

**THE BEGINNING OF A NEW WORLD ORDER OF COLLABORATIVE KNOWLEDGE ECONOMIES: LEADERSHIP POLE POSITION TO INDIA IN THE EXTENDED NEIGHBOURHOOD THROUGH INDO-US PARTNERSHIP REACHING NEW STRATEGIC HIGHS AS ALSO IMPROVED TIES WITH EGYPT USHERING IN SIGNIFICANT ECO-POLITICAL CLOUDS**

**Issue No. 14, FY23**  
**Date: 03 July 2023**

The recent state visit by the Prime Minister to the United States and Egypt marks important development both in economic and strategic plane. The deepening of bilateral ties between the US and Egypt are of vital importance for India's economic development and position in the Indo-Pacific. **This study dwells upon the four economic aspects of the recent visit of PM to US and Egypt—touching upon—developments in semiconductors, defence trade, climate finance, WTO trade disputes and India's economic interest along the Suez Canal.**

**Firstly, the US visit marks shift in onshoring of chip manufacturing in India.** The US chip manufactures announced an FDI of \$825 million with a combined investment of \$2.75 billion to setup a semiconductor assembly and test facility in India. Besides this, semiconductor collaboration will extend to systems development under the 6G network. With multiple **disruptive developments taking place in chips manufacturing and supply-chain globally where the dominance of China is being curtailed through collaborative arrangements among biggies like US, Japan, Taiwan, South Korea, Netherlands (and, now India), the strategic alliances between these two nations assumes paramount importance to guide the uncertain future amidst escalating geopolitical tensions.**

**Secondly, the India-US defence relationship after this visit is expected to move under two tracks.** The conventional arrangements going forward will include greater collaborations and strengthening of existing foundation agreements. This will include leveraging India as hub of repair and maintenance of naval assets. Further the repair and maintenance will progressively extend to aircrafts as well. The development in the conventional domain will also include the transfer of technology for manufacturing jet engines in India to manufacture LCAs and assembling of UAVs in India. **A reciprocal defence procurement agreement will also be explored in due course which can increase the share of India in defence trade with US which has fallen to 19%.** The future collaborations in new defence domains will include the collaboration in defence application of space and AI technology. This will cover prototyping of projects, testing, collaborative research, and co-production of defence systems.

**Thirdly, in respect of climate transition and climate finance,** to achieve the goals of net-zero, many important collaborations have been announced covering green hydrogen, biofuel, sustainable aviation fuel and critical minerals needed to achieve climate and strategic co-operation goals. MOU signed under which the U.S. Agency for International Development **will support Indian Railways' ambitious target to become a "net-zero" carbon emitter by 2030. A payment mechanism that will facilitate deployment of 10,000 made-in-India electric buses in India.** A platform will be created that will attract private capital into India for deployment in green technology projects such as battery, renewables, storage etc. This will lower the cost of capital for green transition by providing catalytic capital and de-risking such projects.

**Fourthly, in a significant development, bilateral meeting has resolved the 6 major pending disputes at WTO** mainly related to steel, aluminium, renewable energy, solar cells, 3 of which were raised by the US against India (DS456, DS541 and DS585) and 3 raised by India against the US (DS436, DS510 and DS547). The US will grant market access to steel and aluminium products under the exclusion process of Section 232 of the Trade Expansion Act 1962. India has agreed to remove the additional duty, i.e., retaliatory tariffs on certain products. However, the prevailing basic import duty on these products applicable to all imports will continue. This market access will restore opportunities for Indian steel and aluminium exporters, which were restricted since June 2018. Going forward, the US Department of Commerce will clear 70% of steel and 80% of aluminium applications for products originating in India. **It would provide significant impetus to raise India's steel and aluminium exports by about 35%.**

