Asia Business Council

India's Path Forward: A New Blueprint for Growth

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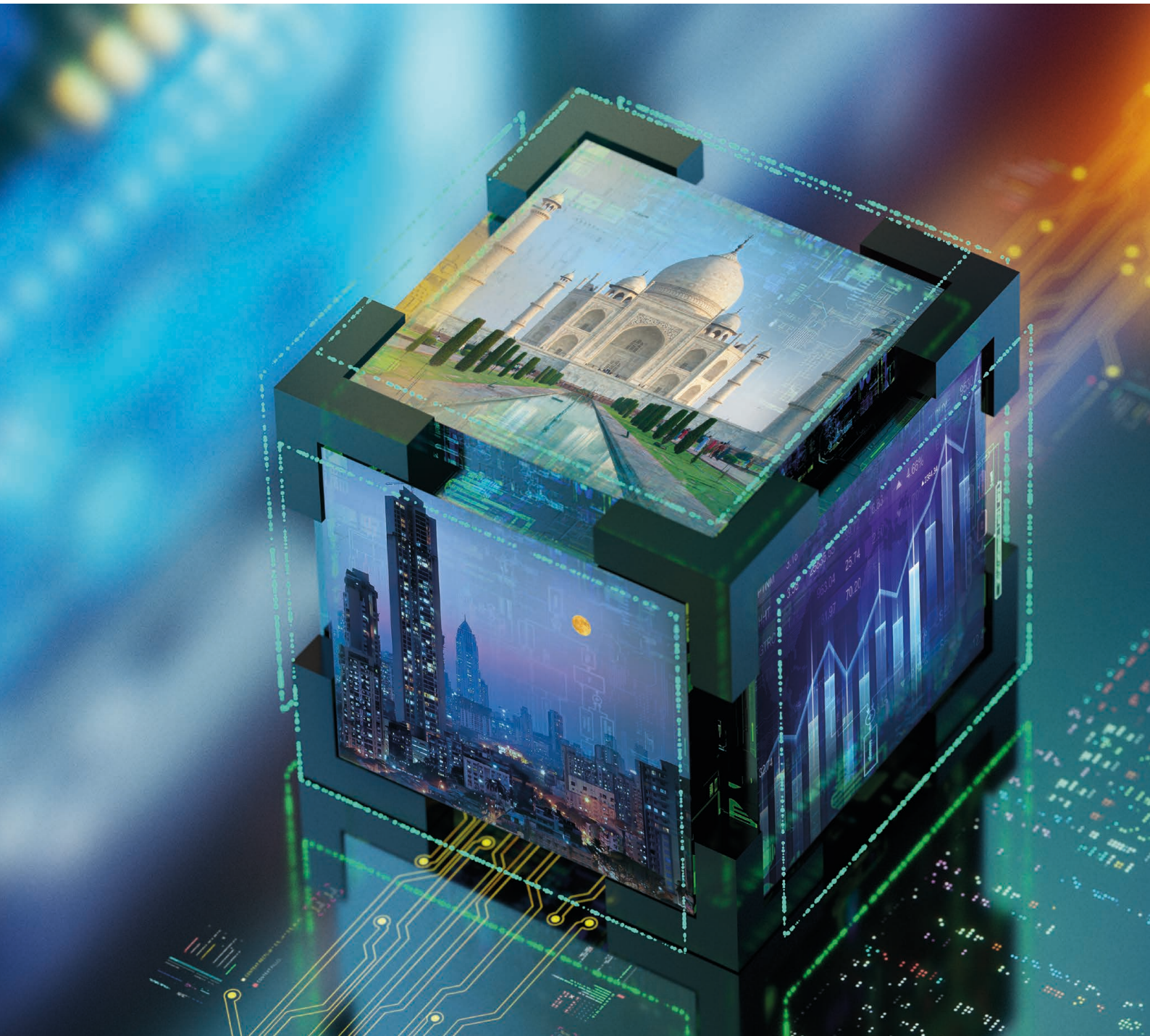


Executive Summary

Asia Business Council

India is at a transformative point in its economic journey, aspiring to become an economic powerhouse on the global stage. From the early days of post-independence industrialization to the groundbreaking economic liberalization of 1991, India has made remarkable progress, particularly in establishing itself as a frontrunner in information technology services. Forecast to become the world's third-largest economy by 2027, India stands at a critical juncture.

Amidst unprecedented global economic and geopolitical turmoil, India has emerged as a bright spot for investors. Its robust macroeconomic position, strategic location in the Indo-Pacific, and focus on seeking balance in a fragmented world continue to attract foreign capital, especially in tech manufacturing. Sectoral reforms present significant investment opportunities. Moreover, India's youthful demographic presents a historic opportunity to propel the economy into a higher growth trajectory.

However, India's growth path is not without challenges. A significant skills gap underscores the need for investments in education and skills development. Although the country has made strides in its business environment, as evidenced by higher scores in the Ease of Doing Business ranking, systemic issues continue to undermine business confidence and deter global manufacturers from setting up large-scale operations in India. Underinvestment in strategic areas and slow digital adoption have reduced private investment, constrained foreign direct investment, and hindered India's shift to a knowledge-based economy.

Today, as India stands on the cusp of becoming a major global economic engine, it faces the complicated task of overcoming these obstacles while seizing opportunities in new sectors and navigating a complex geopolitical environment. Its ability to harness this potential carries profound implications for the global economy. Such a transition is especially critical, as the country has the world's largest population and is already the third-largest emitter of carbon dioxide, following China and the United States.

This briefing delves into the key challenges that India must navigate to unlock its full growth potential. It assesses weaknesses in India's growth strategy and the risks tied to its international relations. Finally, it proposes solutions and strategic initiatives to propel India toward more sustainable, inclusive, innovative, and resilient growth.

Introduction

The pillars of India's economic development strategy have evolved significantly, reflecting shifts in both global and domestic dynamics. India's growth model now stands at a crucial inflection point, offering substantial opportunities yet confronting significant barriers to realizing its full potential.

