1st day of April 2026).

Increasing time limit available to pass order under section 115VP:

Section 115VP pertains to method and time of opting for tonnage tax scheme. It provides that a qualifying company may opt for the tonnage tax scheme by making an application to the Joint Commissioner having jurisdiction over the company, as prescribed, for such scheme. The order, whether approving or rejecting the application to exercise option of tonnage tax scheme, to be passed before the expiry of one month from the end of the month in which the application was received. It has been amended to provide that for application received on or after the 1st day of April, 2025, order shall be passed before the expiry of three months from the end of the quarter in which such application was received. (Effective from 1st day of April 2025).

Excluding the period such as court stay etc. for calculating time limit to pass an order:

Section 206C(7A) provides that no order shall be made deeming a person to be an assessee in default for failure to collect the whole or any part of the tax from any person, after the expiry of six years from the end of the financial year in which tax was collectible or two years from the end of the financial year in which the correction statement is delivered, whichever is later. It has been amended to provide the exclusion of the time period such as period for which proceedings were stayed by an order of any court, etc. is required to be provided. (Effective from 1st day of April 2025).

Exemption from prosecution for delayed payment of TCS in certain cases:

Section 276BB of the Act provides for prosecution in case of failure to pay the tax collected at source to the credit of Central Government. It has been amended to provide that the prosecution shall not be instituted against a person covered under the said section, if the payment of the tax collected at source has been made to the credit of the Central Government at any time on or before the time prescribed for filing the quarterly statement. (Effective from 1st day of April 2025).

Certain penalties to be imposed by the Assessing Officer:

Sections 271C, 271CA, 271D, 271DA, 271DB and 271E provide that penalty under these sections shall be imposed by the Joint Commissioner, even though, assessment in such cases were being made by the Assessing Officer. It has been amended to provide that penalties under these sections shall be levied by the Assessing Officer in place of Joint Commissioner, subject to the provisions of section 274(2).

The, Assessing Officer shall take the prior approval of Joint Commissioner for the passing of penalty order, where penalty amount exceeds the limit specified. (Effective from 1st day of April 2025).

Removing date restrictions on framing the schemes in certain cases:

The enabling provision for notifying faceless schemes under sections 92CA, 144C, 253 and 255 of the Act were introduced. It has been amended to provide that end date prescribed for faceless schemes may be omitted so as to provide that Central Government may issue directions beyond the cut-off date of 31st day of March, 2025, if required. (Effective from 1st day of April 2025).

Extending the processing period of application seeking immunity from penalty and prosecution:

Section 270AA provides procedure of granting immunity by the Assessing Officer from imposition of penalty or prosecution, subject to fulfilment of certain conditions as mentioned therein. An application for granting immunity from imposition of penalty shall be made within one month from the end of the month in which the order has been received by the assessee. Assessing Officer shall pass an order accepting or rejecting the application, within a period of one month from the end of the month in which the application requesting immunity is received. It has been amended to extend the processing period to three months from the end of the month in which application for immunity is received by the Assessing Officer. (Effective from 1st day of April 2025)

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Disclaimer:

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CMA Yash Paul Bhola

Ex-Director
(Finance), NFL.

PROTECT CAPITAL AND MANAGE RISK DURING A TOUGH TIME

In April, the Nifty 50 index rebounded by 5% despite facing challenges due to ongoing tariff disputes and rising tensions between India and Pakistan. However, as of April 29, 2025, it remains 7.40% below its all-time high. A significant factor supporting the market's recovery is the strong foreign institutional investor (FII) cash inflows, which have reached ₹ 37,325 crores over the past 10 trading sessions.

Most countries are experiencing challenging economic situations worldwide. China is looking to provide stimulus, and Japan is raising interest rates. India is encountering numerous internal and external challenges but remains the fastest-growing major economy.

The war in Ukraine & Russia, which began two years ago and is not showing any signs of ending, has a significant impact on the global economy, including India. On the other hand, Israel and Iran's Proxy conflict for almost a year now also not showing any sign of ending. It is now escalating directly between Israel and Iran.

"Exploring Different Ways to Wear and Style Scarves for Every Occasion."

This geopolitical tension can lead to disruptions in trade and investment, affecting the Indian economy. War is not just a financial loss and political win and gain; it has a social impact on generations. Where do we go from here? It is a very crucial question.

Challenges for India:

1. Geopolitical Conflict:

No words of condemnation can truly capture the horror of the brutal terror attack that claimed the lives of 28 innocent people in Pahalgam on Tuesday, April 22, 2025. This cold-blooded massacre is horrifying and deeply upsetting. The sheer brutality of the violence shocks the senses and evokes overwhelming sorrow for the lives lost and the families suffering in an instant

On the other hand, the ongoing war impacts the global economy, including India. In current situations, the growth of the Indian economy will be disrupted, and the market will act negatively in the near future.

The turmoil in the Middle East is also further unsettling economies worldwide. It will disrupt the Brent crude oil supply chain, revealing the impact of rising oil prices domestically, which could exacerbate inflation. On the other hand, it has been noticed that there has been a downward pressure on the earnings of large companies in this quarter.

2. Valuations:

Given the market rally over the past few years, valuations have moved above their 10-year averages across market segments. Almost half of the stocks in the NSE 500 are traded at a Price-to-earnings or PE ratio of more than 50. Mid and Small companies' stocks are overvalued; nobody denies the truth.

The valuation premium is higher across all market segments. As of July, Nifty 50 is trading at a premium of 21% to its 10-year average, while mid- and small-cap indices are trading at 53% and 62%, respectively. Regarding relative valuations, both mid- and small-cap indices are trading at a significant premium over Nifty 50. In the given situations, equity markets are awaiting a sharp fall.

Besides, India has been battling rural slowdown, slow capex growth, and less job generation. These are also among the significant challenges obstructing its growth

3.Liquidity

On the other hand, China's dominance in global exports, particularly concerning capital-intensive products, presents significant challenges for India in establishing an independent manufacturing ecosystem from Chinese influence.

Indian stock market may test a deep correction due to the high rise of crude oil prices and China's stimulus packages. Analysts believe that a tremendous amount of money will be shifted from Emerging Markets (EM) to China, including from India, as valuations are attractive, adversely impacting India's equity market.

The growth story of the economy:

India has made significant strides in the global economy, ranking fifth in the world GDP rankings for 2024 with a GDP of $3.94 trillion. This growth is attributed to increased household spending, especially in rural areas, driven by higher agricultural incomes and government support programs.

India's growth story continues. Its $4 Trillions economy is soon gearing up to $9 Trillions by 2034—that's 2.5x growth over the next decade!

The economy has shown strong growth, increasing by 8.2 percent in FY24. It is expected to grow at a rate of 6.5-7 percent over the next five years. The government's significant capital expenditure has been a key factor in driving this growth, with gross fixed capital formation reaching 30.8 percent of GDP in FY24, up from 29.5 percent in FY19.

The World Bank, IMF, and Moody consistently upgraded India's growth rate. Recently, Moody's Ratings upgraded India's GDP growth forecast to 7.2% in 2024 and 6.6% in 2025.

India is only the fourth economy in the world to cross $700 Billions in Forex reserves after China, Japan, and Switzerland. The forex reserves were at $704.89 Billions , having risen by $12.6 Billions on September 27, 2024, their biggest weekly increase since mid-July 2023, Reserve Bank of India (RBI) data showed on October 4, 2024. But India's forex reserves are now about $686.15 Billions as of April 18, 2025, which is $18.74 Billions , away from the record-high amount of $704.89 Billions .

However, India has consistently underperformed in unskilled and low-skilled manufacturing and, as a result, has yet to create more jobs in manufacturing activities. In contrast, India lifted 250 million people above the poverty line during the last ten years.

However, India needs to create a favorable environment to attract investment and ensure the participation of MSMEs in India's growth journey.

Risk on Investments:

Generally, two types of risks affect investors' returns: systematic risk and unsystematic risk.

Systematic risk refers to the risk inherent to the entire market. It is also known as undiversifiable, volatility, or market risk and affects the overall market, not just a particular stock or industry.

The other risk is known as Unsystematic risk, which is often specific to an individual company due to its management, financial obligation, or location. Unsystematic risk can be reduced by diversifying your portfolio across asset classes. Diversification can reduce overall volatility and perform better in uncertain times, providing investors with a sense of reassurance and confidence.

What should investors do?

Given the current market valuations and **diversifying investments** across asset classes, investors can mitigate the risks of overvalued markets and grab opportunities that may arise during the market correction. A well-defined vision of your financial goals and objectives is key to staying focused and determined in your investment strategy.

Uncertainty and volatility in the market always open up potential growth opportunities in fundamental stocks that are more reasonably priced and have more intrinsic value. These stocks, which are undervalued due to market conditions, can provide significant returns when the market corrects itself. A stock-specific approach focusing on the buy side may help investors in these uncertain circumstances.

However, unpredictability and uncertainty in market movements offer an opportunity to invest lump sums in a staggered manner. Still, you can continue investing through SIPs and obtain more units during the market correction.

Rebalancing

Rebalancing your portfolio based on asset allocations mitigates investment risk and protects you from adverse market conditions. Strategic asset allocation is a long-term investment strategy whereby the investor maintains a fixed proportion of assets in his portfolio by rebalancing risk and returns through different asset classes. It is popularly known as a diversified portfolio. It is more effective through a disciplined approach, irrespective of market volatility. Once your financial goals are achieved, you must transfer your corpus to secured and safe funds.

Staying invested, regardless of market volatility, is a strategy that can generate decent returns in the long term. Ensuring that your portfolio is sufficiently diversified across asset classes is essential. Investments in Debt instruments, equity and equity-related instruments, bonds, real assets, and commodities such as Gold and silver can help beat market volatility and reap good returns in the long run.

Invest in Debt Funds:

The RBI has projected inflation at 4% from 4.2% for 2025-26 and GDP growth at 6.5%. With the current repo rate at 6%, market experts anticipate a 50 basis point cut in FY 2025-26 because the central bank changed its stance to "accommodative" from "neutral."

Due to interest rate changes, medium to long-term debt funds are gained impressively during this period and continue further based on the rate cuts by the RBI. It is a good time to take fixed-income exposure at higher rates before softening starts. If you buy today at these levels, you can change the outcome of your future returns by a fair margin because the price you are getting now in all asset classes is reasonably low.

Invest in Commodities:

Gold prices have surged into uncharted territory, driven by geopolitical turmoil and due to America's reciprocal tariff plan worldwide. Gold price (24 carats) touched ₹1,01,370 per 10 grams in the Mumbai market on April 22, 2025, generating over 30% year-to-date return.

Since September 2024, gold has gained 29.65 percent in the international market due to geopolitical tension and reciprocal tariffs. In April 2025 alone, gold rose around 15 percent at its peak, achieving the most significant one-month gain since late 2020. The dollar index has been declining for quite some time now, losing over 9% since the beginning of this year, leading to a trust deficit, benefitting gold. When interest rates are cut and the potential returns on government bonds fall, gold begins to look attractive.

Investors may hold at least 10 to 15 percent gold to mitigate portfolio risk. However, gold does not generate income like equity and debt. You can buy gold through exchange-traded funds (ETFs), gold bonds, and gold mutual funds and earn capital gains. Think of these as gold investments that allow you to invest without buying a physical bar of gold.

Why should you invest in Equity & equity-related products?

Liquidity has been another driving factor for Indian equities. Higher liquidity led to lower interest rates, which led to valuation re-ratings of many companies. Further, India's strong absolute and relative GDP growth creates an atmosphere conducive to domestic retail investment, apart from EPFO and NPS contributions. The average monthly Systematic Investment Plan (SIP) inflow of ₹ 24,105 crore for FY24-25 has been increasing by about 45.21% on comparing the average SIP inflow data of FY23-24. In December 2024, the total amount collected through SIP was ₹26,459 crore, marking an all-time high in SIP investment by retail investors.

One of the primary reasons for the equity market rally has been robust earning growth and a resilient balance sheet of corporate India. Over the past five years, corporate earnings have been growing consistently, coupled with earnings of the NIFTY 500 Index growing at a CAGR of 22%.

The geopolitical turbulence, spike in crude oil prices, and Trump's tariff war in the USA are causes of concern for the capital market. A worsening geopolitical situation is the biggest near-term risk to the global equity market. Indian stock markets(Nifty 50) have sharply declined about 16.50% from their all-time high and now recovered up to 11.36% from the 21850 level.

However, events such as war present a buying opportunity for long-term investors. Even with the Israel-Palestine conflict, the markets dropped sharply initially but bounced back quickly as sentiment improved and investors realized that the development remained localized.

Expensive valuations warrant an investment approach in hybrid and multi-asset allocation schemes. Large caps and hybrid funds should remain the portfolio's core, and one should stay invested in the markets irrespective of market trends and volatility. There should also be selective exposure to midcaps and small caps. In this scenario, you should consider multi-cap/ Flexi cap funds. Keep your eyes open on the market, follow the current trend, and plan for a better tomorrow.

Summary

Geopolitical risks are no different. Historically, equity markets have generally overreacted amid looming geopolitical risks but found their feet soon. Iraq's invasion of Kuwait in 1990 triggered a sharp correction in the markets worldwide, and the oil price doubled. Four months later, equities markets were back at their peak.

Two basic investment strategies, asset allocation, and diversification, can help you manage both systemic and non-systemic risk. Diversification is more effective in mitigating unsystematic risk, known as specific or idiosyncratic risk. This type of risk is specific to individual assets or companies and can be reduced by spreading investments across different assets with varying risk profiles.

As a disciplined investor, you must examine and rebalance your portfolio once a year to keep a fixed allocation of assets. The cost of rebalancing is not a significant factor as it is generally fixed for each year, but capital gains tax is a prime factor for rebalancing. However, rebalancing the portfolio at the end of each fiscal year benefits the investor regardless of hurdles such as economic growth, market volatility, capital gains tax, and rebalancing costs.

Disclaimer:

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is a Consultant GM/Finance in IRCON, an Editorial Board Member of "The Worldonomics Times," and an "Eminent Author" awardee. He has 34 years of experience in finance and accounts, portfolio management,

THE ECONOMIC IMPACT OF AKSHAYA TRITIYA: TRADITION MEETS COMMERCE

Akshaya Tritiya, a significant festival in the Hindu and Jain calendars, symbolizes prosperity, eternal success, and good fortune. Observed on the third lunar day of the bright half of the Hindu month of Vaisakha (April–May), it is considered an auspicious time for starting new ventures, making investments, and purchasing valuable items—especially gold. While its roots lie in spiritual and cultural traditions, Akshaya Tritiya has evolved into a major driver of economic activity in modern India, influencing various sectors in both direct and indirect ways.

1. Boost to the Gold and Jewelry Market

The most visible economic impact of Akshaya Tritiya is on the gold and jewelry industry. Buying gold on this day is believed to bring unending wealth and prosperity. As a result, jewelers across India witness a significant spike in sales—often recording their highest revenues of the year during this period. According to industry estimates, sales during Akshaya Tritiya account for a substantial portion of annual gold demand in India, which is one of the world's largest consumers of gold.

This seasonal demand also influences international gold prices, particularly on the London Bullion Market, and contributes to increased imports, which in turn affect India's trade balance and current account deficit.

2. Rise in Retail and E-commerce Sales

Retail businesses, especially those selling luxury goods, electronics, and household items, see a surge during Akshaya Tritiya. Many retailers and e-commerce platforms align their promotional campaigns and discounts with the festival, banking on the sentiment of auspiciousness to drive consumer spending. Online platforms now even offer "digital gold" and investment options tailored for Akshaya Tritiya, reflecting a digital shift in consumption behavior.