**Fifthly, PM's US visit was followed by visit to Egypt.** An agreement to elevate the bilateral relationship to a "Strategic Partnership" was signed. Three MoUs in the fields of Agriculture, Archaeology & Antiquities and Competition Law were signed. India and Egypt discussed ways to further deepen the partnership between the two countries, particularly in areas like trade and investment, information technology, defence and security, renewable energy, agriculture, health, culture and people to people ties. Both nations also discussed further cooperation in G-20, highlighting the issues of food and energy insecurity, climate change and the need for Global South to have a concerted voice. Prior to this visit, Egypt had already shown interest for rupee payment for imports from India. **Further in a significant development, Egypt is studying the possibility of allocating a special area of land for the Indian industries in the Suez Canal Economic Zone. The Suez Canal holds significant importance for Indian trade. Out of the total 4.8 million barrels per day of crude oil shipped and transported through the canal, 500,000 barrels per day of crude is shipped to India and is important for shipments to Europe.**

**In all, the two recent visits mark significant long term economic gains for India. Development will have a cascading impact on economic growth in India and extended neighbourhood.**

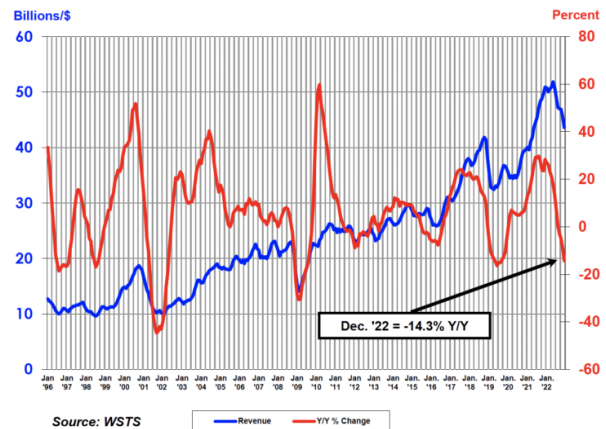
**THE CHANGING FACE OF GLOBAL SEMICONDUCTOR DYNAMICS WITH A TILT TOWARDS A.I. LED FUTURE**

- ◆ Nearly half a decade post Gordon Moore’s hypothesis in 1965, semiconductors have essentially propelled the atomic growth in diverse areas, front leading all things computing that ensured exponential development of both services as well as manufacturing prowess globally. With a race for dominance in the knowledge economy of the future, dotted with AI, incremental capacity in advanced chip manufacturing has become the go-to strategy for major economies. With proliferation of smartphones and emergence of Digital Public goods curating the behavioural pattern of hugely data consuming populace, this should anchor mankind’s quest for propelling AI as the next public good too. The Indo-US ties and agreements in the field of semiconductors during PM Modi’s recent visit acquire a critical dimension from this angle.
- ◆ **The signing of an MoU on Semiconductor Supply Chain and Innovation Partnership should probably be dubbed the most significant step in the coordination of both countries’ semiconductor incentive programs which would augment and promote future commercial opportunities, research, talent, and skill development between the two largest democracies.** Micron Technology, a global leader of chipmaking has announced to invest up to \$825 million to build a new semiconductor assembly and test facility in Gujarat with support from the Indian government/industry.
- ◆ **The combined investment valued at \$2.75 billion is estimated to create up to 5,000 new direct and around 15,000 other jobs opportunities in next five years. Further, Lam Research’s proposal to train 60,000 Indian engineers** through its Semiverse Solution virtual fabrication platform to accelerate India’s semiconductor education and workforce development goals, and another announcement by Applied Materials to invest USD 400 million to establish a collaborative engineering center in India **should open new vistas of growth of chips supply chain diversification from India, which will probably become the most strategic chip manufacturing centre in Asia.** The recent blocking of advanced CHIPS technology transfer by Japan, South Korea and Netherlands to mainland curtail Chinese prowess for now.