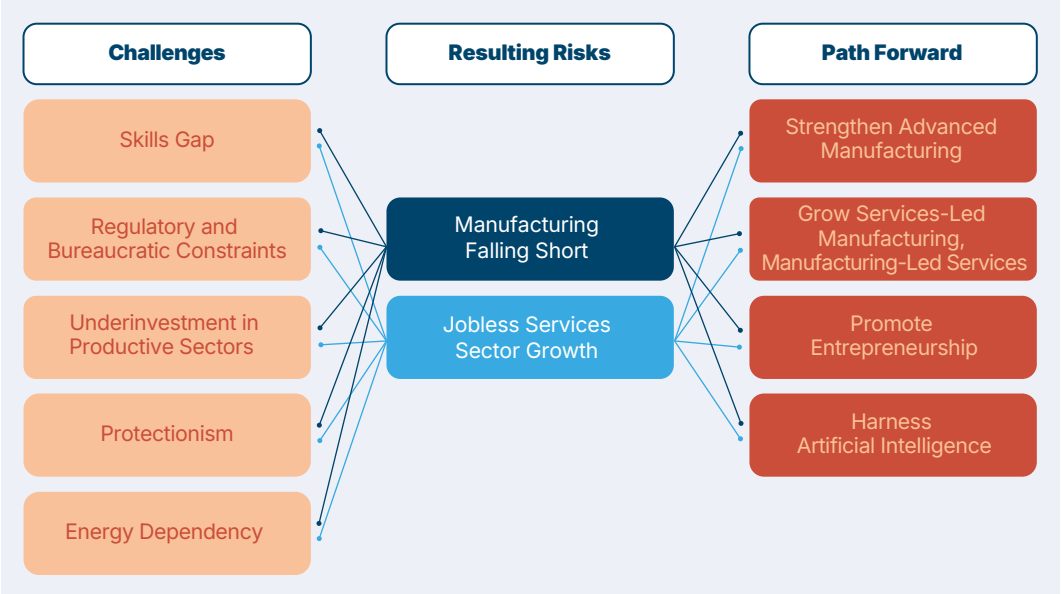
India's youthful demographic has the potential to drive substantial economic growth, provided the country addresses a skills gap reflected in a 54.8 percent employability rate, and creates 7.9 million non-farm jobs annually by 2030.[1,2] Meanwhile, the country's focus on tech manufacturing and sectoral reforms continues to draw considerable foreign investment.

However, signs of economic slowdown are evident. Internally, capital expenditure and consumption have weakened, with GDP growth in the third quarter of 2024 decelerating to 5.4 percent year-on-year, the slowest since December 2022.[3] Externally, the global trade outlook remains uncertain, and India faces subdued global growth.[4]

Despite these challenges, India's GDP could surpass US$5 trillion by 2027, reflecting its high growth and outpacing global and regional peers as it moves toward becoming the world's third-largest economy.[5,6,7]

This briefing delves into the deep-rooted historical, systemic, and structural challenges that could impede India's future growth while exploring strategies to seize emerging opportunities and sustain momentum (see Figure 1).

Figure 1: At a Glance: India's Growth Conundrum, Resulting Growth Risks, and a Path Forward

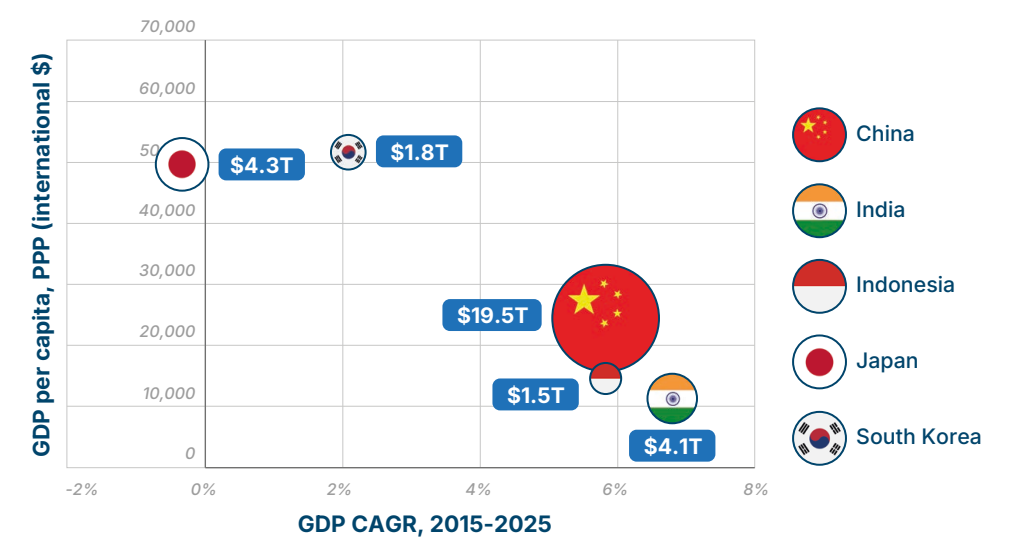


India's Growth Conundrum: Unravelling the Challenges

India's economic ascent is brimming with promise. Its growth trajectory mirrors the transformative paths of other major Asian economies, suggesting the nation is at a pivotal moment. Japan's post-war economic miracle, South Korea's rapid industrialization, and China's investment-led growth have all set precedents that resonate with India's current momentum. Today, India's economy is sizable and rapidly growing, yet it remains a relatively low-income country (see Figure 2). This paradox highlights the need for more quality growth, higher productivity, and inclusive development to uplift the income of millions of Indians.

This section delves into the historical, systemic, and structural barriers that could hinder long-term growth. While much has already been written about these challenges—and the government itself has acknowledged and is attempting to address many of them—this briefing offers a fresh, fact-based, and analytical perspective, building on existing insights to sharpen the focus. The objective is to uncover the most critical and foundational issues —those that drive and sustain other weaknesses and undermine the competitiveness of India's manufacturing and service sectors, as explored in the next section. Tackling these key challenges is a priority for unlocking India's full potential and creating a thriving and globally competitive economy that also benefits India's broader population.