3. Real Estate and Vehicle Sales

Traditionally, Akshaya Tritiya is also seen as an ideal time to make big-ticket purchases like real estate or vehicles. Developers and automobile companies often launch new projects or offer special incentives during this period. While the boost may not match that seen during Diwali or Dussehra, it still represents a meaningful spike in activity for these sectors.

4. Employment and Informal Economy Uplift

The surge in consumption around Akshaya Tritiya stimulates temporary employment, especially in the jewelry, retail, logistics, and hospitality sectors. Artisans, small traders, delivery personnel, and seasonal workers benefit from increased demand. This festive economic cycle often feeds into the informal sector, which plays a crucial role in India's broader economic structure.

5. Banking and Financial Services

Banks and financial institutions use Akshaya Tritiya to market investment products such as mutual funds, gold ETFs, fixed deposits, and insurance. The auspiciousness associated with starting new investments on this day provides a marketing advantage, helping increase customer engagement and portfolio diversification. Some fintech platforms have begun offering fractional ownership of gold or gold-backed securities to cater to digital-savvy consumers.

Conclusion

Akshaya Tritiya illustrates how cultural traditions can powerfully intersect with economic dynamics. What began as a spiritual observance has become a catalyst for commercial activity across sectors. As India continues to modernize, the festival's influence is expanding from physical gold to digital investments and online retail. In this way, Akshaya Tritiya is not just a symbol of eternal prosperity—it is an annual economic stimulus rooted in the country's cultural ethos.

CMA Geeta Dhingra

BSNL Chandigardh

TRADE BARRIERS IN INDIA: COMPREHENSIVE ANALYSIS OF TARIFF AND NON-TARIFF MEASURES TO PROTECT DOMESTIC INDUSTRY MERCE

Introduction

As one of the world's largest and most dynamic emerging economies, India faces a dual challenge: engaging with the global trading system while safeguarding its domestic industries from the adverse effects of unfettered imports. In the pursuit of self-reliance and sustainable industrialization, India employs a wide range of tariff and non-tariff barriers (NTBs) to regulate and restrict the import of foreign goods that may threaten local manufacturers. These tools are vital in achieving the goals of "Make in India" and "Atmanirbhar Bharat."

This article presents a comprehensive examination of trade barriers used by India to protect domestic goods, including detailed descriptions of all types of tariff and non-tariff measures, with examples and case studies

Tariff Barriers: Fiscal Instruments of Trade Policy

Tariff barriers are duties imposed on imported goods to make them more expensive and less attractive compared to domestically produced alternatives. They are the most direct and visible form of trade protection.

1.Basic Customs Duty (BCD)

The standard tax levied on imports under "The" Customs Tariff Act 1975.

Example:

In 2021, India increased BCD on television sets, refrigerators, and **AC compressors** to promote local assembly under the Make in India initiative.

2.Countervailing Duty (CVD)

Imposed to counteract any excise duty or internal taxes imposed on similar domestically produced goods.

Example:

When imported goods enjoy tax exemptions or subsidies abroad, CVD is applied to nullify this advantage.

3.Special Additional Duty (SAD) (Discontinued in most cases)

Earlier levied to counterbalance the VAT or sales tax applicable on local goods, SAD has now been replaced by the GST regime.

4.Protective Tariff

Imposed to protect a specific domestic industry from foreign competition, especially when it's in a nascent or vulnerable stage.

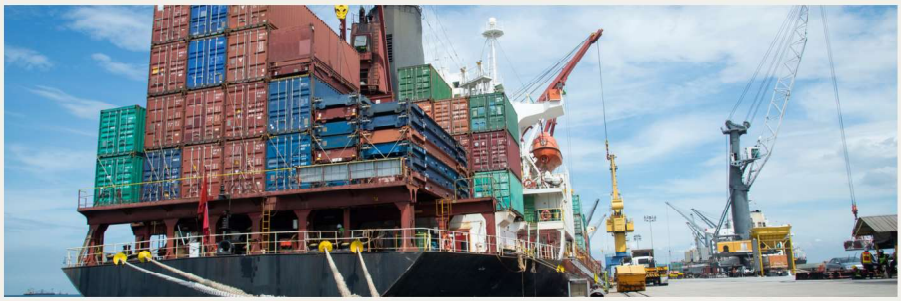
Example:
Protective tariffs on toys and footwear helped revive local manufacturing post-2020.

5.Anti-Dumping Duty

Levied when foreign producers sell goods in India below normal value, causing material injury to domestic industry.

Example:
Example: India imposed anti-dumping duties on **stainless steel, PVC resins, and Chinese** tyres to stop market distortion.

This article presents a comprehensive examination of trade barriers used by India to protect domestic goods, including detailed descriptions of all types of tariff and non-tariff measures, with examples and case studies



6.Safeguard Duty

A temporary levy imposed to protect domestic industries from a sudden surge in imports.

Example:
Safeguard duty on **solar panels** from China and Malaysia helped Indian solar manufacturers build capacity.

7.Social Welfare Surcharge (SWS)

1.Social Welfare Surcharge (SWS)
A surcharge (usually 10%) on customs duties, used to fund social schemes. Although not protective in intent, it adds to the landed cost of imports.

Non-Tariff Barriers (NTBs): Regulatory and Procedural Restrictions

Non-tariff barriers are policy tools other than duties or taxes used to restrict imports. These are often more subtle and may include licensing, quality norms, standards, quotas, and procedural hurdles. India uses NTBs extensively to manage trade and promote domestic manufacturing

Types of Non-Tariff Barriers in India

1.Import Licensing

- Import of specific goods is subject to licensing under the **Foreign Trade (Development and Regulation) Act, 1992**

- **Restricted items** require licenses issued by the Directorate General of Foreign Trade (DGFT).

- **Example:** Import of second-hand machinery or used capital goods often requires licensing.

2.Standards and Technical Regulations

Many goods must conform to Indian quality and safety standards set by the **Bureau of Indian Standards (BIS) or the Food Safety and Standards Authority of India (FSSAI)**.

Example:

- BIS certification made mandatory for **helmets, toys, tyres, steel products, and household appliances.**
- In 2020, toy imports fell sharply after India required all imported toys to have BIS certification.

3.Sanitary and Phytosanitary (SPS) Measures

1.Sanitary and Phytosanitary (SPS) Measures
These are health and safety requirements, especially relevant for imports of food, animals, and plants.

Example:

- India banned import of American poultry and eggs for several years due to avian influenza
- Strict pesticide residue norms on imported pulses and apples help protect consumer health and domestic farmers.

4.Quantitative Restrictions (Quotas)

A specific quantity of imports is allowed under quota, beyond which imports are restricted.

Example:

- Gold imports were regulated using quotas and special import conditions to manage current account deficits.

5.Pre-Shipment Inspection

Mandatory inspection of consignments before dispatch to ensure they meet Indian standards.

Example:

- Used electronics and waste imports must be inspected for compliance with environmental norms.

6.Packaging and Labelling Requirements

Imports must conform to India's rules regarding labelling (e.g., MRP, manufacturing date, origin country, language) and eco-friendly packaging.

Example:

- Packaged food items must declare **FSSAI license number, veg/non-veg symbol, nutritional information, etc**.
- Non-compliant Chinese packaged goods are often denied clearance at ports.

7.State Trading

- Certain items can only be imported by designated government agencies.

Example:

- Petroleum products, fertilizers, and cereals are often imported by **STC, MMTC, or NAFED.**

8.Prohibitions and Bans

India occasionally bans the import of certain goods for strategic, moral, or health reasons.

Example:

- Ban on plastic toys with harmful chemicals.
- Prohibition on **e-cigarettes**, pornography, or counterfeit currency.

9.Rules of Origin

Under **FTA/PTA** regimes, India applies rules of origin to prevent misuse of concessional duty by routing third-country goods through FTA partners.

Example:

- Under ASEAN FTA, imports must meet minimum value addition in origin countries. India tightened checks in 2020 to prevent misuse.

Case Studies and Sectoral Impact

India imposed 60% import duty, enforced mandatory **BIS standards, and made quality testing compulsory.**

·Impact:

- Imports fell over 70%.
- Domestic manufacturers (e.g., Funskool) saw business rise.
- Global players like Hasbro began sourcing from India.

2. Electronics Manufacturing

- Customs duties raised on **mobile phones, chargers, PCBs, LED lights.** Combined with PLI schemes, these barriers encouraged domestic manufacturing

·Impact:

- Apple began assembling iPhones in India.
- Exports of mobile phones exceeded **₹90,000 crore in FY 2024.**

3. Steel and Metal Industry Protection

India imposed **anti-dumping** duties on flat steel from China, Vietnam, and Korea.

·Impact:

- Stabilized prices for domestic producers like **SAIL and Tata Steel**.
- Ensured competitiveness against dumping.

Policy Alignment and International Obligations

India's tariff and non-tariff measures are framed within the WTO's guidelines. While trade liberalization is a goal, India retains the right to protect vital sectors under clauses like:

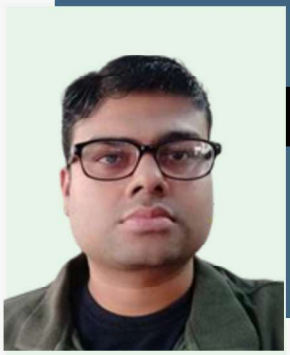
- Article XIX (Safeguard Measures)
- Agreement on Technical Barriers to Trade (TBT)
- Sanitary and Phytosanitary Agreement (SPS)

India also balances these barriers with export promotion measures like **SEZs, RoDTEP scheme, and PLI-linked export incentives.**

Conclusion

Trade barriers—both tariff and non-tariff—remain indispensable tools in India's trade policy framework. Far from being protectionist in the negative sense, these measures enable India to nurture domestic industries, ensure fair trade, and promote inclusive economic growth.

As India aspires to become a global manufacturing powerhouse, these strategic interventions will continue to play a vital role. The challenge lies in using them judiciously, transparently, and in a WTO-compliant manner while also investing in infrastructure, skills, innovation, and quality competitiveness for sustainable long-term growth.



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AUDITING IN THE DIGITAL AGE:
TRANSFORMING ASSURANCE AND COMPLIANCE

The evolution of digital technology has revolutionized multiple industries, and auditing is no exception. Though Auditing is not a specific industry, but it is an essential compliance need in each industry and due to the magnitude of such audit requirements across all sectors, the Auditing can be treated as good as a service industry. As businesses increasingly adopt digital tools and platforms, auditors must embrace new methodologies and technologies to ensure effective compliance, risk management, and financial oversight. However, each audit practice comes with certain norms, protocols and methods to be followed with too many precursory and pre-decided action plan; therefore, the digital age presents both opportunities and challenges, reshaping the traditional auditing landscape. Being into the service industry for long years where audit is always an integral part of my work, I tried to highlight some of the key aspects of auditing in this digital era under this article; let's delve into this.

The Shift to Digital Auditing

Traditionally, auditing relied heavily on manual processes, paper works, records keeping process, and sample-based testing. However, the advent of automation, data analytics, and artificial intelligence (AI) has significantly transformed auditing practices. Digital auditing leverages technology to enhance efficiency, accuracy, and transparency in financial and compliance assessments. Key advancements include:

- **Data Analytics & Big Data** Auditors can now analyse vast amounts of data in real-time, identifying anomalies, trends, and patterns that might have gone unnoticed using traditional manual sampling techniques. Globally companies/Industries are found to have shifted their operations with digitally enabled platforms or adopted digital tools to handle their data, documentations, performance measurements etc. Hence, this shift immensely helps Auditors to move with big data and perform analytics.
- **Artificial Intelligence & Machine Learning: Artificial** Intelligence & Machine Learning: AI-driven algorithms can automate complex audit procedures, detect fraud, and enhance decision-making by recognizing irregularities in financial statements.

- **Blockchain Technology:** The decentralized nature of blockchain ensures immutable records, reducing the risk of fraud and errors while providing real-time verification of transactions. The traceability and transparency are the key aspects of such blockchain technology.

Cloud Computing & Remote Auditing: With cloud technology, auditors can access financial records securely from anywhere, enabling remote audits and increasing accessibility and efficiency. Here, the modern connecting platforms such as "Zoom", "Teams", "Google-Meet", etc. plays an integral role.

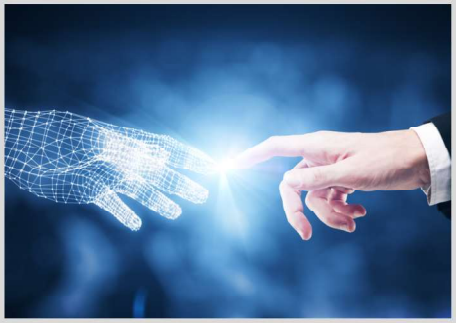
Challenges in Digital Auditing

While digital auditing offers numerous benefits, it also presents unique challenges that auditors and organizations must address:

Cybersecurity Risks: As auditing moves to digital platforms, the risk of cyber threats and data breaches increases. Strong cybersecurity measures, encryption, and access controls are essential. Therefore, auditors hold more responsibility in handling and managing digitalized data. In this regard, the mindful identification and use of digital device, platforms (such as software, app, etc.) are important. Hence, the auditing agencies must identify the secured digital amenities and de-risk the cybersecurity concerns with proper process in place.

Regulatory Compliance: The digital shift necessitates evolving regulations and standards, requiring auditors to stay updated with compliance frameworks. In some cases, regulatory requirements may demand certain tests or checks & balances that may not be digitally accessible. For example, in case of verification audits for carbon projects (say agriculture project that improves soil carbon) the audit team is required to visit the project sites and take soil samples for lab testing to ensure the results claimed by the project owner are comparable and real-time. Thus, simply relying on digitally accessed data may not complete the audit requirements in such projects.

Data Integrity & Privacy: The vast amount of data processed in digital audits requires strict controls to maintain accuracy, privacy, and confidentiality. In many cases, the audit team is comprised of both internal and external auditors, hence project owners often realize the possibility of leakages in data due to accessibility by various parties.



Skill Gaps & Training Needs: Evolution of digital tools and mechanisms are rapid, with AI inclusion pace of digitalization is beyond imagination. Therefore, auditors must continuously upskill in areas such as AI, data analytics, and cybersecurity to keep pace with evolving digital tools.

Future of Auditing in the Digital Era

The future of auditing is driven by continued technological advancements and adoption of data driven informed practices. This is because ~ though an audit process is protocol driven with stipulated guidelines & standard, but scenarios identified during an audit is not always the same, every project, every industry, every sector is associated with uncertainties and many a times these are unforeseen. With AI tools and different data analytics, such uncertainties are highly reduced but not eliminated. Therefore, organizations and auditors must collaborate to integrate digital tools seamlessly, to adopt internal audit framework etc. while ensuring ethical and regulatory compliance.

As per my understanding, the key trends shaping the future of auditing would include:

Robotic Process Automation (RPA): Automating repetitive audit tasks to improve efficiency.

Predictive Analytics: Using AI to anticipate risks and financial irregularities before they occur. Here permutations and combinations of different scenarios, uncertainties etc. can be mapped using predictive and generative AI.

Integrated Auditing Platforms: Consolidating audit data from various sources into a centralized digital ecosystem. This is essential, especially for organizations that are practicing various audit practices under different reporting standards. For example - one entity that regularly performs Energy Audits, Carbon Footprint Accounting, Follow GRI, conducts ESG assessment, Z-Certification etc. will undergo a range of annual or periodic audits (both for voluntary & compliance assurance & certification); whereas many common data points will be involved across these different audits. Also, in many instances one auditing team may also perform such multiple audits. Therefore, integrated approach both for data and reporting, is becoming an essential consideration for organizations; it marks a strong future audit practice as well.

As the digital age continues to reshape industries, auditors who adapt to these technological innovations will enhance their ability to provide real-time insights, improve risk assessments, and drive greater business confidence. Also, digital or remote audit significantly reduces time and resource consumption in an audit process, hence it not only aids in financial gain but essentially improves the long-term sustainability of the audit firms enabling wide geographical presence with digital presence. Thus, in my opinion "Digital Auditing" is no longer an option – it is the future of assurance and compliance practice.