**GLOBAL SEMICONDUCTOR SALES (IN USD)**

**Worldwide Semiconductor Revenues**

Year-to-Year Percent Change



Source: WSTS, SBI Research (Sale figures are 10X of LHS in \$)

- ◆ Basis the Semiconductor Industry Association (SIA) data, global semiconductor industry sales totalled \$574 billion in CY22, the highest-ever annual total and an increase of ~3.3% vis-à-vis CY21 total of \$556 billion, even though sales declined in second half (in particular fourth-quarter sales of \$130.8 billion were 14.3% less than FQ’21 and 7.2% lower than third quarter of 2022) reflecting short term cyclicality and market fluctuations. Though sales are expected to decelerate in 2023, SIA expects a record year for chips industry for 2024.
- ◆ Product segments wise, analog, the semiconductor type most commonly used in vehicles, consumer goods, and computers recorded the highest annual growth rate of ~7.5%, reaching \$89 bn in 2022 sales. However, Logic (\$176.6 bn in 2022 sales) and memory (\$130 bn) remained the largest semiconductor categories by sales. Sales of automotive ICs grew by ~29%, reaching to a record total of ~\$34 bn.
- ◆ Incidentally China remains the largest individual semiconductor market globally, accounting for sales of around \$180 billion in 2022 (down ~6% y-o-y). But, its dominance is clearly under threat with a global collaboration on the rise that promotes diversified and reliable alternate production lines. Taiwan based TSMC now is the largest semiconductor manufacturer, replacing Intel in Q4’22 and locking horns with Samsung as Asia (Japan, South Korea, India, China) powers the race for dominance in the new knowledge led economy even amidst rising geopolitical tensions.

## SEMICONDUCTOR LANDSCAPE OF WORLD AND PROSPECTS FOR INDIA

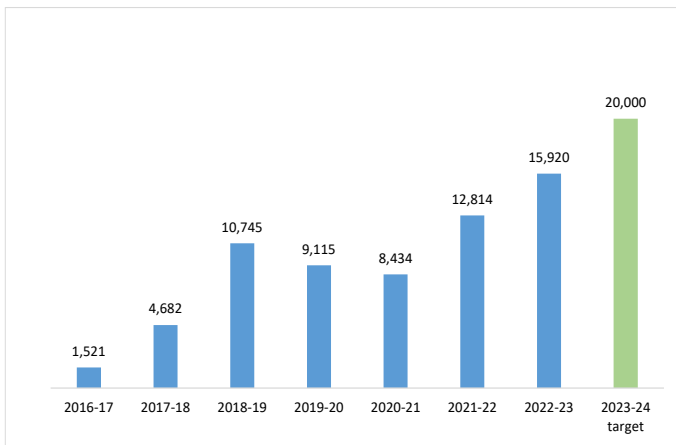
- ◆ Semiconductor is a truly global supply chain with designs in UK with the help of design software from US, manufactured by technicians of US in Taiwan with the help of silicon wafers and specialized gases sourced from Japan. A shock to the semiconductor supply chain will impact every electronic goods supply chain from cars, truck, airplanes, industrial machinery, consumer electronics, military weapons. Semiconductors is a grid of millions/ billions of transistors in a chip squeezed into a square inch of Silicon, involving multiple stages.
- ◆ **India at present have negligible share in Semiconductor Supply chain. For the Semiconductor mission, India needs to start from level zero and lots of consistent efforts will be needed to fulfil the purpose. India Semiconductor Mission (ISM) aims to build a vibrant semiconductor and display ecosystem for making India as Global Hub for electronics manufacturing and design.**
- ◆ **USA and Japan are overall Champions of Semiconductor Industry but China though deficient in each aspect of Semiconductor value chain holds major share in assembly of the semiconductors. Therefore, in order to fully reap China+1 strategy, in favor of India, we will have to work on all aspects of Semiconductor supply chains.**
- ◆ **The incentives of designing part of ISM are low. We have to fully utilize our tech potential by incentivizing the Indian startups to work in collaboration with Silicon valley firms for developing indigenous semiconductor chip design softwares, with government support in securing access of technology with USA and UK which are market leaders in the segment.**
- ◆ The following aspects may be considered to incentivize ISM in India.
  - Raw materials used in the Semi-conductor supply chain like Silicon, germanium, Gallium Arsenide, and Indium Phosphide may be imported duty free. The same have currently 5%, 10%, 10%, and 10% Import tariff respectively at MFN Rate.
  - China lacks in nearly everything of semiconductor supply chain except the materials and chemicals. Europe is very important when it comes to materials for Semiconductor supply chain, **therefore the proposed India EU FTA may have special focus about this thing on India's wish-list.**