Figure 2: Projected GDP Size, GDP Growth, and GDP Per Capita for Asia's Largest Economies



Sources: World Bank Open Data, accessed March 2025; World Bank Global Economic Prospects January 2025; Asia Business Council calculations (bubble indicates GDP size)

Skills Gap Threatens Demographic Dividend

With 26 percent of its population aged 10-24 and a median age of 28, India stands in contrast with aging Asian nations. But its demographic advantage hinges on integrating the workforce into productive roles for inclusive growth.[8,9]

The Economic Survey 2024-25 states that India needs an additional 7.9 million non-farm jobs annually until 2030 to accommodate its growing workforce. However, despite improvements in labor market conditions, such as lower unemployment and higher labor force participation, the share of the workforce in agriculture increased to 46.1 percent in 2023-24, up from 44.1 percent in 2017-18. Concurrently, jobs in manufacturing and services, the two sectors contributing the most to the economy in terms of Gross Value Added (GVA), have decreased.[10,11] Self-employment also has surged while regular salaried jobs have declined. The government credits this to growing entrepreneurship and flexible work, but the trend also underscores a rise in precarious work, with self-employed workers earning about 36 percent less than their salaried peers.[12]

Reversing the trend of insecure and low-paying jobs is difficult due to a significant gap between skills development and employment needs. India's education spending has stagnated at 2.7 to 2.9 percent of GDP from 2015 to 2025, hampering the development of a skilled workforce essential for economic growth.[13] The Periodic Labor Force Survey (PLFS) 2023-24 shows that only 9.8 percent of the workforce has more than a secondary education degree.[14] The India Skills Report 2025 reveals a 54.8 percent employability rate, indicating nearly half of young people lack the skills needed for employment.[15] The PLFS also reports a 10.2 percent youth unemployment rate, with 53 percent of graduates and 36 percent of postgraduates underemployed.[16,17]

A stark digital divide across geography, gender, and income levels exacerbates these issues. In 2021, only 37 percent of the rural population were active internet users.[18] Gaps in digital infrastructure, unreliable electricity in rural areas, high costs of devices for low-income households, and language barriers across more than 120 languages hinder digital inclusivity. This creates a cycle of exclusion, limiting access to education, healthcare, and economic growth, and widening urban-rural disparities. The uneven diffusion of technology benefits between economic sectors has also contributed to a post-Global Financial Crisis (GFC) productivity slowdown.[19]

The 2025 budget's education plan provides increased funding for industry-aligned skill development, vocational training, integrating AI and emerging technologies into education, and improving physical infrastructure.[20] The focus on digital skilling through the establishment of a Center of Excellence in AI for Education, 50,000 Atal Tinkering Labs to foster creativity and STEM skills in government schools, and the integration of AI-driven solutions into education with the IndiaAI Mission, supported by the government's policy thinktank NITI Aayog, are commendable.[21] However, despite a projected 12.8 percent increase in spending, India's 2025-26 education budget remains at 2.5 percent of GDP, which is significantly lower than China's allocation and falls well short of the global benchmark of 6 percent recommended by the National Education Policy (NEP) 2024 – a target originally established in NEP 2020 and reiterated in subsequent policies.[22,23] The pace of investment in vocational training is also too slow compared to upskilling needs. Another reason for India to urgently align its workforce with evolving economic needs is that falling fertility rates and an aging population are set to emerge in the next decade despite the current youth bulge.[24]

Regulatory and Bureaucratic Constraints Reduce Competitiveness

While India has made strides in enhancing its business-friendly environment, a number of longstanding challenges continue to weaken business confidence and elevate the costs of doing business.[25,26]

Delays in labor and land rights reforms, and resistance from political groups to modernizing outdated laws, such as the Industrial Disputes Act of 1947 and the Factories Act of 1948, discourage global manufacturers from setting up large-scale operations in India.[27] Current working-hour regulations prevent manufacturers from responding to demand surges and competing globally.[28] Moreover, stringent labor laws and unionization mandates that apply when staff numbers exceed a certain threshold often drive manufacturers to favor smaller, more flexible units, thereby limiting the growth of larger factories that have the potential to create substantial employment opportunities.[29] The effectiveness of schemes aimed at attracting FDI, such as the Production Linked Incentive (PLI) has also been hindered by layers of bureaucratic complexity and overly cautious administrative processes.

Political interference has stalled reforms such as the repeal of the 2020 farm laws due to popular backlash.[30] Resistance to privatizing public-sector undertakings, such as Air India, also highlights these challenges.[31] State-level politics result in inconsistent policies, making it difficult for businesses to operate uniformly across the country. Political rivalries between central and state governments stall infrastructure projects and the implementation of national schemes, such as the rollout of Goods and Services Tax in some states.[32] Uneven development across states, due to political favoritism or a lack of cooperation, reduces the country's overall competitiveness.

Political meddling in official appointments risks weakening governance by undermining the independence of autonomous institutions and delaying projects. The T.S.R. Subramanian Committee linked such interference to many senior appointments, ranging from college principals to district education officers, in turn leading to poor educational outcomes and deficits in human capital.[33] It has also affected the Reserve Bank of India's operational independence and fueled scandals.[34]

Populist measures like loan waivers and subsidies (2.1 percent of GDP for central government and 1.5 percent of GDP for state government) strain public finances, diverting resources from infrastructure and innovation and affecting trade relations.[35] For example, power subsidies in Punjab for decades have diverted funds from critical investments in other industries, slowing economic growth compared to most other states.[36] Since 2018, India's protectionist stance, with high tariffs to support domestic industries, has also raised concerns about global trade relationships and foreign investment.[37,38]

Underinvestment in Productive Sectors Stunts Growth

Shortfalls in capital expenditure have significantly hindered growth. Although there have been recent improvements, India's Gross Fixed Capital Formation (GFCF) as a percentage of GDP experienced an average annual decline of -1.5 percent from 2010 to 2020, with the GFCF-to-GDP ratio dropping from 33 percent to 27 percent during that period.[39] This decline indicates less money was being invested in new projects.

The drop in private investment—a major driver of India's economic growth—has been the primary factor behind the decline. Domestic investments have steadily decreased since 2011-12, reaching a low of 19.6 percent in 2020-21.[40] Meanwhile, the share of FDI to GDP has remained modest, peaking at 2.4 percent in 2020 and falling since.[41] The reduction in private investment has stunted India's long-term economic development and job creation.