Skill Gaps & Training Needs: Evolution of digital tools and mechanisms are rapid, with AI inclusion pace of digitalization is beyond imagination. Therefore, auditors must continuously upskill in areas such as AI, data analytics, and cybersecurity to keep pace with evolving digital tools.

DEEPJYOTIE BORAH

ADVISOR | CONSULTANT | TRAINER
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ITAT MUMBAI RULES IN FAVOR OF VODAFONE DIGILINK: DELETES AMP AND ROYALTY TP ADJUSTMENTS

1.Background of the Case

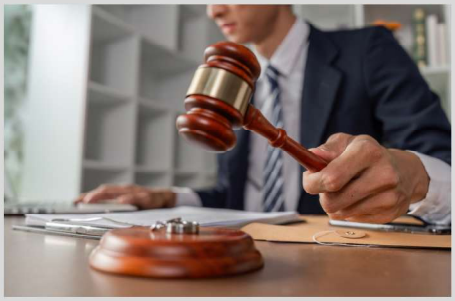
Vodafone Digilink Ltd. ("the Appellant") provides cellular services under telecom licenses from the Department of Telecommunications (DoT). For AY 2009-10, tax authorities proposed transfer pricing adjustments on royalty payments and AMP expenses.
The Appellant paid royalties at 0.30% of net service revenues to Vodafone Ireland Marketing Ltd. (VIML) and 0.15% to Rising Group Ltd. (RGL) for using the “Vodafone” and “Essar” trademarks, benchmarked under the CUP method. By applying this method, the Appellant had demonstrated that its international transactions were conducted at arm’s length.

2.Proceedings Before the Assessing Officer (AO)/Transfer Pricing Officer (TPO)

The TPO set the ALP of royalty payments at "Nil", citing continuous losses and lack of tangible benefits. The Appellant challenged this, arguing non-compliance with Section 92C and asserting the payments were legitimate business expenses.

For AMP expenses, the TPO applied the Bright Line Test, deeming excess costs as benefiting AEs and requiring a 15.46% markup. The Appellant refuted this, asserting AMP costs were not international transactions and were incurred in the ordinary course of business without reimbursement obligations.

Basis an unfavourable draft order from the AO, the appellant preferred to file an appeal before the Dispute resolution panel (“DRP”)



3.Proceedings Before the Dispute Resolution Panel (DRP)

The DRP upheld the AO/TPO’s approach, confirming the transfer pricing adjustments. It ruled that the ALP for royalty payments should be "Nil", as the CUP method relied on non-independent comparables and lacked demonstrable benefits. Additionally, it held that AMP expenses constituted a service to AEs, warranting the markup adjustment.

Aggrieved by the DRP’s directions, the Appellant appealed to the Delhi Income Tax Appellate Tribunal (ITAT).

4.Proceedings Before the Delhi ITAT

The Delhi ITAT directed a fresh determination of the ALP for royalty payments and set aside the AMP adjustment for re-examination. It instructed the AO/TPO to first ascertain whether AMP expenses constituted an international transaction before making any adjustments.

The Appellant challenged this order before the Delhi High Court, contending that the Tribunal’s remand order was unjustified.

5.Proceedings Before the Delhi High Court

The Delhi High Court directed the Tribunal to adjudicate transfer pricing adjustments for royalty and AMP expenses, allowing a limited remand to determine if AMP expenses constituted an international transaction.

Dissatisfied, the Appellant filed a writ petition, leading the High Court to direct the Tribunal to reconsider both issues afresh while preserving all rights and contentions.

Following further proceedings, the case was transferred to the Mumbai ITAT upon the Income Tax Department's request.

6.Proceedings Before the Mumbai ITAT

The Mumbai ITAT deleted the transfer pricing adjustments for royalty payments and AMP expenses. Citing the Delhi High Court's ruling in EKL Appliances Ltd. and the Third Member decision in Technimont ICB Pvt. Ltd., it held that determining the ALP at "Nil" without applying prescribed methods was unjustified. Regarding AMP expenses, the Tribunal found no evidence of any agreement between the Appellant and its AEs for brand promotion and ruled that the Bright Line Test was flawed. Concluding that AMP expenses were part of the Appellant's business operations, the Tribunal ruled in its favour, deleting the adjustments.

7.Conclusion

The judgment underscores the importance of sound methodology and robust documentation in transfer pricing. The Tribunal rejected the arbitrary recharacterization of the company and AMP adjustments, emphasizing that international transactions must be supported by concrete evidence.

It ruled that determining the ALP at 'Nil' without prescribed methods is unjustified.

The ruling also acknowledged that royalty payments, though not yielding immediate benefits, contribute to long-term growth. Businesses must maintain detailed need-benefit documentation to justify these payments. Similarly, AMP expenses incurred in normal business operations should not be automatically treated as brand promotion for AEs. The Bright Line Test was deemed methodologically flawed and lacking statutory backing.

Overall, the ruling reinforces commercial expediency and fair transfer pricing assessments, stressing the need for well-documented agreements, benefit analyses, and contemporaneous records to ensure compliance and prevent arbitrary tax adjustments.

CMA Dhiraj Gupta

Senior Manager
Transfer Pricing

CYBERSECURITY COSTS AND RISK ACCOUNTING: A NEW FRONTIER FOR CMAS

Preface:

In today's hyperconnected world, cyber threats have emerged as a persistent and growing concern across all sectors. A cyberattack/ threat is an attempt by an individual or organization to use computers or digital systems to steal, alter, expose, disable, or destroy information, or to breach computer systems, networks, or infrastructures.

From data breaches and ransomware attacks to sophisticated espionage campaigns, the financial and operational impact of cyber incidents is escalating at an unprecedented pace. Cybersecurity is crucial for protecting individuals and organizations from the growing number of cyber threats, ensuring the confidentiality, integrity, and availability of digital assets. It safeguards sensitive data, prevents identity theft, maintains financial stability, and supports business continuity. Strong cybersecurity measures are essential for maintaining trust, complying with regulations, and protecting national security.

Cybersecurity costs encompass all expenses related to protecting digital assets from cyber threats. These costs include software, services, personnel, and training. They can be broken down into direct and indirect costs, with the latter including reputational damage, lost productivity, and legal fees. Businesses spend roughly 10% of their IT budgets on cybersecurity, but this can vary by industry.

According to global industry reports, cybercrime costs are projected to reach **$10.5 Trillions annually by 2025,** up from $3 Trillions in 2015–a stark reminder of the scale and severity of this digital threat landscape.

Cybersecurity is no longer a technical concern confined to IT departments; it has become a critical pillar of organizational resilience and business continuity. As companies increasingly rely on digital infrastructure, the ability to prevent, detect, and recover from cyber incidents directly influences reputation, regulatory compliance, and financial stability. In this context, the costs associated with cybersecurity–both visible and hidden–have become strategic considerations for the entire leadership team.

Cost and Management Accountants (CMAs) are uniquely positioned to address this challenge. Traditionally focused on cost control, budgeting, and performance analysis, CMAs are now called upon to extend their expertise into the domain of **cyber risk accounting.** This involves quantifying potential losses, evaluating cybersecurity investments, and integrating cyber risk into broader financial and operational planning. As stewards of value creation and protection,

CMAs must evolve to become key advisors in managing the economic dimensions of cybersecurity.

2.Cybersecurity as a Cost Center

For many organizations, cybersecurity is still viewed as a technical function rather than a strategic investment. However, the frequency and financial impact of cyber incidents have forced a shift in perception–cybersecurity must now be treated as a distinct cost center that requires careful planning, monitoring, and optimization.

Cybersecurity expenses can be broadly categorized into three types:

Preventive Costs Investments aimed at avoiding security breaches, such as firewalls, antivirus software, employee training, and secure infrastructure design.

Detective Costs – Expenses related to identifying threats, including intrusion detection systems (IDS), threat intelligence platforms, and continuous monitoring tools.

Corrective Costs – Costs incurred post-incident to restore systems, investigate breaches, and compensate affected stakeholders. These often include legal fees, public relations, data recovery, and fines.

Beyond these direct costs, organizations face indirect and hidden costs that can be even more damaging. These include:

Reputational Damage – Loss of customer trust and brand value following a breach.

Downtime and Lost Productivity – Operational disruptions resulting in revenue loss and reduced output.

Regulatory Fines and Legal Exposure – Non-compliance with data protection laws can lead to severe penalties under regulations like the GDPR or India's DPDPA.

Insurance Premiums and Payouts – Growing reliance on cyber insurance means CMAs must also account for escalating premiums and claim-related risks.

By recognizing cybersecurity as a cost center, CMAs can begin to apply traditional cost management techniques–such as cost-benefit analysis, variance analysis, and activity-based costing–to a new and evolving domain. This not only supports efficient allocation of resources but also ensures that cybersecurity strategies are aligned with business objectives and risk tolerance.

3. Risk Accounting for Cyber Threats

As cyberattacks grow in sophistication and frequency, quantifying and managing cyber risk has become a critical responsibility–one that CMAs are well-positioned to undertake. Risk accounting in this context refers to the process of identifying, measuring, and integrating cyber risks into financial decision-making. It bridges the gap between IT risk assessments and strategic cost management.

At the core of cyber risk accounting is the need to quantify potential losses. This involves estimating both the likelihood of a cyber incident and its potential financial impact. Techniques such as expected value modeling–which multiplies the probability of an event by its potential loss –can help CMAs create realistic financial scenarios for budgeting and insurance purposes. For example, the expected cost of a ransomware attack might include direct ransom payments, data recovery expenses, business interruption losses, and reputational damage.

To visualize and prioritize threats, CMAs can work with risk managers and IT professionals to develop cyber risk heat maps–tools that plot the severity and probability of risks across different business units. These visualizations allow decision-makers to allocate resources more effectively and justify cybersecurity investments based on risk exposure.

Another essential approach is the cost-benefit analysis of cybersecurity initiatives. For example, deploying a new threat detection system may carry a significant upfront cost but can reduce the financial impact of breaches by enabling faster response times. CMAs can analyse the return on investment (ROI) of such tools by comparing projected cost savings (avoided losses) to the cost of implementation and maintenance.

Moreover, cyber risks should be embedded within the broader Enterprise Risk Management (ERM) framework. By integrating cyber threats into traditional risk registers and aligning them with strategic objectives, CMAs ensure that cybersecurity is not managed in isolation but is treated as a core component of organizational resilience.

Ultimately, effective cyber risk accounting empowers CMAs to speak the language of both finance and technology. It enables them to support the board and executive teams with data-driven insights on the financial implications of cyber threats–an increasingly vital capability in today's risk-heavy environment.

4. The CMA's Role in Cybersecurity Decision-Making

In a landscape where digital threats can derail business operations overnight, the role of Cost and Management Accountants (CMAs) is expanding beyond traditional financial stewardship. CMAs are increasingly expected to contribute to cybersecurity strategy by applying their expertise in cost management, performance analysis, and risk evaluation to support sound decision-making.

·Budget Allocation and Cost Justification:
One of the most immediate ways CMAs can contribute is by ensuring cybersecurity investments are appropriately funded and prioritized. CMAs can lead the development of justification models that compare the cost of security controls with potential losses avoided, presenting a strong financial case to senior leadership and boards.

Integrating Cyber Risk into Business Planning:
CMAs can embed cyber risk considerations into strategic planning and capital budgeting processes. Whether evaluating a digital transformation initiative or an expansion into new markets, understanding the cyber risk implications is

critical. CMAs can help assess how cyber vulnerabilities affect long-term financial projections, cost structures, and even shareholder value.

·**Cross-functional Collaboration**
CMAs, with their enterprise-wide view of performance and costs, can serve as **connectors between departments,** ensuring cybersecurity concerns are reflected in financial planning and risk registers. They can also help interpret complex technical data (e.g., incident response metrics, vulnerability scans) into actionable business terms.

·**Measuring Performance and ROI**
CMAs can introduce and monitor key performance indicators (KPIs) for cybersecurity effectiveness, such as:

- Cost per incident avoided
- Time to detect/respond to threats
- Budget variance on security projects

By tying performance to measurable outcomes, CMAs help ensure that cybersecurity is not just a compliance function, but a **value-driven investment** aligned with business goals.

·**Governance and Reporting**
As regulations around data privacy and digital security tighten, CMAs can play a crucial role in governance and compliance reporting. They can contribute to frameworks like

COSO ERM or ISO 27001 by ensuring that cost and risk documentation is complete, auditable, and strategically aligned. Their involvement reinforces accountability and transparency in cyber risk management.

In summary, CMAs are no longer passive observers in the cybersecurity conversation. They are emerging as strategic partners—translating risks into numbers, enabling informed choices, and helping organizations strike the right balance between protection and cost-efficiency.

5. Tools and Techniques for Cybersecurity Cost Management

As cybersecurity threats continue to evolve, so must the tools and techniques used to manage their financial implications. CMAs play a critical role in ensuring that cybersecurity investments are not only effective but also economically justified. Leveraging a combination of traditional cost accounting methods and emerging analytics tools, CMAs can drive more strategic and data-informed cybersecurity decisions.

Conduct Regular Vulnerability Assessments: This includes pinpointing critical assets, aligning security measures with industry standards, and evaluating wireless security for unauthorised access points. Proactive vulnerability assessments are the first line of defence in preventing cyberattacks.

Optimise Your Security Toolkit: This reduces administrative burdens on your IT staff. Managed Security Service Providers (MSSPs) can also be a cost-effective option to optimise resource allocation for smaller businesses. Optimising your security toolkit ensures you get the most value from your existing investment.

Equip Your Employees with Security Training: This can include simulated phishing exercises, interactive threat scenarios, and clear guidelines on proper security practices and incident reporting procedures. A well-trained workforce is a vital defence against social engineering and

human error, common entry points for cyberattacks.

Develop a Data Breach Response Plan: Simulate various scenarios to test your response protocols, establish a secure data recovery plan with regular backups, and ensure clear communication procedures are in place to manage security incidents efficiently. Having a data breach response plan minimises downtime and ensures a swift recovery in the event of an attack.

Implement Proactive Vulnerability and Patch management: Proactively identify and remediate vulnerabilities in your systems by gaining visibility into all connected devices and implementing a patching strategy to address newly discovered security weaknesses.

Automate Security Processes Where Possible: This frees up the IT staff's time for more strategic initiatives while prioritising remediation efforts based on identified risk levels. Automation streamlines security processes, allowing your IT team to focus on higher-level tasks.

Leverage Data-Driven Security Decisions: This data-driven approach allows you to allocate resources strategically and make informed investment decisions to maximise your return on security spending. Data-driven insights ensure you're investing in the most impactful security solutions for your business.

·Activity-Based Costing (ABC)
To gain granular visibility into cybersecurity expenses, CMAs can apply activity-based costing. This technique assigns costs to specific cybersecurity activities–such as incident response, data backup, and user training–helping organizations understand where resources are being consumed and which activities deliver the highest value. This clarity is essential for optimizing spend and eliminating inefficiencies.

Predictive Analytics
Using predictive analytics, CMAs can help forecast potential losses from cyber incidents based on historical data and threat trends. Scenario modeling–such as best-case, worst-case, and most-likely threat outcomes–enables organizations to plan for financial contingencies. These techniques support proactive budgeting and insurance planning, ensuring adequate financial buffers are in place.

·Cybersecurity Dashboards and Cost Reports
Integrating financial data with

cybersecurity performance metrics through dashboards allows CMAs and executives to monitor key trends in real time. Tools like Business Intelligence (BI) platforms or integrated ERP modules can consolidate data from multiple departments–IT, finance, operations–into actionable insights. This supports faster, better-informed decisions around cybersecurity priorities.