- Japan is another partner having access to Silicon wafers, photomasks. US and Japan are also market leaders in SME equipment. **Therefore, we have to leverage QUAD partnership wherein agenda related to critical and emerging technologies highlights the quad's capacity and vulnerability in global semiconductor supply chains.** However, we need to do more in this aspect with QUAD partners in order to secure competitive access to Design softwares, Materials and Chemicals, for the companies which are interested in setting up fabrication facility and/or Assembly, test and packaging unit in India.

## INDIA-US DEFENCE PARTNERSHIP

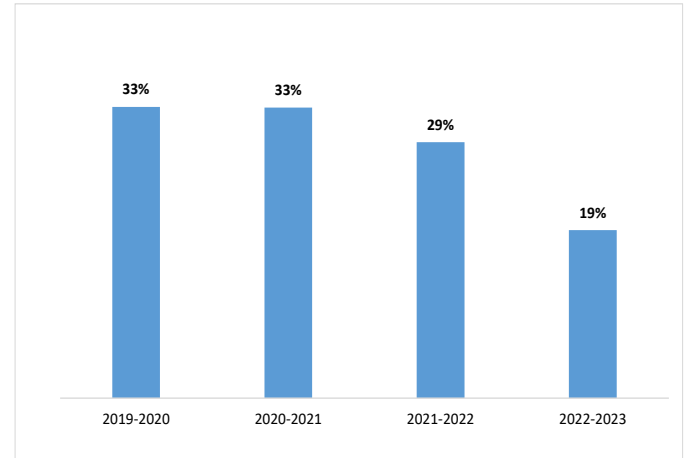
- ◆ **The India-US defence partnership which has evolved considerably over the years can now be viewed under two tracks. The strengthening of existing 'conventional arrangements' and 'future collaborations' in new defence domains.**
- ◆ The conventional arrangements going forward will include greater collaborations and strengthening of existing foundation agreements. This will include leveraging India as hub of repair and maintenance of naval assets. Further the repair and maintenance will progressively extend to aircrafts as well.
- ◆ **The development in the conventional domain will also include the transfer of technology for manufacturing jet engines in India to manufacture LCAs and assembling of UAVs in India. A reciprocal defence procurement agreement will also be explored in due course.**
- ◆ **The future collaborations in new defence domains will include the collaboration in defence application of space and AI technology. This will cover prototyping of projects, testing, collaborative research, and co-production of defense systems.**
- ◆ The future collaborations will be supported by an acceleration ecosystem consisting of network of universities, start-ups, industry. 144 such projects have been announced with Indian start-ups.

**Trends in India's Defence Exports (₹ crore)**



Source: PIB,DDPD Dashboard, SBI Research

**Share of US in India's Export of Arms & Ammunition**



Source: Ministry of Commerce & Industry, SBI Research

**FURTHERING CLIMATE FINANCE, CATALYZING THE CLEAN ENERGY TRANSITION**

- ◆ To achieve the goals of net-zero many important collaborations have been announced covering green hydrogen, biofuel, sustainable aviation fuel and critical minerals needed to achieve climate and strategic cooperation goals.
- ◆ Recognise India's ambitious production-linked incentives scheme for cutting-edge clean and renewable technologies.
- ◆ Highlighted the importance of decarbonizing the transportation sector, including by accelerating the deployment of zero emissions vehicles, continued collaboration to promote public and private financing for electric transportation, and the development of biofuels, including sustainable aviation fuels.
- ◆ **MOU signed under which the U.S. Agency for International Development will support Indian Railways' ambitious target to become a "net-zero" carbon emitter by 2030.**
- ◆ In respect of climate finance, the joint statement talks about a payment mechanism that will facilitate deployment of 10,000 made-in-India electric buses in India. A platform will be created that will attract private capital into India for deployment in green technology projects such battery, renewables, storage etc. This will lower the cost of capital for green transition by providing catalytic capital and de-risking such projects. Investment of up to \$1.5 billion has been announced by one Indian Inc. to develop a new, vertically integrated solar panel manufacturing operation in the United States.