Contrary to expectations, post-Covid increases in infrastructure investments, with the GFCF growth rate reaching 10.2 percent in 2023-24, have not led to significant increases in private investment.[42] Policy uncertainty, stalled reforms, and a shortage of skilled labor remain significant issues, along with inadequate investments in key sectors like infrastructure and R&D (see Sidebar 1).[43] The underutilization of budgeted capital outlays is also a challenge.[44] Despite the National Infrastructure Pipeline aiming to invest US$1.4 trillion by 2025 in critical sectors, actual investments have fallen short, with a financing gap exceeding 5 percent of GDP.[45,46]

Sidebar 1: Bridging the Gap in Infrastructure and R&D Investments

Inadequate investment in technology, infrastructure, and R&D has significantly hindered India's productivity growth and competitiveness.[47]

Infrastructure inefficiencies and higher logistics costs put India at a disadvantage. Unlike China, which invested 8.3 percent of its GDP in transportation, energy, and digital connectivity in 2020, India invested only 5.1 percent. The country still faces an estimated US$2.2 trillion infrastructure funding gap, hindering its goal to become a US$7 trillion economy by 2030.[48,49] Ranked 44th in the World Bank's Logistics Performance Index 2023, India lags behind Vietnam and China. The disparity in infrastructure investment is a major cause of the differential in productivity growth.[50] Between 2015 and 2024, India's average annual growth rate of output per worker was 3.3 percent, compared to Vietnam's 5.4 percent and China's 5.9 percent.[51]

India's limited investments in R&D and technology, with expenditure at just 0.6 percent of GDP, have also constrained its ability to match China's advancements.[52] In contrast, China allocates 2.7 percent of GDP to R&D, directing substantial resources into high-tech industries such as new-energy vehicles, industrial robots, and integrated circuits.[53] These investments have positioned Chinese manufacturers as global leaders in advanced manufacturing, creating a stark disparity in innovation-driven growth. In 2023, China's core digital economy contributed US$1.8 trillion (9.9 percent of GDP), while India's tech sector contributed US$245 billion (7.5 percent of GDP), a fraction of China's output.[54,55]

Moreover, the reliance on government funding for R&D in India, in contrast to countries like China, Japan, South Korea and the U.S., where the private sector accounts for over 50 percent of R&D contributions, further exacerbates the issue.[56]

Besides, rising interest rates and the depreciation of the Indian Rupee have impacted the fiscal deficit, leading the government to reduce capital expenditures by 12.3 percent in the first eight months of FY 25. This has led to a new decline in investment growth.[57]

Rupee depreciation and geopolitical uncertainty have also led to reduced capital flows. For FY 2023-24, net FDI—the difference between inward and outward FDI—dropped by 62 percent to US$10.6 billion, the lowest since 2007, with repatriation of capital by foreign investors exceeding inbound investment.[58] In December 2024, new project announcements fell by 22 percent year-on-year to Rs 6 trillion, and completed projects plummeted by 52 percent to below Rs 1 trillion.[59] Despite some government and large-scale private investments, overall capex remains below pre-pandemic levels.

Protectionism Hinders Trade

Since the 1991 economic liberalization, India's trade policy has evolved significantly, marked by numerous comprehensive economic partnership agreements (CEPAs) with countries such as the UAE, Australia, Indonesia, and Turkey, as well as the European Free Trade Association, leading to export trade growth. However, these CEPAs accounted for only about 10 percent of total trade in 2024.[60] Efforts to balance protectionism with trade growth—such as high tariffs, import restrictions to shield local industries, and the "Make in India" initiative, which combines trade promotion with protectionist measures—have resulted in an incoherent trade strategy.

India's decision to opt out of major trade agreements like the Regional Comprehensive Economic Partnership (RCEP) has reduced its capacity to fully maximize the trade potential of high-growth markets. For instance, RCEP covers about 30 percent of the world's population and GDP.

Additionally, high tariffs and a complex regulatory environment have constrained India's capacity to capitalize on global trade opportunities. The disparity between World Trade Organization (WTO) bound and applied rates has enabled India to change tariffs frequently, creating uncertainty for foreign exporters and leading to higher tariffs. Between 2000 and 2024, India's average tariff rates on dutiable items decreased from 48.9 percent to 17.3 percent, while China's rates fell from 16.4 percent to 8.3 percent.[61] India's high inbound tariffs have in turn led to higher tariffs on its exports. From 2017 to 2021, India faced simple average tariffs of 10 percent and weighted average tariffs of 4.5 percent, compared to China's 5.4 percent and 2.2 percent, respectively.[62]

Consequently, while trade has grown, the country's 1.8 percent share of global merchandise exports in 2023 remained modest compared to China's 14.2 percent.[63] Protectionist policies have also limited access to advanced technologies, crucial for modernizing industries, and complicated efforts to expand India's manufacturing sector. India now faces the added challenge of navigating a shifting global landscape, where its restrictive trade policies could introduce new obstacles (see Sidebar 2).

Sidebar 2: Global Shifts: The Risks of India's Protectionist Policies

Unlike China's early success with export-driven growth, India faces a more challenging environment for driving economic expansion through trade.

During its rapid growth phase, China thrived in a favorable geoeconomic environment with widespread trade liberalization and lower tariffs. Its Most Favored Nation (MFN) status post-WTO accession ensured it received the same trade advantages as other members, such as lower tariffs and fewer barriers.[64] Its aggressive trade liberalization and integration into global supply chains led to even lower tariffs on its exports (see previous page).[65]

In contrast, India, now at a similar growth phase, faces a challenging global economic climate with rising trade tensions, complex non-tariff barriers, and regional trade agreements that diminish the benefits of its MFN status.[66] Its protectionist stance exposes it to trade retaliation, especially given its increasing dependence on exports to the U.S. In FY 2023-24, bilateral trade between India and the U.S. reached US$118.2 billion, with India enjoying a trade surplus of US$36.8 billion.[67] The Trump administration's shift in priorities toward addressing bilateral trade imbalances could impact U.S.-India trade dynamics and affect IT products, which rely heavily on U.S. markets.[68]

This vulnerability is particularly concerning given the high tariffs India already faces.

U.S.-China trade tensions have also intensified competition for Indian exporters, as Chinese exporters, facing higher tariffs in the U.S., have diverted their products to other markets. Meanwhile, China has solidified its position as the world's largest trader in goods and a key partner for over 150 economies, remaining the world's sole manufacturing superpower. The volatility in global trade flows has also affected the availability and cost of raw materials and components for Indian manufacturers, in most cases lowering their competitiveness.

While India has gained from redirected trade away from China due to its independent stance and growing consumer market, the lack of a formal trade agreement with the U.S. and India's high tariffs have limited the benefits. India's share of U.S. imports only rose by 0.6 percentage points to 2.7 percent between 2017 and 2023, while Vietnam's share grew by 1.7 percentage points to 3.7 percent.[69]

Energy Dependency Raises Cost of Growth

Amid shifting global dynamics, India's reliance on energy imports has become a significant vulnerability. This is especially critical as the country's rapidly growing population and swift economic expansion demand increasing amounts of energy.