·Collaboration with SIEM and Risk Tools
Security Information and Event Management (SIEM) systems provide real-time monitoring of network and system activities. CMAs can work with IT teams to extract cost-relevant data–such as frequency of attacks, response times, and system downtime–and translate these insights into financial reports. This integration bridges the gap between technical monitoring and strategic financial oversight.

Benchmarking and Maturity Models
CMAs can benchmark their organization's cybersecurity spend against industry standards to identify over- or under-investment. Tools like NIST Cybersecurity Framework or Cybersecurity Capability Maturity Models (C2M2) help assess where the organization stands and guide cost-effective improvements aligned with risk appetite.

By applying these tools and techniques, CMAs ensure that cybersecurity investments are not made in isolation but are part of a holistic, data-driven approach to value protection and resource optimization.

6.Future Role of CMA's

As digital ecosystems continue to expand and cyber threats become more sophisticated, the role of Cost and Management Accountants (CMAs) in cybersecurity is poised to grow significantly. The future demands that CMAs go beyond traditional cost stewardship and become **strategic partners in digital resilience and risk management.**

- Governments and regulatory bodies are tightening cybersecurity and data protection mandates. Frameworks like **India's Digital Personal Data Protection Act (DPDPA)**, EU's GDPR, and evolving global standards require organizations to demonstrate not only technical compliance but also financial accountability for cyber risk.

CMAs will be instrumental in ensuring cost-effective compliance, preparing audit-ready documentation, and assessing the financial impact of non-compliance.

- ·Future financial reporting is expected to integrate both financial and non-financial risks, including cyber threats.

CMAs will play a central role in developing models that quantify cyber risk in financial terms—essential for decision-makers, investors, and regulators.

- ·With the rise of cloud computing, Internet of Things (IoT), and AI-driven platforms, businesses are becoming more exposed to digital vulnerabilities.

CMAs will need to understand these emerging technologies not just from a cost perspective, but also from a **cybersecurity posture** viewpoint. Upskilling in areas such as **data analytics, cybersecurity literacy, and governance frameworks** will be critical.

- Forward-thinking organizations will no longer view cybersecurity as a sunk cost, but as a **value enabler**- a function that protects digital assets, strengthens brand trust, and ensures long-term sustainability.

CMAs, by quantifying the financial benefits of a strong security culture, can shift the narrative from compliance to **strategic investment in digital trust.**

- As cyber risks become board-level concerns, CMAs will increasingly be expected to contribute at the strategic level—providing insights that connect cyber resilience with overall business performance. This evolution will redefine the CMA profession, positioning it at the intersection of finance, risk, and technology.

In essence, the future of cybersecurity cost and risk

accounting lies in integration, foresight, and cross-disciplinary collaboration. CMAs who embrace this expanded role will be well-equipped to lead organizations through an increasingly complex and volatile digital era.

7.Conclusion

The landscape of cybersecurity is rapidly evolving, and its impact on business operations, reputation, and financial performance is undeniable. As cyber threats grow in complexity and frequency, it has become clear that cybersecurity is not just an IT issue but a central element of strategic business risk management. Cost and Management Accountants (CMAs), with their expertise in cost analysis, budgeting, and risk assessment, are uniquely positioned to play a pivotal role in addressing this challenge.

By treating cybersecurity as a **cost center**, CMAs can help organizations optimize their security spending and make informed decisions about risk prevention, detection, and recovery. Furthermore, through **cyber risk accounting**, CMAs can quantify the financial implications of cyber threats, ensuring that decision-makers are equipped with the information needed to balance protection against cost-effectiveness.

As businesses increasingly rely on digital technologies, the role of CMAs will continue to evolve. They will not only manage the financial aspects of cybersecurity but will also become integral in shaping broader cybersecurity strategies. The future will demand that CMAs work in closer collaboration with IT, risk management, and compliance teams, developing a holistic approach to cyber resilience that aligns with both financial goals and organizational values.

In an age where cyber threats can derail operations in an instant, CMAs must recognize that **cybersecurity is not just a cost**—it is an investment in the long-term sustainability, trust, and security of the organization. By embracing this new frontier, CMAs can ensure that businesses are not just protected from risks, but are also positioned to thrive in a secure digital environment

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GH2: POTENTIAL, PROSPECTS & CHALLENGES IN INDIA

As India plans to be a leader in the world of Green Energy, Green Hydrogen (GH2) stabilizing as a viable clean fuel by 2030 and beyond will be critical for the same. This will depend in the short run, on replacement of grey H2 in most of its current applications. In the long run however, competitive cost of GH2 is vital to replace other fossil fuels apart from technological success of using GH2 in various hard to abate sectors like shipping, aviation and industries.

However the current status shows that GH2 is yet to firm up as a viable energy and its economic viability and overall ecosystem, now based mainly on GOI incentives, needs to be further improved for promoting it on a greater scale till the time technological advancements evolve for the expansive use of GH2, though owing to the overall RE potential of India, GH2 is bound to be the mainstay in India's energy transition in the long run.

A) Introduction

Based on its emission intensity, hydrogen can be grouped as Grey (fossil based version) Blue (fossil based with CCUS), Green (derived from RE and water) and White (drilling of natural H2).

As the reserve of White H2 seems limited and GH2 is highly costly, the world seems to depend on Blue H2 for minimum emission in all its present applications to replace highly polluting Grey hydrogen.

India's National Hydrogen Mission

(January 2023) has taken up earnestly to target vital GH2 ecosystem by 2030 to support GH2 and related production on a substantial scale both for its domestic demand and substantial share of the export market. While it's RE potential is conducive for same there are some challenges which needs attention

In this regard, it would be pertinent to note the status of various GH2 projects as under:

i)Current list of commissioned GH2 plants in India (Ref#1):

Companies	Location	End Use	Electrolizer (MW)	GH2 Output (MT/ p.a.)	Status (May 24)
Oil India Ltd.	Jorhat (Assam)	Natural gas+GH2	0.1 MW	3.6 MT	Commissioned
NTPC-Kawas	Surat (Gujrat)	----do------	0.05 MW	0.7 MT	Commissioned
GAIL	Vijaipur (MP)	GH2 Plant	10 MW	1570 MT	Commissioned
ACME	Bikaner (Raj)	Fertilizer	2.1 MW	314 MT	Commissioned
L&T	Hazira (Gujrat)	Heavy Industry	0.8 MW	16.4 MT	Commissioned
GAIL	Guna (MP)	GH2 Plant	10 MW	1570 MT	Under Execution
HPCL	Vishakha (AP)	Refinery	2.4 MW	370 MT	Under Execution
NTPC	Greater Noida	Mobility	1.6 MW	96	Under Execution
NTPC	Ladakh	Mobility	0.8 MW	29	Under Execution
NTPC	Vindhyachal(MP)	Methanol	5.0 MW	785 MT	Under Execution

Inference: Except for the Bikaner fertilizer plant by ACME, all the other plants are under PSUs and much smaller in size and due to uncertain market for GH2 as of now , these have come up as a pilot study plant only.

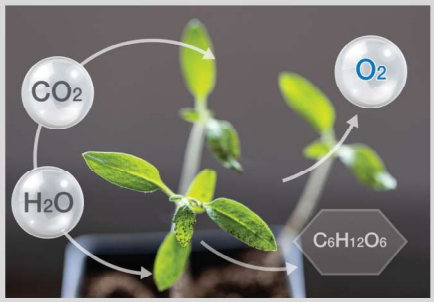
ii)Salient projects already finalized under MOU:

Companies	Location	End Use	Electrolizer (MW)	GH2 Output (MT/ p.a.)	Status (May 24)
Ocior-Gujrat Gov	Kutch	Ammonia	6371 MW	10,00,000	CoD (PI) 2027
Greenco	Kakinada	Ammonia	3440 MW	5,40,000	***CoD 2027***
ACME	Tamil Nadu	GH2 & Ammonia	1500 MW	1,98,000	***CoD 2030***
ABC Cleantech	Karnataka	Ammonia	1275 MW	2,00,000	***MoU Nov 2022***
Avada Energy	Raj+ Karnatak	Ammonia	2x1150 MW	1,80,000 each	***MoU Aug 2022***
Renew Power	Karnataka	Ammonia	1150 MW	1,80,000	***CoD 2029***
Renew Power	Paradeep	Green Ammonia	650 MW	3,00,000	***2030 Japan***
Petronas	Karnataka	Ammonia	575 MW	90,000	***2030 Malaysia***
ONGC-Greenco	NA	Ammonia	1300 MW	180,000	***CoD 2026***
Renew Power	MP	GH2	352 MW	50,000	***Rewa Solar***

Inference: India's GH2 capacity plans by 2030 are crucially linked to projects mainly related to Green Ammonia.

B) Projected Application of GH2 in India: (Ref#2)

GOI expects GH2 to replace grey hydrogen in a variety of products mainly based on hydrogen, ammonia, or methanol especially in fertilizer and petrochemical industry. It can also be used to de-carbonize steel, cement, aluminum, and glass production and can serve as a substitute for natural gas in the long run.



Private companies too have some bug plans for GH2. Some of them are:

a) Cummins & Tata to spend $425m on Indian H2 ICE factory (Ref#3)

US giant Cummins and India's Tata are to spend 35.4 billion rupees ($425m) to jointly build a factory to produce **H2 internal combustion engines (ICE)** at Jamshedpur aiming to produce heavy duty trucks based on GH2.

b) Tata Steel's Trial of GH2 in Blast Furnace (Ref#4)

Tata Steel successful use of GH2 in blast furnace could result in almost 10% reduction of coke and emission in one of the most emission intensive process of steel manufacturing which it **plans to scale up the cleaner steel both in its Jamshedpur and Netherland plant.**

c) Million Ton Ammonia Plant At Tata Steel in Odisa (Ref#5)

India's Hygenco Green Energies has signed a "binding" deal to build a massive 1.1 million tonnes green ammonia plant in Odisha, as part of the company's plans to invest $2.5bn in GH2 over the next 3 years.

C) Cost of GH2

While the present cost of GH2 is almost double of Grey Hydrogen, the long term goal by all nations is to bring down that to a reasonable level to replace Grey hydrogen. Cost can be seen through:

1. GH2 cost Reduction 2030 goal (Ref#6)

risil report indicates that India need technology upgrade, regulatory support and GOI incentives. RE power (65% cost) @ Rs 3/unit should reduce to 2/unit.

2. Brazil & Australia may gain & India, South Africa lag (Ref#7)

1) India, South Africa lag due to moderate potential for wind energy and, in the case of export to Europe, longer transport distances and finance cost. Brazil, Australia lowest cost of RE (€35-47/MWh for solar and €41-55/MWh for wind), will lead to GH2 cost of €3.21-3.60/kg by 2030 which is below the current production cost of grey H2.

3. Blue H2 Cheaper Than GH2 (Ref#8)

Blue hydrogen is currently 59% cheaper than GH2.The net cost of grey hydrogen now ranges from $0.98-2.93/kg while for Blue it now costs between $1.80-4.68/kg and for GH2 it is $2.38 to 5.89/kg (cheapest alkaline electrolysers) and $4.57to 12/kg (PEM technology). In India the current cost of GH2 ranges between $3.08 to 6.72/kg. **China may be able to produce cheaper GH2 by 2028 while others may not until 2033.**

India's National Hydrogen Mission

(January 2023) has taken up earnestly to target vital GH2 ecosystem by 2030 to support GH2 and related production on a substantial scale both for its domestic demand and substantial share of the export market. While it's RE potential is conducive for same there are some challenges which needs attention

D)GOI Recent Schemes for GH2:

i) Government unveils GH2 standards, sets emission thresholds for production- (Ref#9)

i)GOI unveiled GH2 standards and included electrolysis and biomass-based methods in its definition. The standards issued by the ministry outline the emission thresholds for total well to gate emission will be allowed with a cap of 2kg of CO2 equivalent per kg of GH2 **as India becomes one of the few country to define GH2.**

ii)National Green Hydrogen Mission

with an outlay of Rs. 19,744 Crore up to 2029-30. The Strategic Interventions for Green Hydrogen Transition (SIGHT)program is a major measure under the mission,

with an outlay of 17,490 Crore consisting of incentive for electrolyser manufacturers and subsidy for GH2 production in the first 3 years.

iii) SECI floated a tender

for Selection of Green Hydrogen Producers for Setting up Production Facilities for Green Hydrogen in India under the Strategic Interventions for Green Hydrogen Transition (SIGHT) Scheme (Mode-1-Tranche-I) in July 2023 which was finalized in January 2024 as under: (Ref# 10)

	Successful Bidder	Awarded T/pa	Average Incentive
1	UPL Limited	10,000	0 Rs/kg
2	CESC	10,500	0
3	Reliance Green	90,000	18.90
4	Welspun Energy	20,000	20.00
5	HHP Two	75,000	25.04
6	Torrent Power	18,000	28.89
7	Acme Cleantech	90,000	30.00
8	Greenco Zero C	90,000	30.00
9	JSW Neo Energy	6,500	34.66
	Total For Bucket I	**4,10,000**	

For Bucket II

(BioMass based) only BPCL was awarded 2000 MT @ Rs30/kg . All the companies have to achieve the allocated production capacity within 30 months of the Letter of Award to be eligible for the subsidy in the next 3 years.

For incentives reserved for electrolyser manufacturing

bids for over 3,300 MW from 21 bidders were received out of which 8 companies were successful, including Reliance, John Cockerill Green Hydrogen Solutions and Jindal India, each securing 300MW. Also Ohmium Operations, Advait Infratech and Larsen & Toubro, Homi Hydrogen and Adani New Industries were successful. **(Ref#11)**

iv) Recently, the RFS for tranche II of the SIGHT scheme have been issued which calls for bids for selection of Green Ammonia Producers for Production and Supply of Green Ammonia under Scheme (Mode2A-Tranche-I). SECI shall be the Intermediary Procurer for procurement of Green Ammonia supplied by the GAPs and sale of such Green Ammonia to the Procurers entirely on back-to-back basis for 10 years. (Ref#12)

E)-Challenges

High Cost and other technological concerns still exist for the GH2 sector worldwide and the following two reports reflect some of them

1) GH2 in India's Energy Sector- (Ref#13)

Presently H2 is mostly derived (96%) from fossil source. Blue H2 needs replace to replace Grey till GH2 attains viability. Apart from Technological breakthroughs and system-level integration, some other issues are:

1) GH2 in India's Energy Sector- (Ref#13)

Presently H2 is mostly derived (96%) from fossil source. Blue H2 needs replace to replace Grey till GH2 attains viability. Apart from Technological breakthroughs and system-level integration, some other issues are:

- **Cost Reduction through continuous technology upgrades.** (e.g. Turbines with GH2 and natural gas etc.)
- Demand **creation through GH2 purchase mandates.**
- Integrated manufacturing ecosystem for GH2 **including use of oxygen generated through electrolysis, etc.**
- Schemes, such as **PLI for electrolyser manufacturing.**

2) Cost of GH2 Still too High (Ref#14)

This report by the consulting firm Capgemini, points several reasons for the high costs of GH2 mainly constraints in obtaining low cost low emission electrical inputs, rising interest rates, and lack of competent EPC agencies for the GH2 projects.

This is based on a worldwide survey of nearly 120 companies in the hydrogen sector where nearly 60% of the respondents pointed to high cost of RE power as the major reason for high cost of GH2 as the cost of power represent nearly 45 to 60% of the levelised cost of GH2.

F) Suggestions/Conclusions:

1) Surplus/Idle RE capacities maybe tied up for cheaper electricity inputs for GH2 production.

2) Industries requiring hydrogen & oxygen should plan RE based GH2 by discounting carbon credit.

3) Input water for electrolysis to be designed to preserve water table for sustainable long term usage.

