Infomerics Analytics & Research

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Refurbished Electronics & E-waste recycling sector

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1.Global Macroeconomic Scenario

The global economy is projected to experience a deceleration in growth, with global GDP expanding by 2.8% in CY 2025, down from 3.3% in CY 2024. This slowdown is attributed to escalating trade tensions, particularly due to new U.S. tariffs, and heightened policy uncertainties. Global headline inflation is expected to decline to 4.3% in CY 2025 and further to 3.6% in CY 2026, as inflationary pressures ease across advanced economies, aided by tighter monetary policy, improved labour market conditions, and the resolution of supply disruptions. However, global trade growth is forecasted to slow significantly to 1.7% in CY 2025, reflecting the effects of escalating trade barriers and geopolitical instability.

In China, economic prospects remain constrained as the IMF downgraded its CY 2025 GDP growth forecast to 4.0%, due to persistent challenges in the real estate sector, weak consumer demand, and trade-related pressures. In Europe, growth is expected to stagnate, with Germany's GDP forecast at 0.0% in CY 2025, amidst trade disruptions and domestic weaknesses. The EU is actively seeking to address these challenges through renewed trade dialogue with the U.S.

Meanwhile, India continues to show resilience, with the IMF projecting stable real GDP growth of 6.2% in CY 2025, followed by a slight uptick to 6.3% in CY 2026. This is supported by robust rural consumption and sustained infrastructure investment. The IMF notes that India remains one of the fastest-growing major economies, driven by favourable demographics, expanding digital infrastructure, and rising investment activity. Consumer price inflation in India is projected to moderate to 4.2% in CY 2025, staying within the Reserve Bank of India's (RBI) target range of 2–6%, which helps maintain purchasing power and economic stability. The IMF also highlights the importance of continued structural reforms in India, particularly in labour markets, logistics, and capital formation, to sustain medium-term growth momentum.

Overall, while inflation is declining globally, the economic outlook remains clouded by geopolitical uncertainty, trade fragmentation, and region-specific structural challenges. However, India's relative macroeconomic stability, demographic advantage, and ongoing investment cycle place it in a strong position amid global headwinds.

1.1 Global GDP Growth Scenario

The global economy began to recover from its lowest levels following the lifting of lockdowns in 2020 and 2021. The pandemic-induced lockdown was a key factor that severely disrupted economic activities, leading to a recession in CY 2020, where global GDP contracted by -2.7%.

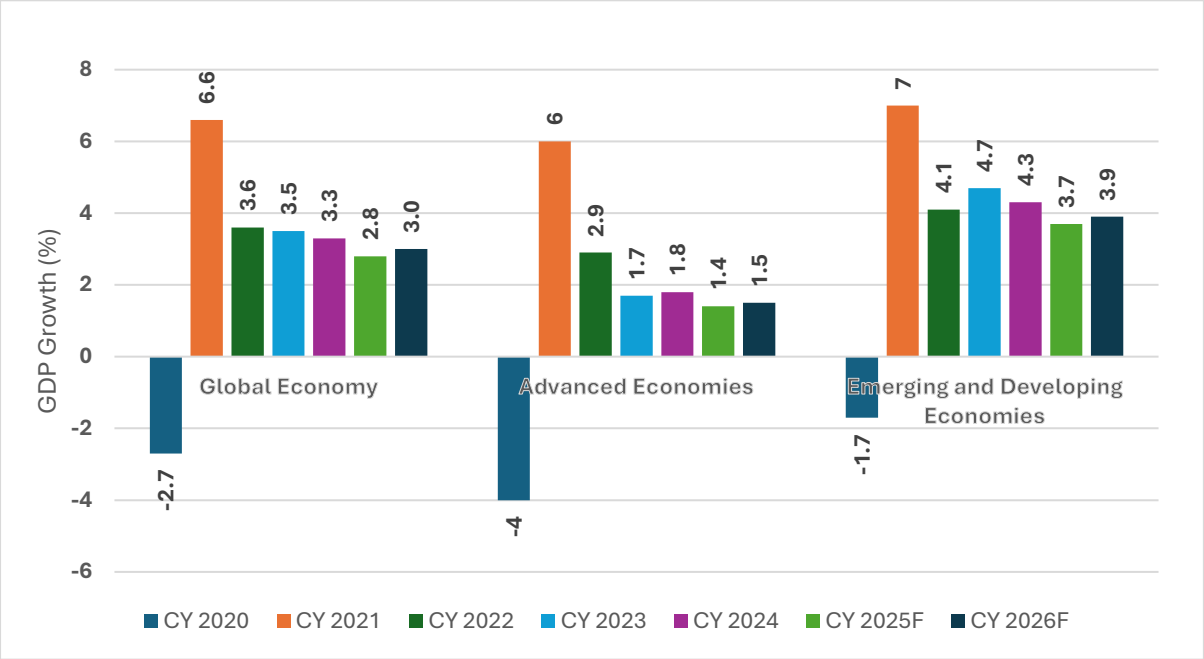
In CY 2021, supply chain disruptions significantly impacted both advanced economies and low-income developing economies. The rapid spread of the Delta variant and the threat of new variants in mid-2021 further heightened uncertainty in the global economic environment.