Coal, which dominates India's energy mix at 55 percent, is crucial for power generation and the steel and cement industries.[70] Approximately 75 percent of power generation in India relies on thermal power plants.[71] Despite being a major coal producer, India imports 21 percent of its coal needs.[72] Russia's share in India's coal imports is around 9 percent in 2022-23, but its share of metallurgical coal has risen to 21 percent.[73,74]

Meanwhile, oil and natural gas are even more critical dependencies. Oil accounts for 26 percent of India's energy mix, with 85 percent of crude oil being imported. In 2023, India imported approximately 4.7 million barrels of crude oil per day and about 50 percent of its Liquefied Natural Gas (LNG).[75] LNG imports are set to grow from 6 percent to 20 percent of the energy mix. The U.S. has become India's second-largest LNG supplier, with imports rising by more than 71 percent year-on-year during the first 11 months of 2024.[76] Long-term contracts and February 2025 discussions between U.S. President Donald Trump and Indian Prime Minister Narendra Modi support this growth.

This external reliance makes India vulnerable to global price fluctuations, geopolitical tensions, and risks of supply disruptions (see Sidebar 3).

Sidebar 3: Navigating Geopolitical Tensions amid Rising Oil and Gas Dependence

India's continued import of Russian and Iranian crude oil, despite Western sanctions, complicates its relationship with the U.S. Russian oil imports surged from 2 percent in 2021 to nearly 40 percent between April and October 2024. Russian oil has saved India at least US$13 billion since the war in Ukraine began. However, the growing dependence creates energy security risks. In January 2025, the U.S. increased sanctions on Russian oil, targeting the "dark" fleet of tankers and forcing Indian refiners to accelerate payments for 4.4 million barrels within a 48-day "wind-down" period.[77] Similarly, the U.S.'s reinstatement of the "Maximum Pressure" campaign on Iran, with stringent sanctions on its oil exports, poses substantial challenges for India, Iran's largest oil

importer.[78] These sanctions elevate inflation risks and could exacerbate India's trade deficit, affecting the nation's overall economic stability.

Concerns are also growing about the future of U.S.-India relations, with the Quadrilateral Security Dialogue (Quad)'s renewed focus on security under the Trump administration.[79] The Quad, a security partnership between the U.S., Australia, India, and Japan, which began in 2007, has largely avoided explicit military cooperation. However, in January 2025, U.S. Secretary of State Marco Rubio hosted a Quad foreign ministers' meeting. The joint statement emphasized security, reaffirming the commitment to a "free and open Indo-Pacific" and opposing "unilateral actions that seek to change the status quo by force or coercion."[80] India remains opposed to entering a formal military alliance with the U.S., as articulated by Deputy National Security Advisor Vikram Misri during the IISS Shangri-La Dialogue 2023.[81] The U.S.'s pressure on India to buy more LNG could strain relations with other key suppliers such as Russia and Iran.

Resulting Growth Risks in Key Economic Sectors

The critical challenges outlined in the previous section have collectively stifled India's growth potential and present risks for its economic development. Notably, threats to the services and manufacturing sectors may jeopardize the future of two fundamental pillars of India's economy.

Manufacturing Falling Short

Skills gaps in India's labor force, combined with limited trade openness and investment gaps, have stunted the growth of the manufacturing sector. The lack of a sufficiently skilled workforce has reduced India's productivity levels and industrial competitiveness.[82] As a result, India holds only a 2.8 percent share of global manufacturing, significantly lower than China's 28.8 percent, indicating vast untapped growth opportunities.[83]

To address skills limitations, India has pursued low-cost manufacturing investments, but this strategy offers little scope for growth. Even in lower-end manufacturing, the prevalence of low-skilled workers has hindered India's competitiveness, diminishing the effectiveness of labor arbitrage due to relatively high labor costs when adjusted for quality.[84] Additionally, complex tariff structures—with higher duties on raw materials and intermediate goods than on finished products—further undermine competitiveness.[85] The viability of low-skilled manufacturing has also diminished due to fierce competition from China and Vietnam, which have established strong industrial clusters and increasingly relied on automation to lower costs.[86]

Accordingly, despite government initiatives such as "Make in India" and the PLI Scheme—which have attracted substantial investments from major corporations like Apple, Boeing, and Siemens—India continues to lag in overall FDI (see previous section). The ambitious goal of generating 100 million jobs and increasing manufacturing's share of GDP to 25 percent by 2025 remain unmet.[87] The sector's contribution to GDP remains at 14.3 percent, while its share of employment has decreased from 12.1 percent to 11.4 percent between 2017 and 2024.[88,89] In contrast, China's manufacturing sector, as of 2024, accounted for approximately 26.2 percent of its GDP and 30 percent of global manufacturing value-added.[90] In fact, the government has conceded the shortcomings of the US$23 billion PLI program, opting to let it lapse after it fell short of expectations.[91]

Inspired by China's approach and seeking to address its lack of competitive advantage in export markets, India has focused on leveraging its demographic strengths by pursuing manufacturing targeted at its rapidly expanding middle class. However, it is likely to face similar challenges to those China has encountered. Despite having a consumption market nearly four times the size of India's (as measured by private consumption expenditure), China has struggled to sustain economic growth through domestic consumption. Given that India faces comparable issues in unlocking its consumption potential—limited disposable income, rising household debt, low consumer confidence, significant income divides, poor social safety nets, and higher inflation—it is even less likely to succeed with an "In India, for India" strategy focused primarily on domestic manufacturing and consumption.

A transition toward advanced manufacturing becomes not just an opportunity but a necessity to drive long-term economic growth and increase value addition.[92] Yet, India's persistent skills gaps and inadequate readiness create formidable barriers to this transformation.

Jobless Service Sector Growth

India's significant skills gap is also limiting the service sector, whose contribution is critical to India's growth.[93] The Economic Survey 2025 highlights several challenges originating from this gap.[94]

The service sector has been a key driver of India's exports, contributing nearly 40 percent of total exports, with IT, business process outsourcing (BPO), and financial services cementing India's position as a global leader.[95] Indian service providers now face stiff competition from countries including the Philippines and Vietnam, and in Eastern Europe, which offer similar services at competitive prices.[96]

These dynamics call for continuous innovation and improvements in service quality. Economies adopting artificial intelligence (AI) and automation are better positioned to enhance operational efficiencies and customer experiences.[97] For instance, the Philippines has adopted AI-driven tools such as emotion recognition and predictive call routing in its BPO sector, streamlining customer interactions and optimizing processes. Although these technologies are gaining traction in India, they are not as widely implemented. The BPO industry in the Philippines generated approximately US$38 billion in revenue in 2024, while India generated US$7.95 billion in the same year.[98,99] The Philippines' higher level of English proficiency, cultural affinity with Western countries, cost-competitive pricing, and strong government support also contribute to its success.