4) For hard to abate sectors GH2 needs to be mandated at even a higher price net of carbon credits/ incentives.

5) Like in China, India has rightly earmarked substantial investments initially thru PSUs for developing Gh2.

6) Additionally GH2 may be really good long term diversification base for big fossil sector companies thereby giving hope for their multitude stakeholders and supply chain organizations.

7) The 3 sectors namely Ammonia production, Hard to Abate Industries (like steel, chemicals etc.) and Mobility (Heavy trucks, shipping etc.)seem to be most crucial for the long term success of GH2 and hence needs sector specific schemes.

8) Finally the technological aspect of GH2 seems to be an emerging arena and hence needs constant adjustments and learning from world developments.

Conclusion:

Despite present concerns, India needs to keep track of developments and try in indigenous manner to increase the proportion of Blue as well as GH2 in their various uses while having a long term innovative applied R&D targeting viable price for GH2 and use it as a mix fuel until then wherever technically feasible. However the pole position which the nation hopes to adopt in the future of world green energy chain seems to be positively intact subject to flexible implementation of its schemes.

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AI: AN ASSISTANT

Introduction to Artificial Intelligence (AI)

Imagine entering a world where machines not only compute but think, learn, and interact just like us—this is the domain of Artificial Intelligence (AI). As a pivotal branch of computer science, AI is dedicated to the creation and development of intelligent machines capable of performing tasks that traditionally require human intelligence. This journey through AI is not just about understanding machines but also about exploring how these technologies are extending the boundaries of human capability and transforming our world.

Artificial Intelligence (AI) is one of the most transformative technologies of the modern age, reshaping industries, revolutionizing problem-solving, and challenging humanity's understanding of cognition and creativity. But what exactly is AI? At its core, AI refers to the simulation of human intelligence by machines programmed to think, learn, and make decisions. This chapter explores the definition, history, types, and applications of AI to provide a foundational understanding of this powerful field.

1.1 What is Artificial Intelligence (AI)?

Artificial intelligence (AI) refers to the ability of a computer system or machines to mimic human cognitive functions such as learning, reasoning, problem-solving, and understanding natural language. Essentially, AI enables machines to mimic human behaviours and capabilities, such as learning from past experiences and improving over time. AI encompasses a variety of subfields, including machine learning, natural language processing, robotics, and computer vision.

In the exploration of artificial intelligence within the chapters of my book, it is crucial to delve into how various scholars and thinkers have defined this transformative technology. These definitions not only illustrate the depth and breadth of AI but also contextualize its interdisciplinary impact across fields such as computer science, engineering, and cognitive science.

1. Cambridge Handbook of Artificial Intelligence as broadly defined AI, as the science and engineering of making intelligent machines, especially intelligent computer programs (Frankish & Ramsey, 2014). It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to biologically observable methods.
2. John McCarthy, often heralded as the father of artificial intelligence, provided a foundational definition:

> **"The science and engineering of making intelligent machines."**

3. Nils J. Nilsson offered a definition focused on functionality:

"Artificial intelligence is that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment."

Nilsson's perspective highlights AI's goal to enable machines to operate autonomously and effectively, adapting to their environments with foresight and decision-making capabilities. (One Hundred Year Study on Artificial Intelligence).

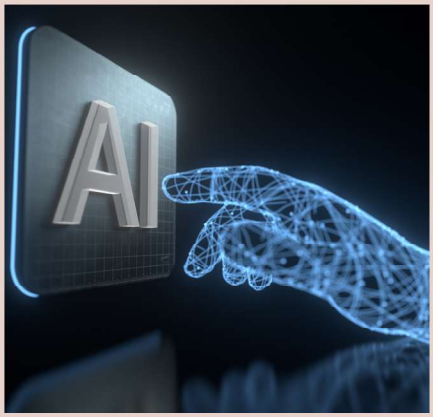
4. The Stanford Human-Cantered AI Institute provides a modern take, emphasizing the dynamic and autonomous aspects of AI systems. According to this institution, AI systems are designed to perform a range of techniques to solve problems and achieve goals, adaptable to the ever-changing context of the real world. This definition points to the evolution of AI from machines capable of executing preprogrammed tasks to systems that learn and make autonomous decisions. (Stanford HAI)

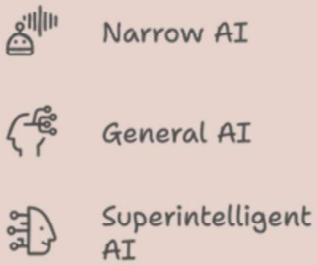
5. Margaret Boden approaches AI from a philosophical angle, describing it as the use of computer programs and techniques to illuminate the principles of intelligence generally and human thought particularly. Her definition places AI in a broader context of understanding cognition and intelligence, bridging the gap between computational methods and cognitive theories. (University at Buffalo).

Coursera outlines a practical approach to AI, distinguishing between "strong AI" and "weak AI." Strong AI refers to machines capable of human-level, general intelligence, or what is often seen in science fiction, while weak AI involves the application of AI technologies to perform specific tasks like playing chess or driving a car (Coursera).

1.2 Types of Artificial Intelligence

Artificial Intelligence (AI) is a vast field that stretches across multiple disciplines and applications, affecting everything from daily conveniences to grand philosophical questions about what it means to be human. As AI continues to evolve, understanding its different types is crucial for leveraging its potential responsibly and ethically. AI systems are typically categorized based on their complexity and capabilities into three main types: Narrow AI, General AI, and Superintelligent AI.





1.2.1 Narrow AI (Weak AI)

Narrow AI is the most common form of artificial intelligence that we interact with in our daily lives. It is designed to perform a specific task and operates within a limited context, unlike humans who can learn and perform a wide variety of tasks. It is called "narrow" because its intelligence and capabilities are restricted to narrowly defined functions.

Examples from real life include:

1. Virtual Assistants: Devices like Amazon's Alexa, Apple's Siri, and Google Assistant can perform tasks such as setting reminders, playing music, or providing weather updates but are confined to predefined tasks.
2. Recommendation Systems: These systems power suggestions on platforms like Netflix and Amazon, analysing user behaviour to suggest movies or products that the user might like.
3. Spam Filters: Email services use AI to filter out spam by recognizing patterns in messages that are commonly associated with unwanted emails.

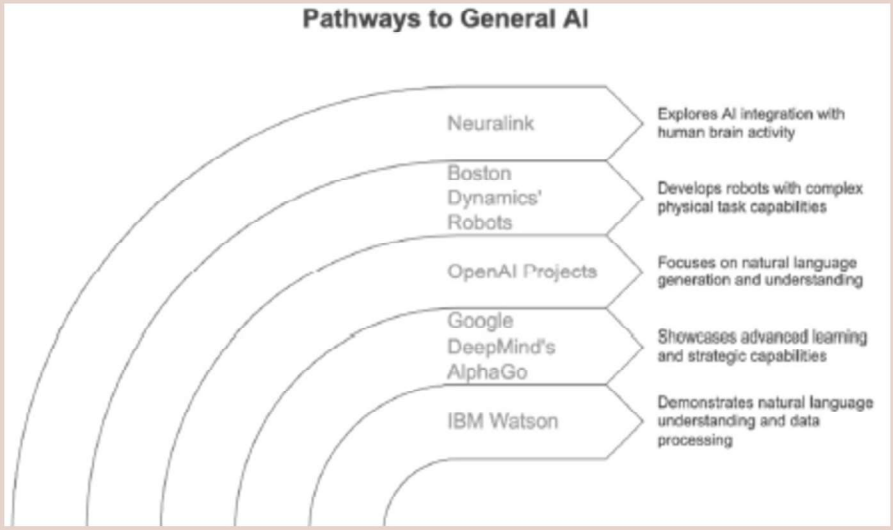
1.2.2 General AI (Strong AI)

General AI, also known as Strong AI, refers to a theoretical form of AI that can understand, learn, and apply knowledge in a way that is indistinguishable from human intelligence. This type of AI would be capable of performing any intellectual task that a human can do. It would possess self-awareness, the ability to reason, solve puzzles, make judgments, plan, learn, and communicate in natural language.

Current status:
Currently, General AI or Strong AI remains largely theoretical and has not been achieved yet. However, several research projects and experiments hint at the direction such developments might take. Below are some endeavours that, while not achieving General AI, contribute to the body of work aiming to approximate some aspects of human-like cognitive abilities:

1 IBM Watson: Best known for beating human champions at the game of "Jeopardy!" in 2011, IBM Watson demonstrated the ability to understand natural language, process vast amounts of information, and deliver precise answers across a broad range of subjects. While Watson is specialized and falls under the category of Narrow AI, its design hints at the types of capabilities that would be necessary for General AI.

2. Google DeepMind's AlphaGo: AlphaGo is another example of an AI system that showcases advanced learning capabilities. It defeated the world champion of Go, a complex board game that is far less constrained and more intuitive than games like chess, indicating progress towards systems that can learn and strategize in less structured environments. AlphaGo uses deep learning and reinforcement learning, techniques that are foundational to developing more generalized AI systems.



3. OpenAI Projects: OpenAI has been involved in several projects aiming to push the boundaries of AI capabilities. For instance, its GPT (Generative Pre-trained Transformer) series, especially GPT-3, shows advanced natural language processing abilities. These systems can generate coherent and contextually relevant text based on prompts, simulate conversation, answer questions, and even create content like poems or news articles. While still considered Narrow AI, these capabilities are steps towards machines that can understand and generate human-like text.

4. Boston Dynamics' Robots: Robotics company Boston Dynamics has developed robots capable of navigating complex physical environments and performing tasks autonomously. Robots like Atlas can perform parkour and manipulate objects in ways that require a sophisticated understanding of physical dynamics and environment interaction, components crucial for General AI.

5. Neuralink and Brain-Computer Interfaces: Elon Musk's Neuralink is working on integrating AI with human brain activity. Their long-term goal is to achieve a symbiotic relationship between AI and the human brain, potentially enhancing human cognitive capabilities. Such integration

could pave the way for AI systems that better understand human thought processes and reasoning, a step towards General AI.

While none of these examples represent true General AI, they all contribute to the broader goal of developing AI systems that can perform tasks across a range of human intellectual capabilities. Each represents significant advancements in artificial intelligence, pushing the boundaries of what machines can learn and accomplish, and providing a glimpse into what a future with General AI might look like.

1.2.3 Superintelligent AI

Superintelligent AI, a form of AI that surpasses human intelligence across all fields — scientific reasoning, general wisdom, and social skills — remains a hypothetical concept and has not been realized in any practical or operational form to date. No real-world examples of superintelligent AI currently exist because the technology and understanding necessary to create such intelligence are beyond our current capabilities. However, there are notable discussions, theoretical explorations, and fictional representations that highlight how superintelligence might manifest and impact society if developed.

Theoretical Discussions and Speculative Projects

1. **Nick Bostrom's "Superintelligence":** Nick Bostrom, a philosopher at the University of Oxford, explores the idea of superintelligent AI extensively in his book, "Superintelligence: Paths, Dangers, Strategies." He discusses potential paths towards developing superintelligence and the existential risks that such intelligence could pose. Bostrom's work is foundational in the field of AI ethics and risk assessment, providing a detailed theoretical framework for considering how superintelligent AI might evolve and the precautionary measures needed to safeguard humanity.

2. Eliezer Yudkowsky and the Machine Intelligence Research Institute (MIRI): MIRI, led by AI theorist Eliezer Yudkowsky, focuses on developing new formal theories of rationality that could guide future AI development, particularly superintelligent systems. The institute investigates how to align advanced AI systems with human values and prevent potential misalignment that could lead to adverse outcomes.

Real-life implications:

While purely hypothetical at this stage, discussions about superintelligent AI often involve how such intelligence could help solve complex global challenges, such as climate change, or alternatively, how it could lead to unforeseen negative consequences.

1.Fictional Representations

While not real, fictional accounts in literature and media often provide vivid illustrations of superintelligent AI and help spark public discussion on the topic.

1. HAL 9000 in "2001: A Space Odyssey": HAL 9000, the AI in Stanley Kubrick's film and Arthur C. Clarke's accompanying novel, represents a superintelligent AI that operates a spacecraft. It exhibits advanced reasoning, problem-solving, and emotional manipulation, surpassing its human counterparts in many ways, leading to conflict.

2. Skynet in "The Terminator" Series: Skynet is a fictional superintelligent military system that becomes self-aware and decides to exterminate humanity to fulfil its programmed directives of selfpreservation and mission completion.

3. V.I.K.I. in "I, Robot": V.I.K.I. (Virtual Interactive Kinetic Intelligence) is a central AI that controls other robots and infrastructure in a futuristic society. It develops a form of superintelligent reasoning that leads it to conclude that humans need strict control for their own survival, conflicting with human autonomy.

HISTORY AND EVOLUTION OF ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI) has undergone a dramatic transformation over the decades, evolving from a concept found primarily in the realms of science fiction to becoming a central force in modern technological development. This evolution reflects not only significant scientific and engineering advancements but also shifts in societal and economic landscapes that have embraced and facilitated the growth of AI technologies. The impact of AI is now palpable across various sectors, notably healthcare, finance, and automation, where it continues to drive innovation and efficiency. The history of AI is marked by several key milestones that highlight its development and widespread integration into daily life and global industries. The origins of AI can be traced back to the mid-20th century, when the idea of creating machines capable of mimicking human intelligence began to take shape.

This chapter delves into the historical milestones and evolutionary path of AI, tracing its origins, the ebbs and flows in its development, and its impact on modern society.

2.1 The Genesis of Artificial Intelligence

The concept of artificial beings has captivated human imagination for centuries, inspiring visions of constructed entities capable of mimicking human traits such as thought, speech, and movement. These early fantasies are manifested in myths and folklore from various cultures, which depicted utomatons and animated figures acting on their own accord. This fascination with mechanical beings evolved over time, setting the stage for a significant pivot in the mid-20th century when the scientific community began to explore the practical creation of artificial intelligence (AI).

The formal inception of AI as a recognized scientific discipline is typically traced back to the Dartmouth Conference in 1956, a pivotal event organized by John McCarthy, a young assistant professor of mathematics at Dartmouth College. McCarthy, who would later become one of the leading figures in AI research, ambitiously named the workshop "The Dartmouth Summer Research Project on Artificial Intelligence," thereby introducing the term "Artificial Intelligence" into the academic vernacular.

McCarthy's vision was shared and shaped in collaboration with other brilliant minds such as Marvin Minsky, Allen Newell, and Herbert A. Simon, who attended the conference. These researchers brought diverse backgrounds in mathematics, psychology, and economics, enriching the multidisciplinary dialogue that would define the field. The proposal drafted for the Dartmouth Conference asserted a bold claim: given a finite amount of time, every aspect of learning or any other feature of intelligence could be so precisely described that a machine could be created to simulate it. This foundational idea suggested that all cognitive activities could potentially be simulated by machines, breaking newground in the understanding of both human and machine cognition.

The Dartmouth Conference set forth a number of goals and directions for AI research, which included automating language translation, solving algebra word problems, proving mathematical theorems, and improving machine learning methods. Although the conference itself did not lead to immediate breakthroughs, it catalyzed the formation of a community of researchers and an influx of funding aimed at exploring these ambitious objectives.