**INDIA-US WTO TRADE DISPUTES**

- ◆ At WTO India currently has 24 cases filed against different countries. Meanwhile there are 32 cases which are filed against India and there are as many as 180 cases where India is a third party. When looked at the bilateral disputes between India and the US, there are currently 8 cases that the US has filed against India at WTO, which chiefly relate to sectors including agri and pharma, textile, motor vehicle, solar cells and modules.
- ◆ Meanwhile, 11 cases have been filed by India against US which includes areas as female coats, wool shorts and blouses, shrimp, steel, textile, non-immigrant visas, renewable energy among others.
- ◆ **In the recent bilateral meeting the two countries have resolved the 6 major pending disputes at WTO** mainly related to steel, aluminium, renewable energy, solar cells, 3 of which were raised by the US against India (DS456, DS541 and DS585) and 3 raised by India against the US (DS436, DS510 and DS547).
- ◆ According to the recent agreement, the US will grant market access to steel and aluminium products under the exclusion process of Section 232 of the Trade Expansion Act 1962. India has agreed to remove the additional duty, i.e., retaliatory tariffs on certain products. However, the prevailing basic import duty on these products applicable to all imports will continue.

- ◆ This market access will restore opportunities for Indian steel and aluminium exporters, which were restricted since Jun'18. Going forward, the US Department of Commerce will clear 70% of steel and 80% of aluminium applications for products originating in India. **It would provide significant impetus to raise India's steel and aluminium exports by about 35%.**
- ◆ These agreements are mutually beneficial for the two countries. This is a remarkable achievement as it marks the first time that the disputes are being ended bilaterally and as the major disputes have been resolved India is hopeful that all the other disputes between the two countries would be resolved by the year end.

**INDIA-EGYPT STRATEGIC PARTNERSHIP**

- ◆ Egypt has traditionally been one of India's most important trading partners in the African continent. The India-Egypt Bilateral Trade Agreement has been in operation since March 1978 and is based on the Most Favoured Nation clause. India was Egypt's sixth largest trading partner, while Egypt was India's 38th in FY23. These relationships cemented further recently with the visit of Indian Prime Minister to discuss bilateral relations between India and Egypt.
- ◆ India and Egypt discussed ways to further deepen the partnership between the two countries, particularly in areas like trade and investment, information technology, defence and security, renewable energy, agriculture, health, culture and people to people ties. Both nations also discussed further cooperation in G-20, highlighting the issues of food and energy insecurity, climate change and the need for Global South to have a concerted voice.
- ◆ An agreement to elevate the bilateral relationship to a **"Strategic Partnership"** was signed. Three MoUs in the fields of Agriculture, Archaeology & Antiquities and Competition Law were also signed: **(i)** MOU between the Ministry of Agriculture and Farmers Welfare of India and the Ministry of Agriculture and Land Reclamation of Egypt on cooperation in the field of Agriculture & Allied sectors, **(ii)** MOU between the Archaeological Survey of India of India and the Supreme Council of Antiquities of Egypt on Protection and Preservation of Monuments and Archaeological sites & remains, and **(iii)** MoU between the Competition Authorities of India and Egypt on Cooperation in the field of Competition Laws.