Similarly, Romania's IT sector, bolstered by a highly skilled workforce and expertise in programming, has positioned the country as a leader in software development and engineering services. Poland excels in advanced financial analytics and accounting, with its knowledge process outsourcing (KPO) centers supporting global stock exchanges and multinational corporations. Similarly, Vietnam is emerging as a hub for high-value-added services such as financial analytics and engineering design, propelled by its emphasis on STEM education and strong government backing for these sectors. Meanwhile, India continues to face hurdles in scaling such capabilities due to its skills and digital infrastructure gaps.

The skills gap has led to a mismatch between economic expansion and employment opportunities in the service sector, a phenomenon often referred to as "jobless growth."[100] Despite contributing over 55 percent to India's GVA between 2017 and 2023, the service sector employs only 29.7 percent of the workforce. Its share of employment declined 4.5 percent during the same period.[101,102]

India must confront its structural challenges that hinder the growth of its services and manufacturing sectors and work toward developing a multifaceted model that capitalizes on its strengths while addressing its weaknesses. This is essential to ensure that these two sectors continue to serve as pivotal drivers of India's economic growth and innovation.

Forging a Path Forward

India's path to greater growth and prosperity is fraught with structural challenges that undermine its progress and weaken its competitiveness in manufacturing and services. While addressing these issues is essential, it is merely a means to an end—not the ultimate goal. Much has already been written about tackling these challenges, and the government's budget lays out a solid roadmap. Below, we seek to move beyond diagnosis to explore the endgame: identifying opportunities that amplify India's unique strengths and outlining gaps that must be addressed to create a thriving, inclusive, and globally competitive economy.

Strengthen Advanced Manufacturing with Engineering and Enterprise

The 2025-26 budget underscores a commitment to boosting economic growth through enhanced trade, strengthened manufacturing, and increased investments. As discussed in the previous section, a shift toward advanced manufacturing is essential for boosting economic growth, increasing competitiveness, and driving value addition.

While India's strategic focus is already moving in this direction, this transition can speed up. With nearly 5,000 industrial parks developed through industrial corridor programs, over 1.5 million science, technology, engineering, and mathematics (STEM) graduates annually, and an estimated 4.7 million skilled engineers and designers, India has assets to compete. Its culture of entrepreneurship and innovation supports the rapid adoption of Industry 4.0 technologies, such as AI, IoT, robotics, additive manufacturing, and data analytics, to drive improvement and boost industrial competitiveness.[103,104] Programs like "SAMARTH Udyog Bharat 4.0" also encourage these solutions. India's dominance in Global Capability Centers (GCCs), has also supported ICT infrastructure improvements (see next section). A significant opportunity lies in India's ability to leverage its large pool of English-speaking engineers and expansive domestic market to attract investments in high-value industries such as technology, electronics, renewable energy, aerospace, and healthcare.

However, India still ranked 92nd out of 141 countries in the 2024 edition of the World Bank's Knowledge Economy Index, which evaluates the overall level of development toward a knowledge economy.[105] With intense competition for leadership in value-added manufacturing, India must address its structural challenges to compete effectively.

Greenfield investments present a vital opportunity to address these challenges and strengthen India's industrial landscape. They deliver immediate benefits, including job creation, infrastructure development, and technology transfer. Moreover, they can embrace sustainability principles from the outset, including energy efficiency and smart technologies.

The potential of greenfield investments is particularly evident when compared to broader FDI trends. In 2023, developing Asia saw a 44 percent increase in the value of greenfield investment announcements and a 22 percent rise in projects, indicating robust growth despite a decline in overall FDI inflows.[106] Meanwhile, inward FDI inflows to India fell sharply by 43 percent, yet the country emerged as the third-largest recipient of greenfield projects globally, with 1,008 project announcements.[107,108]

To fully leverage these opportunities, India must address its significant skills gaps and align workforce training with automation, AI, and digitalization. Incentivizing innovation and R&D activity is also critical for transitioning to a knowledge-based economy and creating new competitive advantages to replace traditional ones like labor and capital intensity, thereby mitigating the negative effects of manufacturing decline.[109]

Closing infrastructure gaps for energy production, distribution, and storage is also essential.[110] While advancements in digital technology enhance energy efficiency, tech-driven manufacturing processes are highly energy-intensive, particularly in sectors like computer manufacturing, where energy consumption per unit of product weight far exceeds that of other manufactured goods. Modernizing the grid and expanding renewable energy projects will be pivotal in reducing reliance on external sources and advancing India's 2070 net-zero commitment.

Bridging digital infrastructure gaps can foster more inclusive growth and enhance participation in digitalized value chains (see next section). Similarly, promoting trade openness while balancing data governance with supportive digital trade regulations will strengthen India's position in global value chains. Although India has improved its ranking in the Network Readiness Index to 49th place in 2024, from 60th place in 2023, it still lags behind regional peers like China, Vietnam, Malaysia, and Thailand.[111,112] This underscores the need for greater investment in digital connectivity and infrastructure. Announced in March 2025, the entry of Starlink, the satellite internet service owned by Elon Musk, could help India bridge the digital divide in rural areas by providing high-speed connectivity, enhancing penetration, and advancing Digital India goals.

Finally, for tech-intensive manufacturing to achieve scale and economic viability, policy obstacles must be resolved, particularly the lengthy land acquisition processes and restrictive labor regulations.

Grow Services-Led Manufacturing, Manufacturing-Led Services

In addition to advancing its manufacturing capabilities, India has the opportunity to leverage its engineering strengths to play a more significant role in high-value-added activities and technology-driven service exports.