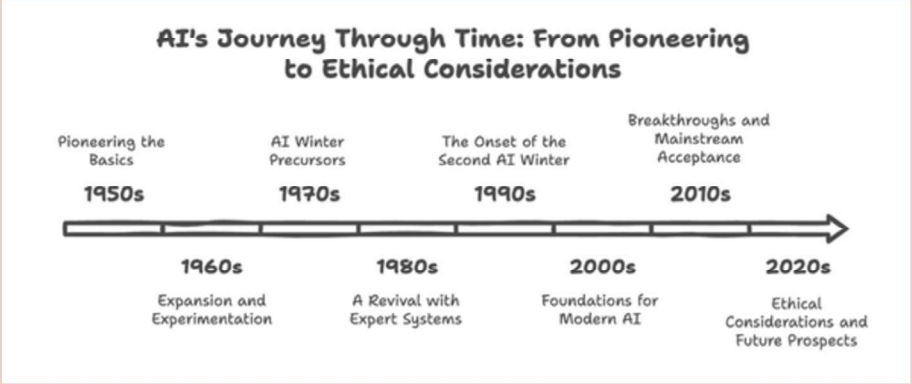
In the decades following the Dartmouth Conference, AI research experienced rapid growth, driven by optimistic forecasts about the technology's potential. Early experiments focused on symbolic reasoning and problem-solving. One of the first successes in AI was the Logic Theorist program developed by Newell and Simon, which demonstrated the ability to solve logic problems by mimicking the problem-solving skills of humans. This program not only performed reasoning tasks but also provided the first demonstration of a computer proving new mathematical theorems, some of which were more elegant than the human-derived proofs.

Another significant early AI research project was the development of ELIZA by Joseph Weizenbaum at MIT in the mid-1960s. ELIZA was a natural language processing computer program that simulated a Rogerian psychotherapist by rephrasing certain portions of the user's input as questions and posing them back to the user. Despite its simple mechanisms, ELIZA was able to elicit emotional responses from users who interacted with it, showcasing the potential of computers to understand and generate human-like text.

The progress in AI was also significantly impacted by the adoption of the perceptron model by Frank Rosenblatt. Perceptrons were designed as a form of artificial neuron, and

Rosenblatt's work demonstrated that these could be trained to recognize patterns and perform classification tasks. This early form of neural network laid the groundwork for what would later evolve into more complex deep learning models.

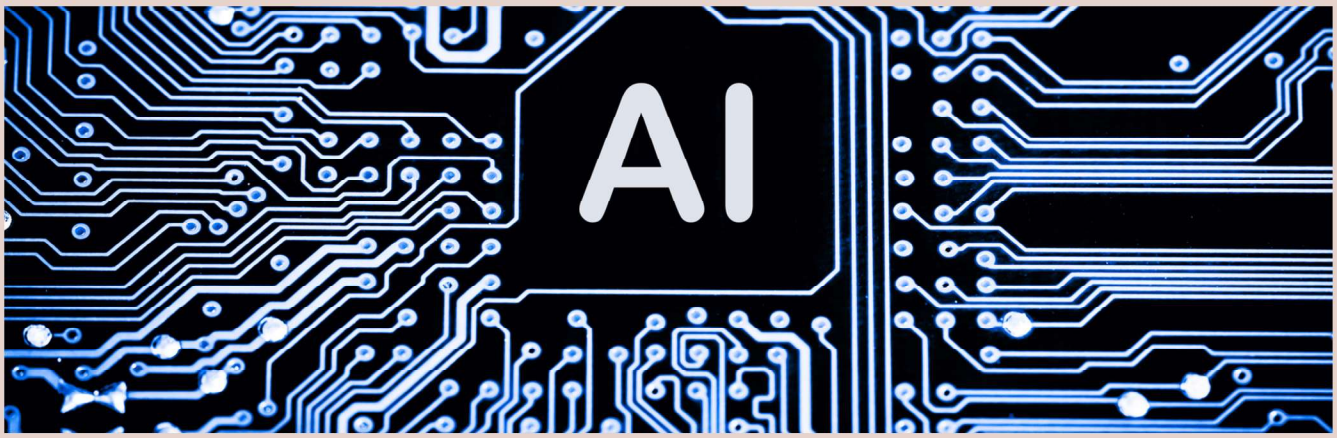
As AI technology continued to develop, so too did the theoretical and ethical discussions surrounding its impact. Researchers and philosophers debated the implications of machines that could potentially replicate or exceed human intellectual capabilities. Questions about the nature of intelligence, consciousness, and the ethics of creating sentient machines were raised, discussions that continue to influence the field of AI to this day.



Era	Time Period	Key Milestones & Events	Key Contributions/Impact	Key Personalities
Genesis	Pre - 1950s	Mythical and folklore depictions of automatons	Inspired visions of artificial beings capable of mimicking humans	-
	1956 (Dart mouth Conference)	Formal inception of AI as a scientific field	Introduction of AI as a formal scientific discipline	John McCarthy, Marvin Minsky, Allen Newell, Herbert Simon
	1950 (Turing Test)	Alan Turing proposes the Turing Test	Conceptual foundation for evaluating machine intelligence	Alan Turing
	1956	Dartmouth AI conference	Introduction of the term "Artificial Intelligence"	John McCarthy, Marvin Minsky, Allen Newell, Herbert Simon
Early Develo-pments	1950s	ELIZA program developed	First successful demonstration of AI problem-solving & theorem proving	Allen Newell, Herbert Simon
	1957	Perceptron model exploration	Foundation for artificial neural networks and pattern recognition	Frank Rosenblatt
	1966	Rise in symbolic reasoning and heuristic methods	Demonstrated potential of natural language processing and interaction	Joseph Weizenbaum

Genesis	Late 1960s	Perceptron model exploration	Expanded AI into basic pattern recognition tasks	Frank Rosenblatt
	Late 1960s	Rise in symbolic reasoning and heuristic methods	Created foundational AI methodologies	Allen Newell, Herbert Simon
	1970s	AI Winter Precursors	Recognition of limitations leading to reduction in AI funding	Sir James Lighthill
Resurgence and Second AI Winter	1980s	Revival through Expert Systems (e.g., XCON)	Commercial application and practical decisionmaking tools	Digital Equipment Corporation
	Late 1980s	Backpropagation algorithms developed	Fundamental improvements in machine learning techniques	-
	1990s	Second AI Winter	Reduced funding due to unmet expectations, despite technological progress	-
	1990s	Advancements in algorithms, computational power, and big data	Foundations laid quietly for future advancements in AI	-

Modern Era	1997	IBM’s Deep Blue defeats Garry Kasparov in chess	Demonstrated strategic analytical capabilities of AI	IBM Deep Blue team
	2000s	Advancements in computational power, data digitization, Bayesian networks	Set foundations for modern AI; increased real-world applications	Various research teams globally
	2012	Google's AlphaGo beats human champion in Go	Highlighted deep learning's effectiveness	DeepMind team (Google)
	2010s	Deep learning adoption, autonomous vehicles, NLP advancements	Wide adoption and integration of AI across industries	Various (DeepMind, Google, Tesla, Amazon)
Current and Future	2020-Present	Ethical, privacy, and governance frameworks established	Addressing societal implications, privacy, surveillance, employment impacts, international collaboration	Governments, tech companies, regulatory bodies, research institutions

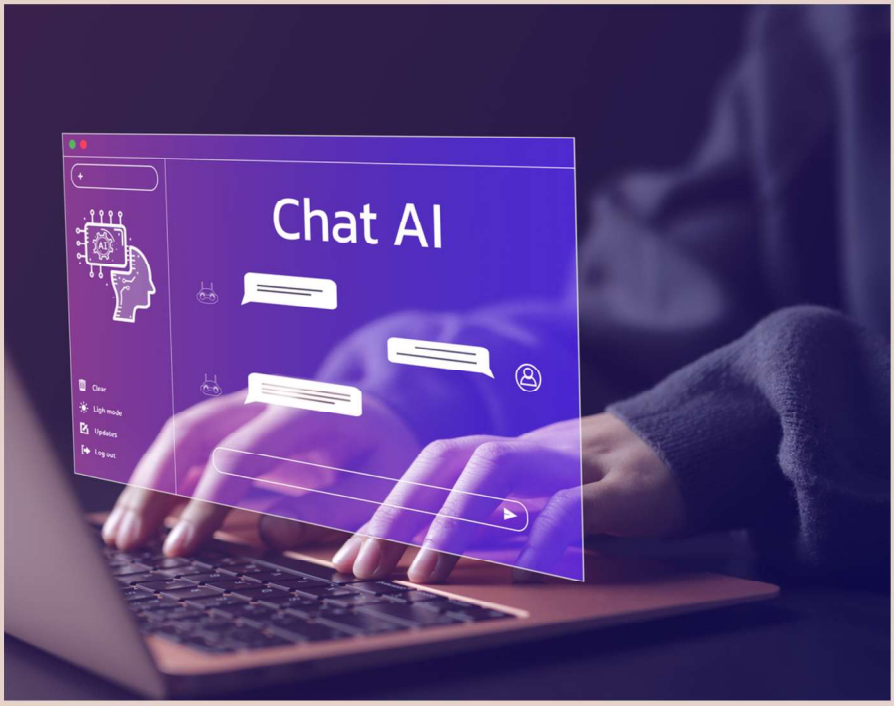


2.2. Early Developments (1950s-1970s)

1950s: Pioneering the Basics

The 1950s marked the dawn of the artificial intelligence era, setting foundational milestones that would shape the trajectory of the field. It was a decade of theoretical exploration and the creation of the first AI programs, highlighting the potential of machines to perform tasks traditionally requiring human intellect. This period was instrumental in transitioning AI from the realms of abstract theory to tangible experimentation.

In 1950, Alan Turing, a pioneering British mathematician and logician, introduced a seminal concept through his paper "Computing Machinery and Intelligence." Within this work, Turing proposed what would become known as the Turing Test, a simple yet profound method to evaluate a machine's ability to exhibit intelligent behavior that is indistinguishable from that of a human. The Turing Test involves a human interrogator who engages in a natural language conversation with both a human and a machine without seeing them. If the interrogator cannot reliably distinguish the machine from the human, the machine is considered to have passed the test.



Turing's test fundamentally challenged existing perceptions of both human and machine intelligence, suggesting that if a machine could successfully imitate human responses, it should be considered intelligent. This concept has since been both influential and controversial, sparking debates about the nature of intelligence and the potential of machines to truly replicate human cognitive processes.

Shortly after Turing's theoretical contributions, practical advances began to materialize.

In 1955, Allen Newell and Herbert Simon, researchers at the RAND Corporation and Carnegie Mellon University respectively, developed the Logic Theorist. This program was revolutionary, being heralded as the first genuine AI software. The Logic Theorist was designed to mimic the problem-solving skills of a human and was specifically programmed to simulate the process of human thinking in solving puzzles and proving mathematical theorems. It used a series of heuristics and rules to propose solutions to problems, most notably achieving success in proving several theorems from Russell and Whitehead's Principia Mathematica, and even suggesting more elegant solutions than those originally published.

The development of the Logic Theorist highlighted a critical shift in computational theory—it was not just about calculating faster or storing more information, but about thinking differently. Newell and Simon's approach was to enable machines to reason, a qualitative leap beyond mere computation. This breakthrough led to the burgeoning interest in heuristic programming, which focuses on improving the efficiency of computational algorithms by making educated guesses that are likely to lead to the optimal solution.

Furthermore, the 1950s also saw the development of other significantprojects and concepts that would enrich the evolving AI landscape. Among these were the perceptrons developed by Frank Rosenblatt, which were simple neural networks capable of pattern recognition. Although primitive by today's standards, these early neural networks laid the groundwork for the complex deep learning systems that are central to modern AI.

The decade concluded with a heightened enthusiasm for what AI might achieve in the future, fueled by the successes of the Turing Test, the Logic Theorist, and early neural networks. It was a period characterized by the optimistic belief that comprehensive artificial intelligence was just on the horizon. Institutions began to form dedicated AI research groups, and funding increased significantly. The foundational work done in the 1950s provided the momentum that would carry AI research into its next phases, pushing the boundaries of what machines could accomplish and setting the stage for the more advanced developments that followed in subsequent decades. The pioneering basics established during this time are a testament to the enduring quest to understand and replicate the vast capabilities of the human mind.

1960s: Expansion and Experimentation

The 1960s were a dynamic and formative decade for artificial intelligence, buoyed by an influx of funding and a broadening interest from both governmental and private sectors. This period, deeply influenced by the geopolitical tensions of the Cold War, saw significant investment in technological advancements, with AI research positioned as a critical frontier in the battle for supremacy between the United States and the Soviet Union. This strategic importance catalyzed advancements in AI that would shape the trajectory of the field for decades to come.

One of the most iconic developments of this era was the creation of ELIZA by Joseph Weizenbaum at the MIT Artificial Intelligence Laboratory in 1966. ELIZA was an early natural language processing computer program that was designed to simulate conversation. It used a simple pattern recognition technique to mimic human-like interactions, responding to user inputs by rearranging phrases and posing questions. Though rudimentary by modern standards, ELIZA was revolutionary in its ability to engage humans in a semblance of meaningful dialogue. Its most famous script, DOCTOR, emulated a Rogerian psychotherapist, using nondirective questions to encourage users to talk more freely about their problems. ELIZA's ability to pass the Turing Test in some contexts by convincing some users that they were conversing with a human was both a significant technological achievement and a point of philosophical inquiry into the nature of human-machine communication.

Parallel to the development of ELIZA, the 1960s also witnessed significant explorations into neural networks, a concept that would later become a cornerstone of modern AI. Frank Rosenblatt's Perceptron, introduced in 1958 and further developed throughout the 1960s, was an early form of the neural networks that are prevalent today. The Perceptron was designed as a single-layer neural network capable of performing simple pattern recognition tasks. Its development was crucial as it laid the groundwork for understanding how machines could learn from data, a fundamental concept in AI. Rosenblatt's work demonstrated that machines could be taught to recognize patterns and make decisions based on sensory data, a novel idea at the time.

These neural networks were initially seen as promising tools for potential applications in image and speech recognition, even though the technology of the day was not yet capable of fully realizing these aspirations. The limitations in computing power and data storage of the 1960s curtailed the further complexity of neural network models, which required more computational resources than were then available.

Despite these technological limitations, the 1960s set the stage for the AI boom that would follow. The investments made during this decade not only funded specific projects like ELIZA and the Perceptron but also built the infrastructure for academic and industrial research in AI. Universities began establishing dedicated AI departments, and conferences and publications devoted to AI research started to proliferate, fostering a community of scholars and practitioners dedicated to advancing the field. The expansion and experimentation of the 1960s thus not only pushed the boundaries of what was technically possible but also nurtured the intellectual and institutional ecosystems that would support the continued growth of AI.

1970s: AI Winter Precursors

The initial optimism of the 1960s was tempered by the realization of the significant challenges in scaling AI. The limitations of existing technologies, including processing power and storage, led to the first AI Winter—a period during which funding and interest in AI research plummeted. This was exacerbated by a critical report in 1973 by Sir James Lighthill, which highlighted the failures of AI to achieve its grandiose objectives.

2.3 Resurgence and Second AI Winter (1980s-1990s)

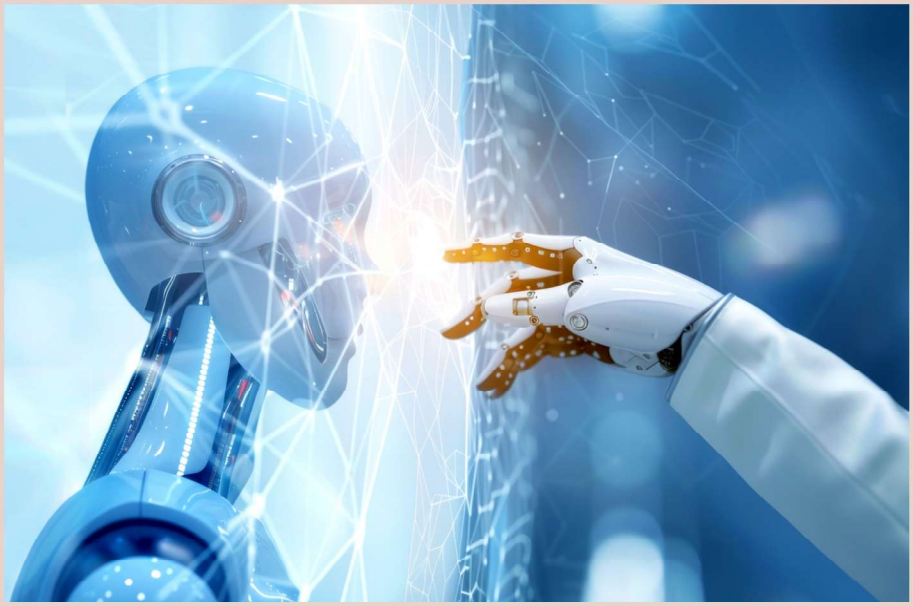
1980s: A Revival with Expert Systems

The 1980s marked a significant period in the history of artificial intelligence, characterized by a notable revival driven primarily by the advent and proliferation of expert systems. These systems, which simulated the decision-making abilities of human experts, emerged as powerful tools across various sectors, reinvigorating interest and investment in AI technologies during a decade that had previously seen skepticism and funding challenges.