WTO disputes raised by the US against India and their status			
S.No.	Dispute	Description	Status
1	DS50	Patent protection for Pharma and Agrichemical products	Implementation notified in 1999
2	DS90	Quantitative restrictions on imports of agri, textile and industrial products	Implementation notified in 2001
3	DS175	Measures affecting trade and investment in motor vehicle sector	Implementation notified in 2002
4	DS360	Additional and extra additional duties on imports from US	Report(s) adopted, no further action required on 17 Nov'08
5	DS430	Measures concerning importation of certain agri products	Compliance proceedings ongoing on 22 May'17
6	DS456	Certain Measures Relating to Solar Cells and Solar Modules	Mutually resolved recently
7	DS541	Export Related Measures	
8	DS585	Additional Duties on Certain Products from the United States	

Source: SBI Research, WTO

WTO disputes raised by India against the US and their status			
S.No.	Dispute	Description	Status
1	DS32	Measures related to imports of women's and girls' coats	Settled or terminated in 1996
2	DS33	Measures related to imports of woven wool shorts and blouses from India	Mutually acceptable in 1997
3	DS58	Import prohibition of certain shrimp and shrimp products	Proceedings completed without finding non-compliance in 2001
4	DS206	Anti-Dumping and countervailing measures on Steel Plate from India	Implementation notified in 2003
5	DS217	Continuing Dumping and Subsidy Offset Act of 2000	Order granted to retaliate in Nov 2004
6	DS243	Rules of origin for textiles and apparel products	Panel report adopted, no action required in 2003
7	DS345	Customs bond directive for merchandise subject to Anti-Dumping/Countervailing measures	Implementation notified in 2009
8	DS503	Measures concerning non-immigrant visas	In consultation on March 2016
9	DS436	Countervailing Measures on Certain Hot-Rolled Carbon Steel Flat Products	Mutually resolved recently
10	DS510	Certain Measures Relating to the Renewable Energy Sector	
11	DS547	Certain Measures on Steel and Aluminium Products	

Source: SBI Research, WTO

**POSSIBLE IMPACT OF STRATEGIC PARTNERSHIP ON TRADE AND INVESTMENT**

**Trade**

- ◆ Bilateral trade with India-Egypt reached \$5.5 billion for the first time in FY13 but the trade volume declined gradually till FY17 due to general economic slowdown and decline in oil prices. However, trade witnessed growth again from FY18 onwards and during FY22 reached a peak with \$7.3 billion.
- ◆ India's top exported items to Egypt in are Petroleum Oils, Meat, Ferro-alloys, Rice, Flat rolled products of Iron, etc. While India's top imported items from Egypt are Petroleum Oil, Petroleum Gas, Chemical Fertilizers, Ammonia, Phosphoric Acid, etc. We believe that agreements signed in agriculture filed will increase India's agriculture exports (wheat, rice, etc) to Egypt. **Egypt holds a strategically significant position with the Suez Canal, through which 12% of global trade passes. By enhancing bilateral relations with Egypt, India hopes to advance its trade in the region.**

**Investment**

- ◆ Over 450 Indian companies are registered in Egypt, of which around 50 are active in various sectors with a combined investment exceeding \$3.15 billion. Approximately half of them, are joint ventures or wholly owned Indian subsidiaries while the rest operate through their representative offices. Indian companies are present in a range of sectors like apparel, agriculture, chemicals, energy, automobiles, retail and others. Overall, these companies provide direct and indirect employment to approximately 35,000 Egyptians.
- ◆ Indian investors have huge investment opportunities in Egypt as Egyptian government has an ambitious infrastructure development agenda, with 49 mega projects including the construction of a New Cairo (\$58 billion), a \$25 billion nuclear power plant and a \$23 billion high-speed rail network.

India-Egypt Trade Relations (USD Billion)					
	FY19	FY20	FY21	FY22	FY23
<b>Export to Egypt</b>	2,886	2,504	2,264	3,744	4,109
Growth (%)	-	-13.2	-9.6	65.3	9.8
<b>Import from Egypt</b>	1,678	2,031	1,892	3,521	1,952
Growth (%)	-	21.07	-6.84	86.05	-44.57
<b>Total Trade with Egypt</b>	<b>4,564</b>	<b>4,536</b>	<b>4,157</b>	<b>7,265</b>	<b>6,061</b>
Growth (%)	-	-0.63	-8.35	74.77	-16.57
Share in India's Total Trade (%)	0.54	0.58	0.61	0.7	0.52
<b>Trade Balance</b>	1,209	473	372	223	2,158
Source: SBI Research					

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