To maximize economic gains, India should prioritize high-value-added activities like R&D, design, branding, and marketing over low-margin tasks such as basic assembly and commodity production. India's focus on incentivizing assembly factories under the significantly scaled-back PLI scheme captured only a minor portion of global value chain's value.[113] In contrast, design and branding are significantly more lucrative, as demonstrated by Apple's US$3 trillion market cap, despite outsourcing the majority of its product manufacturing.[114] Apple's recent establishment of an R&D, design, and testing unit in India marks a step forward in enhancing local value addition, and will contribute to transferring the required skills and know-how to move beyond manufacturing assembly.[115]

Beyond direct technology services like remote tech support, there is a growing trend of services embedded in tradable goods.[116] Lenskart, a US$4.5 billion eyewear company backed by global investors including Softbank and Temasek, demonstrates how services can drive manufacturing by creating demand for personalized, tech-driven products. The seamless integration of customer-focused services such as virtual try-ons, home eye tests, and subscription models directly influence Lenskart's manufacturing processes.[117] This approach, known as the *servitization* of manufacturing, illustrates how services and technology can transform traditional manufacturing into a more dynamic, responsive, and customer-centric model.[118]

The geopolitical climate over the last decade, marked by prevalent tariffs, creates an additional rationale for developing services trade. While protectionism in manufacturing is becoming widespread, services remain relatively unscathed by tariffs. Trade in services is also expanding at a faster rate.[119] Digitally delivered services exports nearly quadrupled between 2005 and 2022, now comprising 12 percent of global trade and reaching US$4.5 trillion in 2023, with developing economies contributing over US$1 trillion.[120] In contrast, goods exports grew only 1.5 times during the same period, even amid China's rapid expansion.[121]

India's strength in incremental innovation and engineering positions it well to compete across various industries demanding reliability, customization, and affordability.[122] The strong growth of India's software exports is a testament to its strength. India is seeing rapid growth in professional and management consulting services, with exports in these areas growing at a compound annual rate of 31 percent over the past four years.[123]

India's prowess in Global Capacity Centers (GCCs) is set to propel the growth of high-value services. These specialized units, established and used by nearly 1,700 multinational corporations such as Google, Microsoft, Amazon, centralize and execute critical business functions, including R&D, design, and chip design. With over 1,800 GCCs, India leads globally, accounting for more than 42 percent of the world's GCCs.[124]

The growth in technology services export is set to drive substantial job creation, with the National Association of Software and Service Companies projecting 364,000 new jobs by 2025.[125] India's substantial domestic market for services, particularly in ed-tech (Unacademy and UpGrad) and health-tech (Practo, 1mg, Cure.fit), adds to this potential. However, to support such growth, India needs to increase the supply of highly educated and skilled professionals.

Promote Entrepreneurship

India's strengths in Information and Communication Technology (ICT) and digital innovations like India Stack and its related applications (see Sidebar 4) have been key drivers of the country's growth. The ICT sector is predicted to contribute nearly 20 percent to India's GDP in 2025, from 13 percent a year ago.[126] India boasts the third-largest startup ecosystem in the world, with more than 100 unicorns.[127] This vibrant landscape is fueled by a growing number of angel investors, venture capital funds, incubators, accelerators, and government initiatives like Digital India and Startup India.[128] India's vast market also serves as a natural advantage for these emerging startups.

Innovations in affordable technology solutions, such as Unified Payment Interface (UPI) and Aadhaar-enabled services, have transformed India's digital payments infrastructure, benefiting more than 1 billion people. Aadhaar, a 12-digit unique ID, serves as proof of identity and address with biometric and demographic data. While the original India Stack was centered around identity, payments, and data sharing, India Stack 2.0 focuses on expanding these capabilities with new layers of innovation, enhanced interoperability, and global scalability (see Sidebar 4).

Sidebar 4: India Stack and its Innovations

India Stack is a pioneering digital public infrastructure (DPI) framework designed to deliver scalable and inclusive digital services to India's large population.[129,130] Comprising open APIs and digital tools, it aims to empower governments, businesses, and developers to create cost-effective and secure solutions for identity verification, digital payments, and data sharing.

India Stack facilitates financial inclusion through Aadhaar and UPI, improving access to banking services. Tools such as eKYC and eSign enable paperless processes and help reduce costs by streamlining operations. The open API framework supports the development of applications by startups and businesses to address diverse needs.

India Stack 2.0 extends its focus to sectors like healthcare, education, agriculture, and logistics. New features include UPI 2.0, UPI Lite for offline payments, voice-based and vernacular solutions, the National Health Stack for healthcare, the Open Network for Digital Commerce (ONDC) for e-commerce, and the Open Credit Enablement Network (OCEN) for MSMEs.[131,132]

The updated framework also covers areas such as AI-driven solutions, the Digital Rupee, blockchain-based governance, and climate tech to improve policymaking and service delivery, with an emphasis on affordable technologies and innovations that foster inclusive growth.

India's recent technological successes in UPI global expansion and open architecture for digital finance were highlighted by Prime Minister Narendra Modi at the Artificial Intelligence Action Summit in Paris in February 2025.[133,134] Scaling models like UPI and India Stack globally could revolutionize digital payments and services, particularly in countries with similar socio-economic challenges. This expansion could support market growth and create new opportunities for Indian businesses to export their digital solutions, further boosting India's global economic footprint. Additionally, India's multilingual technical capabilities position it well to expand exports to other developing nations.[135]

Entrepreneurship is often equated with high-tech innovation, yet much of it—including the fastest-growing ventures—focuses just as much on operational efficiency and market expansion as on technological advancements. For instance, companies like Blinkit (quick-commerce), Zomato (food delivery and restaurant aggregator), and Ola (ride-hailing) are achieving better unit economics than their Western counterparts by prioritizing scalability and affordability to meet mass consumer needs in India.[136,137] In doing so, they have created a parallel gig economy, providing employment opportunities to millions of young people. This highlights how entrepreneurship holds immense potential to tackle one of India's major challenges—unemployment.

Looking ahead, Indian startups have immense opportunities to tackle fundamental problems, especially those common to populations in the developing world, with scalable and affordable solutions. India generates significant intellectual property (IP), as seen in its contributions to chip design for global firms like Nvidia and AMD.[138] There is a pressing need to boost the creation and ownership of IP within the country to foster homegrown giants to compete regionally and globally.[139]

Harness Artificial Intelligence

AI offers significant opportunities to enhance the competitiveness of domestic industries, build new sectors, and promote inclusion by educating large numbers of people, advancing public health, and integrating minorities into the economy. India already has a strong digital foundation, established through Aadhaar and India Stack, on which it can build to become a leading player in AI.

At the Artificial Intelligence Action Summit in Paris in February 2025, Prime Minister Modi outlined India's ambition to lead in the development of people-centric applications that can help achieve the United Nations Sustainable Development Goals and be exported to other emerging economies for the global good.[140] India uses technological innovation to tackle challenges like the urban-rural digital divide, healthcare shortages, agricultural sustainability, and affordable personalized education. It can develop low-cost AI solutions for its vast domestic market and export them to other emerging economies.