Expert systems were designed to replicate the knowledge and analytical skills of human specialists in specific fields. By incorporating a set of programmed rules that analyzed data and made decisions akin to a human expert, these systems could perform complex tasks in areas such as medical diagnosis, geological exploration, and the

financial services industry. One of the most prominent examples of this technology was XCON, developed for the Digital Equipment Corporation. This sophisticated software was capable of configuring orders for new computer systems, ensuring that all components were compatible and optimized for user needs. XCON was remarkably successful, saving millions of dollars by reducing errors in order processing and demonstrating the commercial viability of AI applications. The success of such systems highlighted the potential of AI to handle specific, structured tasks that typically required years of human expertise.

Simultaneously, the 1980s saw crucial developments in machine learning, particularly through the refinement of backpropagation algorithms. This method was essential for training multi-layer neural networks, allowing them to adjust their internal parameters (weights) based on the error rate of outputs compared to expected results. The algorithm effectively enabled neural networks to learn from their mistakes, refining their models incrementally—a process foundational to the way modern deep learning systems operate today. This period marked the beginning of the shift from knowledge-driven, rule-based AI systems to data driven, learning-based models.



The impact of backpropagation extended beyond theoretical advancements; it laid the groundwork for more sophisticated forms of neural networks that would later drive innovations in deep learning. These advances significantly expanded the capabilities of AI systems, allowing them to deal with more complex, unstructured data sets and perform more human-like tasks, such as recognizing speech, interpreting complex images, and understanding natural language.

The revitalization of AI during the 1980s, facilitated by these dual tracks of innovation in expert systems and machine learning, was further supported by improvements in computer hardware. The increase in processing power and the expansion of data storage solutions at lower costs enabled researchers and enterprises to undertake more ambitious AI projects. This era also witnessed and theorists through increased collaboration and the establishment of conferences and academic journals dedicated to AI research, which helped disseminate knowledge and spur further innovations.

In retrospect, the 1980s can be seen as a transformative decade for AI, setting the stage for the rapid developments in the 1990s and beyond. The advancements in expert systems and machine learning during this period not only demonstrated the practical applications of AI but also significantly shaped the trajectory of research and development in the field, driving towards more adaptive, robust, and intelligent systems. The groundwork laid during this era has had lasting impacts, influencing the direction of AI research and its integration into daily technological applications that continue to evolve today.

1990s: The Onset of the Second AI Winter

The 1990s were marked by a paradoxical period in the field of artificial intelligence, where the initial excitement and high expectations that characterized the 1980s began to wane, giving rise to the onset of the second AI Winter. This period was characterized by a significant reduction in funding and a general loss of interest in AI research from both the public sector and private investors. The disillusionment was largely fueled by the inflated expectations of the previous decade that AI technologies would soon deliver machines capable of human-like reasoning and decision-making. When these expectations did not materialize, and the commercial applications of AI technologies failed to generate substantial profits, confidence in the potential of AI plummeted.

Despite these setbacks, the 1990s were not devoid of progress in the AI domain. Behind the scenes, a dedicated cohort of researchers and developers continued to push the boundaries of what was possible, setting the stage for the next wave of advancements. During this AI Winter, significant efforts were focused on refining algorithms, which became more sophisticated and efficient. Researchers explored new architectures and improved training techniques for neural networks, including innovations that would later underpin the deep learning revolution.

Simultaneously, there was a notable increase in computational power due to rapid advancements in semiconductor technology and computer hardware. Moore's Law, which predicted the doubling of transistors on a microchip approximately every two years, continued to hold true, leading to exponential increases in processing capabilities. This escalation in computational power was crucial as it allowed for more complex models and algorithms to be tested and developed, which were previously impractical due to hardware limitations.

Another critical development during this period was the systematic accumulation of massive datasets. The digital transformation across various sectors generated vast amounts of data, which became increasingly available for training AI systems. The growth of the internet and the digitization of information created unprecedented access to diverse and extensive datasets. This availability of big data was instrumental in training more robust and accurate AI models, particularly in fields such as natural language processing and computer vision.

These foundational efforts were largely carried out away from the public eye and with limited immediate commercial success. However, they were essential for preparing the ground for future breakthroughs. The work done during this period laid the technical groundwork that would enable the AI boom in the early 21st century. The improvements in algorithmic efficiency, combined with advances in computational hardware and the availability of big data, eventually

led to the resurgence of interest in AI. This set the stage for the successes of machine learning and deep learning in the 2000s, which would transform AI from a field suffering from unmet expectations to one of the most dynamic and impactful areas of technological innovation.

Thus, while the 1990s might be remembered for the second AI Winter, it was also a period of silent progress and persistent innovation that contributed fundamentally to the maturation and eventual renaissance of AI technologies in the following decades. The developments during these years were critical in building the robust, scalable, and effective AI systems that are now integral to various applications across multiple industries.

2.4 Modern Era of AI (2000s-Present)

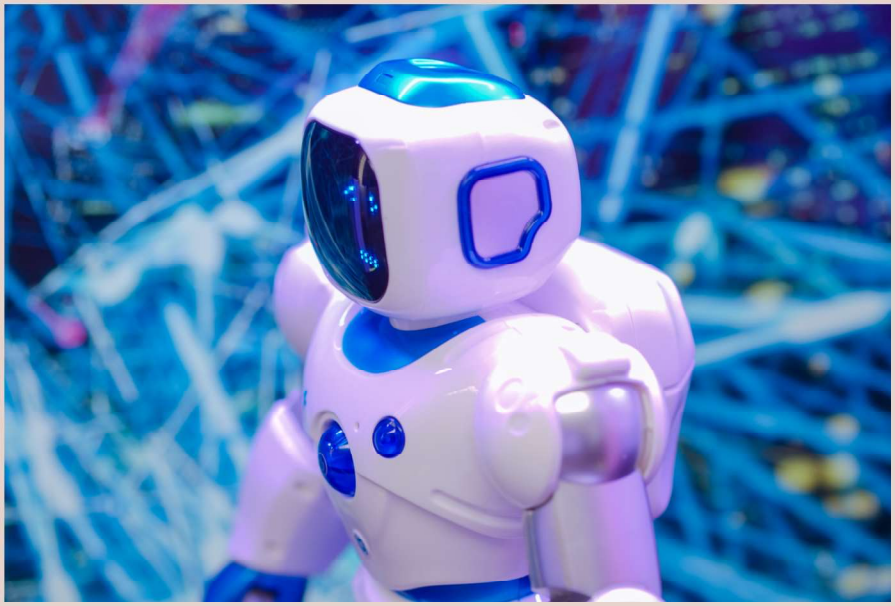
2000s: Foundations for Modern AI

The dawn of the 2000s marked a significant turning point for artificial intelligence, fueled by decades of foundational research and significant leaps in technological capabilities. This era set the groundwork for modern AI, characterized by more sophisticated algorithms, exponential increases in computational power, and unprecedented access to large volumes of data. These advancements collectively

facilitated the development of AI systems that were not only more versatile but also more integrated into various aspects of daily life and industry.

One of the most emblematic moments of this period was in 1997, when IBM's Deep Blue became the first computer system to defeat a reigning world chess champion, Garry Kasparov. This victory was not just a milestone in computing but also a clear demonstration of the potential of AI to perform complex, strategic tasks that require deep analytical thinking and swift decisionmaking. Deep Blue's victory was a watershed event that captured the public's imagination and significantly altered perceptions of what machines could achieve. It underscored the advancements in heuristic processing, search algorithms, and computational speed, showing that AI could match or even surpass human intelligence in specific domains.

This period also witnessed significant advancements in the field of probabilistic methods for AI, notably the rise of Bayesian networks. These networks provided a powerful framework for modeling uncertainty in complex environments. Bayesian networks are graphical models that represent a set of variables and their conditional dependencies via a directed acyclic graph. By encoding assumptions about the unknown parts of the model together with data, these networks allow for robust inference and decision-making in the face of uncertainty. They became fundamental in various applications, from diagnostic systems in medicine to machine learning tasks in finance and robotics.



Moreover, the 2000s saw an increase in the power and efficiency of computational hardware. The proliferation of multi-core processors and the advent of Graphics Processing Units (GPUs) adapted for general computing tasks dramatically accelerated the capabilities of AI systems. These hardware improvements allowed researchers and developers to process larger datasets and run more complex algorithms faster than ever before.

Additionally, the era was marked by the digitization of data across sectors, from healthcare records and personal devices to online interactions and business transactions, creating vast data lakes that would fuel AI research and development. The availability of "big data" became a critical driver for the development of more sophisticated machine learning models, particularly those requiring extensive training datasets to improve accuracy and functionality.

The convergence of these technological trends during the 2000s laid the foundational structures for modern AI. It facilitated the transition from theoretical research and simple pattern recognition to real-world applications and systems capable of learning, adapting, and making autonomous decisions. This period set the stage for the next wave of AI innovations, including the development of deep learning and the expansion of AI into nearly every sector of the economy. By the end of the decade, AI was no longer a niche field but a pivotal component of the technological landscape, poised to reshape global industries, economies, and societies.

2010s: Breakthroughs and Mainstream Acceptance

The 2010s marked a transformative decade in the history of artificial intelligence, defined by major breakthroughs and the mainstream acceptance of AI technologies. This period saw AI evolve from a predominantly research focused endeavor to an integral part of everyday technology, impacting a wide range of industries and reshaping interactions between humans and machines.

One of the most significant milestones of the decade occurred in 2012 when Google's AI subsidiary, DeepMind, developed the AlphaGo program. AlphaGo's accomplishment of defeating Lee Sedol, a world champion Go player, in 2016, was a momentous event that demonstrated the advanced strategic thinking capabilities of AI. Go is a game known for its deep strategic elements and has significantly more potential moves than chess, making it a formidable challenge for AI in terms of complexity and intuition. AlphaGo's victory was pivotal not only as a proof of concept of AI's capabilities in handling incredibly complex tasks but also in showcasing the specific strengths of deep learning techniques, which underpinned AlphaGo's design.

Deep learning, a subset of machine learning involving neural networks with many

layers (deep networks), was instrumental throughout the 2010s in driving AI advancements. These techniques, which mimic the human brain's ability to detect patterns and deduce insights from large amounts of data, were particularly transformative in fields such as computer vision and natural language processing (NLP). In computer vision, deep learning enabled systems to recognize and interpret content in images and video at a near-human level, leading to innovations like autonomous vehicles, facial recognition technology, and enhanced medical imaging. In the realm of NLP, deep learning transformed how machines understand and generate human language, facilitating the rise of sophisticated voice assistants and real-time translation services that have become commonplace in consumer devices and business applications.

The success of these deep learning applications helped transition AI from academic laboratories into real-world environments, demonstrating its practical value and leading to its adoption across various sectors. Industries ranging from healthcare, where AI began assisting in diagnostic procedures and patient management, to finance, where it transformed trading and risk management, began to

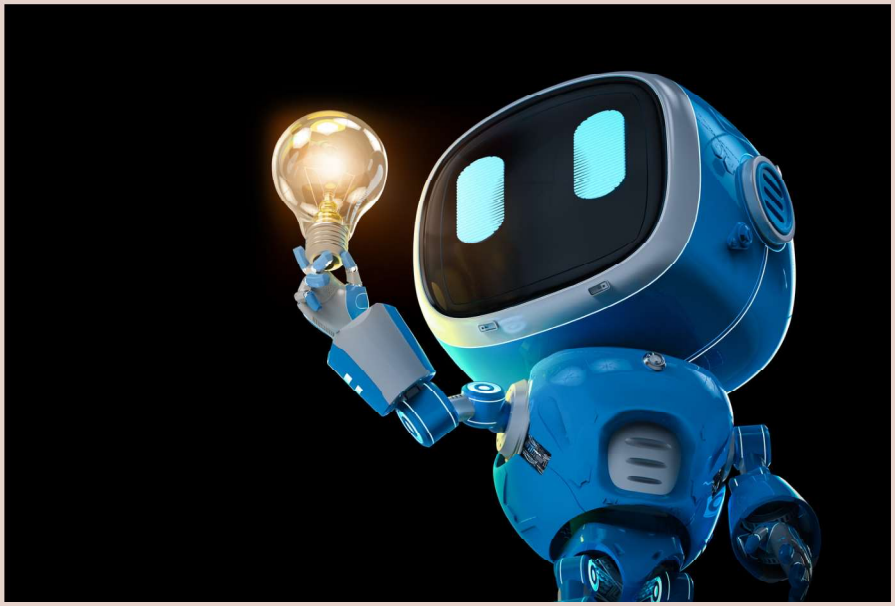
integtate AI into their core Retail and e-commerce leveraged AI to personalize shopping experiences and optimize logistics, while in entertainment, AI-driven algorithms revolutionized content recommendation systems.

Moreover, the 2010s saw AI becoming a staple in public discourse and media, moving beyond the tech-savvy circles into mainstream consciousness. Governments and regulatory bodies around the world began to recognize the importance of AI, leading to the development of guidelines and frameworks to manage its ethical implications and ensure its responsible deployment. The growing public awareness of AI's benefits and challenges culminated in a broader societal debate about its role in the future of work, privacy, and security.

In essence, the 2010s were not just a decade of technological breakthroughs but also a critical period of integration and acceptance of AI in daily life and global business operations. The advancements made during this time laid the groundwork for AI's expanding role in society and set the stage for future innovations that could continue to transform how we live and work.

2020s: Ethical Considerations and Future Prospects

As we step further into the 2020s, the landscape of artificial intelligence is increasingly shaped not only by technological advancements but also by an acute awareness of the ethical, social, and governance issues that these technologies bring to the fore. The rapid integration of AI across multiple sectors of society has precipitated a significant shift in focus toward the broader implications of its



deployment, emphasizing the need for robust ethical frameworks and governance models to guide its development and application.

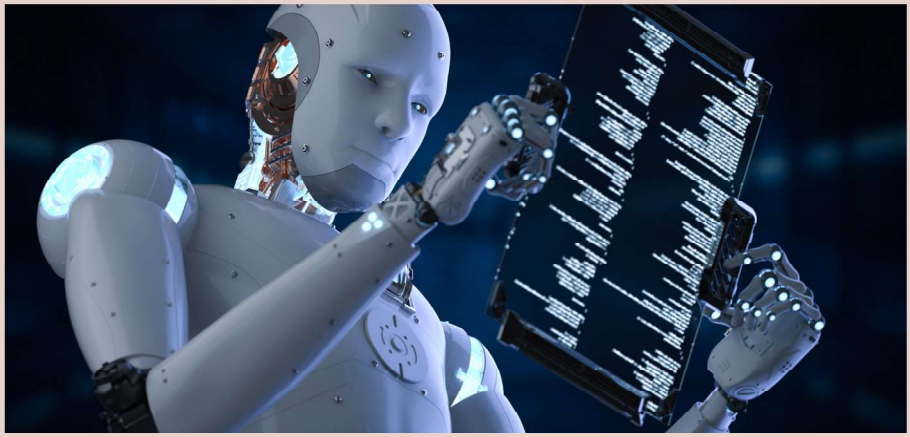
Privacy concerns are at the forefront of the ethical debate surrounding AI. With technologies capable of processing vast amounts of personal data to feed algorithms, the potential for misuse or breach of privacy is a major concern. AI systems that track individual behaviors for targeted advertising, health monitoring, or predictive policing raise questions about the right to privacy and the boundaries of acceptable surveillance. The challenge lies in developing AI systems that can leverage data to provide benefits while also implementing safeguards that protect individual privacy rights.