By focusing on creating local language models and apps tailored to India's unique needs, the country has the potential to drive significant and inclusive growth over the next decade. With its vast pool of skilled software engineers, India is well-positioned to build multilingual, multimodal AI systems that can reach its large population.[141] This becomes even more critical in light of global opportunities. Although China's AI firms such as DeepSeek have already expanded access to low-cost large language models (LLMs), data security concerns have made many countries hesitant to adopt them, creating opportunities for other players to compete in the market of "AI for All."[142,143] India has a unique chance to develop innovative and secure AI applications that address global trust and accessibility gaps. Jensen Huang, Nvidia's CEO, believes AI can democratize technology, and India—with its talent and digital successes like UPI—has the potential to make AI accessible for all.[144] The country's first multilingual AI model will be launched by 2025, marking a significant step toward advancing this goal.[145]

Furthermore, India's extensive domestic market offers the scale and data pool necessary for developing LLMs and applications that can then be exported. Its large, cost-effective workforce is also ideal for data labeling and annotation, which are crucial for training AI models. The push to establish large-scale data centers will further support this growth, generating significant employment.[146]

Combined with India's skilled labor force and vibrant startup ecosystem, the country is an attractive destination for investments in high-value industries like AI and blockchain and is well-positioned as a key player in the global knowledge economy. The deep tech sector has seen steady investment growth, totaling US$6.7 billion.[147] Global companies such as Google, Microsoft, and Amazon have established AI and machine learning research labs in the country.[148] It is the second largest market for OpenAI, according to its CEO Sam Altman's interview in February 2024. Be it in chip design or model development or applications, India has a major role to play across the full stack of AI technologies and components.[149]

With 20 percent of the world's chip design engineers and a collaboration between Tata Group and Taiwan's Powerchip Semiconductor Manufacturing Corporation (PSMC), India is positioning itself as a key player in the global semiconductor ecosystem. The Tata-PSMC fab will manufacture chips at 28nm and above, widely used in industries like automotive, telecom, and consumer electronics. To reduce import dependency, India also aims to produce its first "Made in India" chip by 2025.[150,151] As part of this vision, Tata Group is setting up the country's first semiconductor assembly and testing facility in Assam with a US$3 billion investment, boosting local chip production under the "Make in India" initiative.[152] India also has the potential to become a hub for AI outsourcing, similar to its success in IT outsourcing, by handling tasks like data labelling, data analysis, and model training.[153,154]

This is driven by the fact that enterprises, especially small and medium-sized ones, often need guidance when adopting new systems and technologies. With its aggressive AI skills training and a cost advantage, India is aiming to position itself to benefit from the growing AI wave.[155,156]

To fully compete in the crowded global AI landscape, India must address several key challenges. Despite producing a large number of STEM graduates, India faces a significant gap in specialized AI talent needed to meet growing industry demands.[157] Education and skilling are vital for successful human-centric AI adoption, minimizing labor displacement.[158] Attracting further investment in research and development enables the development of cutting-edge AI technologies and innovations.[159] Improving data collection, storage, and management infrastructure is vital, as is enhancing physical infrastructure, including computing power and data centers.[160,161] Although initiatives like the National AI Mission exist, more coordinated and substantial government support with clearer policies and incentives are needed to address regulatory challenges and promote AI innovation.[162] Robust cybersecurity measures and effective governance frameworks are also essential, to protect data and maintain public confidence in AI technologies.

Navigating the Trials of Global Ascendancy

As India's influence in international affairs continues to grow, it will also face heightened risks of competition with other global powers. A major challenge is recognizing and adapting to this newfound influence, avoiding mistakes made by others.

Learning from other export-oriented economies can help India avoid similar pitfalls. Almost two decades ago, when China was similarly positioned economically, Chinese policymakers did not fully address rising external concerns about mercantilism, leading to stringent trade, capital, and technology restrictions from the U.S. and other countries, many of which persist today.

Decades earlier, in the 1980s, the U.S. imposed trade restrictions on Japan due to a growing trade deficit driven by Japan's booming exports of cars, semiconductors, and consumer electronics.[163] These included voluntary export restraints on Japanese autos, which were equivalent to a tariff rate exceeding 60 percent tariffs on other Japanese goods such as semiconductors.[164] The 1985 Plaza Accord, where the U.S., Japan, and other major economies agreed to depreciate the U.S. dollar relative to the Japanese yen and other currencies to reduce the trade deficit, contributed to Japan's asset bubble and a "lost decade" of economic stagnation.[165] Historical trade tensions offer valuable lessons for India in managing trade relations. Regular and transparent discussions on trade imbalances, restrictions, and unfair practices can help mitigate escalation risks.

At the same time, maintaining reliable access to international markets is not just valuable but also important as a development priority for India. Like China and Japan, India will need to be prepared to navigate trade deficits, tariffs, and sanction risks in the future. Deepening global engagement will also require aligning foreign policy with both domestic interests and international norms.

Conclusion

Despite global economic challenges, including a projected slowdown in global growth and a stronger U.S. dollar, India's long-term prospects remain uniquely promising, supported by its demographic advantages, robust domestic market, and strong reform agenda. It is set to become the world's third-largest economy within the next few years, highlighting its rapid growth and expanding influence on the world stage.

However, India's journey toward economic prosperity is not without obstacles. The country must address significant structural challenges across its services and manufacturing sectors. To maintain its economic momentum and transition into a knowledge-based economy, India must harness its vast consumer market and capitalize on its strengths in engineering and entrepreneurship, while tackling its weaknesses.

Achieving this transformation will require substantial investments in education and skills development, ensuring the workforce is equipped to meet the demands of automation, digitalization, and Industry 4.0. A focus on aligning skills development with emerging technologies, such as AI, robotics, and data analytics, is paramount to creating a workforce capable of thriving in a rapidly evolving global landscape. Additionally, strengthening infrastructure in energy and digital connectivity is vital not only to ensure sustainable and inclusive growth but also to support the digital ecosystems and high-tech manufacturing that underpin knowledge economies.

By prioritizing these advancements, India can solidify its transition to a knowledge-based economy, positioning itself as a global leader in innovation while driving long-term, sustainable economic growth. It can also set an inspiring example for other developing nations, contributing to a more balanced and equitable global economy.

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