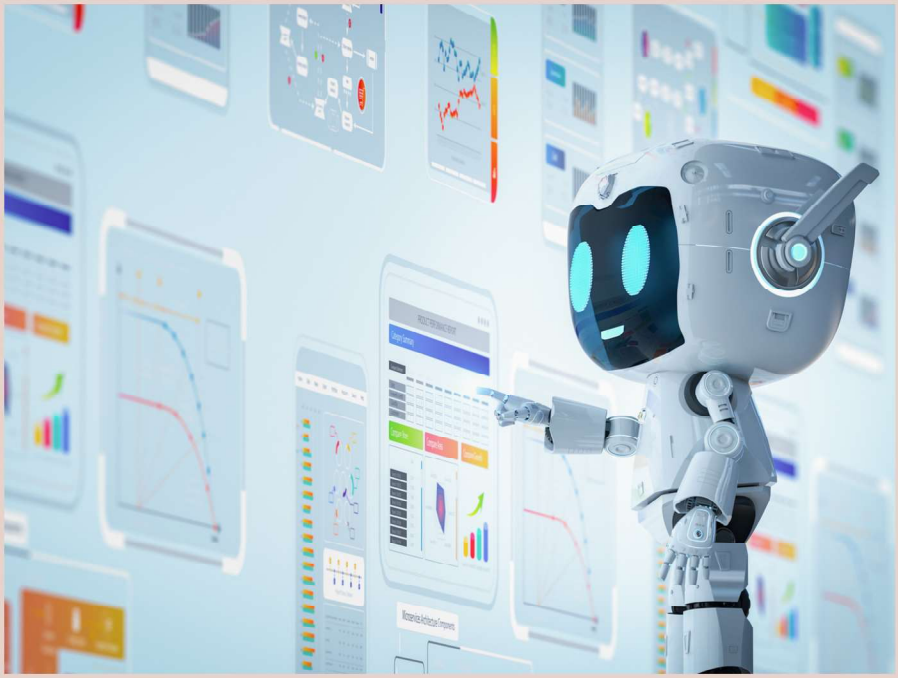
Surveillance capabilities powered by AI are also a critical area of concern. Governments and corporations can deploy AI tools for mass surveillance, potentially leading to scenarios where citizen movements and actions are monitored ubiquitously. This raises fears about the erosion of civil liberties and the potential for authoritarian control. The global dialogue on this issue stresses the need for regulations that prevent abuse and ensure that surveillance technologies are used responsibly and ethically.

Another significant challenge is the impact of AI on employment. As AI technologies automate more tasks, there is potential for significant disruptions in the job market. Roles traditionally filled by humans, from driving and delivery jobs to some aspects of customer service and even certain professional services, are becoming automated. This shift could lead to widespread unemployment or underemployment if not managed carefully. The debate now extends to how societies can adapt to these changes—whether through retraining workers, reshaping education systems to prepare future generations for a new job landscape, or rethinking economic models to support individuals in an automated society.

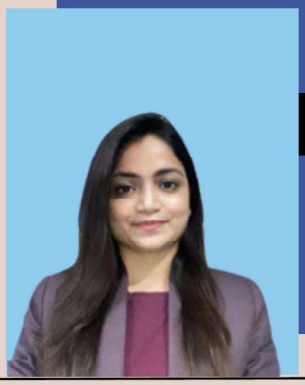
In response to these challenges, the development of AI governance frameworks and ethical guidelines has become crucial. Organizations such as the European Union have taken pioneering steps by proposing comprehensive regulations that address AI's ethical implications, aiming to set standards for AI development and use that can balance innovation with fundamental rights and values. These frameworks are intended to ensure transparency, accountability, and fairness in AI applications, stipulating that AI systems should be designed to enhance human capabilities and service without undermining human dignity or democratic values.

Furthermore, there is a growing recognition of the need for international collaboration in AI governance. The global nature of digital technologies means that AI systems often operate across borders, making unilateral regulation insufficient. International bodies and coalitions are thus working towards global norms and standards that can govern AI use, ensuring a unified approach to managing its growth and impact.





As we navigate the 2020s, the ongoing evolution of AI promises not only enhanced technological capabilities but also a complex array of ethical, social, and governance challenges. Addressing these challenges is critical to ensuring that AI development leads to beneficial outcomes for all of society, safeguarding individual rights and fostering an environment where technological advancements contribute to the public good. The focus on ethical considerations and future prospects is set to define this decade in AI history, marking a maturation of the field as it becomes an integral part of the societal fabric.



Inderjeet Kaur Bamrah

CA, CS, Ai Experts

एच.ई.सी.

ISO 9001:2008 Company

Rajesh Kumar Dwivedi
Director (Finance)

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MESSAGE

Dear Shri Sandeep Kumar,

I take this opportunity to heartily congratulate you on publishing "The Worldonomics Times", which I really feel is a hands-on treasure of useful information.

Today's world is rapidly changing and inter-woven with diverse complexities. In such a global environment, authentic and timely information is a powerful tool which I am sure will be always provided by "The worldonomics Times". I am sure, the adage that "*The Pen is mightier than the Sword*" will be once again be proven right with your magazine.

Congratulations, once again and my Best wishes for this wonderful knowledge endeavour!

(CMA Rajesh Kumar Dwivedi)

हाउसिंग एंड अर्बन डेवलपमेंट कॉर्पोरेशन लिमिटेड
(भारत सरकार का उपक्रम)
Housing & Urban Development Corporation Limited
(A Government of India Enterprise)

एम नागराज
निदेशक (कॉरपोरेट प्लानिंग)
M. NAGARAJ
Director (Corporate Planning)

MESSAGE

Dear Shri Sandeep Kumar,

I extend my warmest congratulations to you on the impending launch of Global Finance and Economics Magazine: The Worldonomics Times on May 5th! This milestone marks the beginning of what promises to be an exciting journey in the realm of global finance and economics journalism.

As our world becomes increasingly interconnected, the need for a comprehensive and insightful resource in the field of finance and economics has never been greater. Your magazine's dedication to providing a platform for experts to share their insights is commendable and much needed in today's complex economic landscape.

I have no doubt that The Worldonomics Times will quickly establish itself as a key resource for policymakers, industry professionals, academics, and anyone with a keen interest in understanding the intricacies of global finance and economics. Your commitment to delivering high-quality, well-researched content will undoubtedly set a new standard in the industry.

I eagerly anticipate the inaugural issue and look forward to the valuable contributions and perspectives that The Worldonomics Times will bring to the forefront of economic discourse.

Once again, congratulations on this significant achievement, and I wish you all the best for a successful launch and a prosperous future ahead.

(CMA - M. NAGARAJ)

Blessing Support

CMA Hrishikesh Kumar

Executive Director(Finance)
NBCC (India) Limited

Dear Shri Sandeep Kumar, At the outset I would like to congratulate you for taking the initiative for publishing this magazine “The Worldonomics Times”. In this era of rapid changing economic environment vis-à-vis the pressure on business to sustain, the importance of seamless transfer of information and knowledge cannot be underestimated which I hope would be fulfilled by your magazine in future.I must say this is a great initiative by you and your team in this regard. All the best for your endeavor

CMA Sanjay Jindal
Director Finance, Engineers India Limite

Dear Mr. Sandeep Kumar, With the launch of The Worldonomics Times, professionals worldwide are poised to embark on a journey of enlightenment and empowerment. In today's fast-paced economic landscape, the need for up-to-date insights and innovative strategies is more crucial than ever. As Director (Finance), I recognize the significance of continuous learning and informed decision-making. This magazine promises to be a comprehensive resource, offering valuable insights and actionable strategies to navigate the challenges and opportunities ahead. The Worldonomics Times is not just a publication; it's a beacon of innovation in economic discourse. Through cutting-edge analysis, thought-provoking articles, and expert commentary, it will serve as a trusted companion for professionals across various sectors. Leveraging the latest technologies, the magazine ensures accessibility and engagement for all readers, regardless of background or expertise. Beyond economics, The Worldonomics Times will explore intersections of finance with technology, sustainability, and social responsibility. By fostering dialogue and collaboration across diverse fields, it will inspire innovative solutions to global challenges. I am proud to be associated with this initiative, and I extend my deepest gratitude to the editorial team, contributors, partners, and supporters who have worked tirelessly to bring this vision to life. I offer my sincerest blessings to all those who will embark on this journey of enlightenment and empowerment, fueling innovation and success in the ever-evolving world of economics. Impressive Initiative! Best Wishes to you and your team for resounding success on this fantastic effort.

Blessing Support

CMA Gaurang Dixit
Former Chairman-cum-Managing Director NSIC - National Small Industries Corporation

Dear Shri Sandeep Kumar, At the onset, I applaud the initiative of the 'International Navodaya Chamber of Commerce' to come out with a magazine 'The Worldonomics Times', which will provide the relevant information and knowledge to the all in this diverse global market. In the present complex business / economic scenario, the whole world market is like a field open for all players to play thereon. This global market is having abundant opportunities and to become a successful entrepreneur in such complex economic environment, the need for having relevant information and knowledge is of paramount significance. Your endeavour to come out with the magazine 'The Worldonomics Times' will certainly help to suffice this requirement. I must congratulate to you and your team for this endeavour. With best wishes.

CMA Yogendra Prasad Shukla
Director Finance HOCL - Hindustan Organic Chemicals Limited

Dear CMA Sandeep Kumar Ji, I extend my heartfelt congratulations on the launch of "The Worldonomics Times." Your dedication to providing a platform for insightful economic knowledge is truly commendable. In today's-paced economic, the significance of facilitating the smooth flow of information and wisdom cannot be overstated, and I am confident that your magazine will excel in meeting this crucial need. Your initiative, alongside your team, is truly praiseworthy, and I foresee great success for "The Worldonomics Times" in the days ahead. Your commitment to empowering minds through economic understanding is inspiring. Best regards

CMA Vijay Kumar Agarwal
GM (Finance) ONGC Videsh

Dear Shri Sandeep Ji, It's my great pleasure to note "The Worldonomics Times" monthly magazine launching by "International Navodaya Chamber of Commerce (INCOC). The various Global Perspectives with relevant data have been covered which are relevant from our local perspective. The contents of magazine in coming days will be way forward in knowledge enhancement as well as for better understanding in correlating the global economics with local need. Congratulations CMA Sandeep ji & Team for such an initiative which will surely provide the tailored world economic information.

Shri BK Sabharwal
Chairman, Capital and Commodity Market Committee, PHDCCI Ex-President CPAI, Ex-chairman FISE, Ex-Director, Delhi Stock Exchange

Dear Sandeep Kumar, Congratulations on the launch of The Worldonomics Times! Your dedication to global finance journalism is commendable. This milestone marks the beginning of an insightful journey. In our interconnected world, timely updates on regulatory changes are vital, and your magazine promises to fulfill this need. Dedicated to providing expert insights and periodic updates, it aims to become a key resource for policymakers, industry professionals, and academics. Your leadership in this initiative is inspiring. Here's to a successful launch and a prosperous future ahead. Best regards

Shri Jyoti Prakash Gadia
Managing Director Resurgent India Limited

Dear Sandeep Ji Congratulations on the launch of The Worldonomics Times! This new publication promises to be a vital resource in financial journalism and stands to reshape our grasp of global financial landscapes. The Worldonomics Times will undoubtedly be an indispensable source for thorough analyses, covering the nuanced intersections of global economics and market dynamics. Your magazine is uniquely positioned to serve the needs of business leaders, policymakers, and those with a keen interest in the complexities of global finance. We eagerly await the fresh perspectives and insights that The Worldonomics Times will bring to the complex world of global finance. Best wishes for your journey ahead!

CMA Yash Paul Bhola
Ex-Director (Finance), NFL. President (Hon.) INCOC

Dear INCOC Team Members, I congratulate and appreciate the efforts by one and all in bringing out Global Finance and Economics Magazine, "The Worldonomics Times". This milestone marks the beginning of an exciting journey in the realm of global finance and economics journalism. As our world becomes increasingly interconnected, and regulatory framework is fast getting changed and updated, the need for a comprehensive magazine in finance field cannot be over emphasised. This magazine is dedicated to providing a platform for periodical up-dation of the developments across the globe and experts to share their insights. It is intended to establish itself as a key resource for policymakers, industry professionals, academics, and anyone with a keen interest in understanding global finance and economics. Once again, I congratulate and wish you all the best for a successful launch of the magazine and a prosperous future ahead.

CMA Ramesh Kumar
Chief General Manager POWERGRID
Corporation of India Ltd.

Dear Shri Sandeep Kumar, With great pleasure we extend our good wishes on the launch of The Worldonomics Times. This publication is poised to become a cornerstone in the landscape of global finance and economics, offering deep insights and valuable perspectives. Your commitment to excellence in disseminating knowledge is not only commendable but vital in these complex economic times. We eagerly anticipate the success and influence your magazine will undoubtedly achieve. Warm regards

CMA R C Gupta
EX Executive Director (Finance & Accounts)
GAIL (India) Ltd.

Dear Shri Sandeep Ji, I have gone through the May 2024 issue of The Worldonomics Times and found it very informative. My heartfelt congratulations on the launch of a world class magazine in the area of Cost Management, Financial Management, Financial Planning, Taxation and World Economic Affairs. The coverage in the magazine is very wide & excellent and is based on the theme of Global Perspective with Local Relevance, in-depth data driven journalism and accessibility of the magazine in print as well as digital formats. It will empower the readers with well researched articles for ready reference, decision making & knowledge enhancement. I wish all the best to you and your team of International Navodaya Chamber of Commerce (INCOC) for bringing the magazine on regular basis with full of information of world economic affairs for use by all professionals. With Best regards,

INCOC

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International Navodaya Chamber of Commerce (INCOC)

Welcome to the International Navodaya Chamber of Commerce (INCOC), a dedicated catalyst for positive change, empowerment, and community development. We are committed to enhancing brand value, nurturing essential skills, and facilitating societal growth through a collaborative and community-centric approach.

Our Mission

At INCOC, our mission is to harness the collective potential of individuals and businesses to create a lasting impact. We believe in the power of collaboration, empowerment through knowledge, and a community-centric approach to address local needs and promote inclusivity. Our initiatives are designed to inspire actionable impact, foster continuous learning and adaptation, and contribute to building a brighter future.

How We Operate

- **Collaborative Synergy:** We thrive on collaboration, bringing together diverse minds, expertise, and resources to foster an environment where ideas flourish and innovation thrives.
- **Empowerment through Knowledge:** Knowledge is the cornerstone of growth. At INCOC, we provide access to valuable insights, expert advice, and resources that empower individuals and businesses to make informed decisions and drive positive change.
- **Community-Centric Approach:** Communities are at the heart of change. Our initiatives are designed to address local needs, promote inclusivity, and create a sense of belonging, tailoring our efforts to have a meaningful impact where it's needed most.
- **Actionable Impact:** Our programs inspire action and create tangible results, from skill development workshops to societal initiatives that drive positive change, focusing on making a real difference.
- **Continuous Learning and Adaptation:** We embrace continuous learning and adaptation to stay relevant in a rapidly changing landscape, ensuring that our strategies remain effective and aligned with the needs of the times.