Global economic activity saw a sharper-than-expected slowdown in CY 2022. The highest inflation in decades, observed in 2022, forced most central banks to tighten their monetary & fiscal policies. Russia's invasion of Ukraine exacerbated global food supply issues, further increasing the cost of living.

Despite initial resilience in early CY 2023, marked by a rebound from the pandemic and progress in curbing inflation from the previous year's highs, the situation remained precarious. Economic activity continued to lag its pre-pandemic trajectory, especially in emerging markets and developing economies, leading to widening regional disparities. Several factors impeded recovery, including the lasting impacts of the pandemic, geopolitical tensions, tightening monetary policies to combat inflation, reductions in fiscal support amid high debt levels, and extreme weather conditions. As a result, global growth slowed from 3.6% in CY 2022 to 3.5% in CY 2023.

The global economy maintained moderate momentum in CY 2024, with real GDP growth estimated at 3.3%, supported by easing inflationary pressures, recovering supply chains, and resilient consumer demand in some major economies. Advanced economies, particularly the U.S., benefitted from strong labour markets and improved private consumption. However, growth remained uneven across regions, with emerging markets facing tighter financial conditions and subdued export demand. Inflation declined faster than anticipated in many regions, enabling some central banks to consider gradual monetary easing by the end of the year.

1.2 Historical GDP Growth Trends



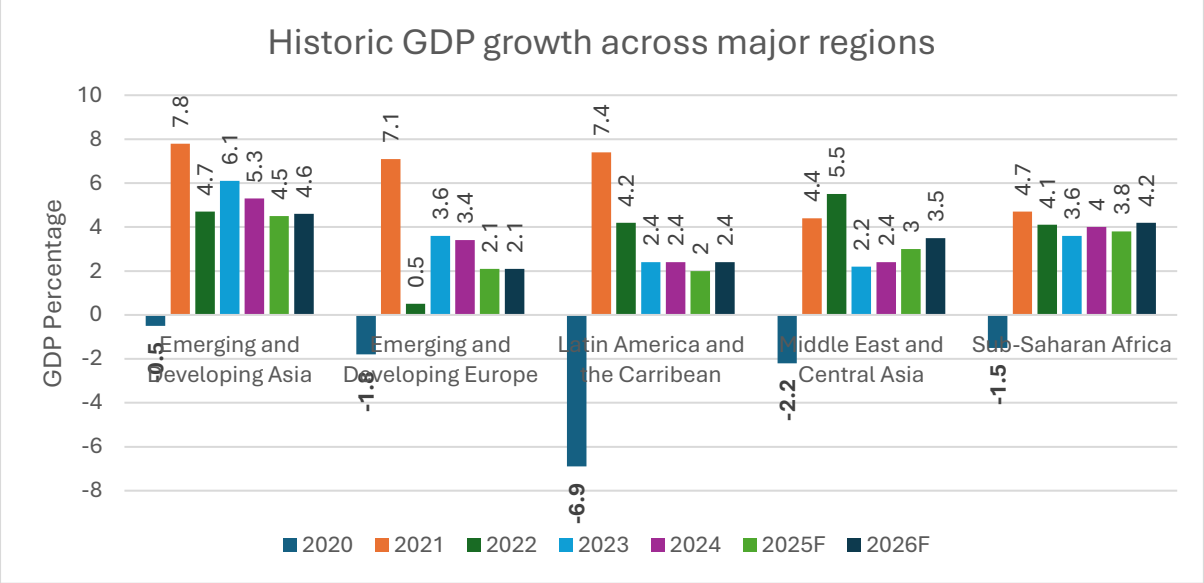
F – Forecast, Source – IMF World Economic Outlook April 2025

Note: Advanced Economies and Emerging & Developing Economies are as per the classification of the World Economic Outlook (WEO). This classification is not based on strict criteria, economic or otherwise, and it has evolved over time. It comprises of 40 countries under the Advanced Economies including the G7 (the United States, Japan, Germany, France, Italy, the United Kingdom, and Canada) and selected countries from the Euro Zone (Germany, Italy, France etc.). The group of emerging market and developing economies (156) includes all those that are not classified as Advanced Economies (India, China, Brazil, Malaysia etc.)

In the current scenario, global GDP growth is projected to decelerate to 2.8% in CY 2025, reflecting mounting economic pressures across both advanced and emerging markets. This marks a significant slowdown driven by intensifying trade fragmentation, the impact of new U.S. tariffs, and elevated geopolitical tensions. Structural weaknesses such as the ongoing real estate crisis in China, stagnant growth in the Eurozone, and tight financial conditions in major economies are expected to weigh heavily on global output. Additionally, stress in housing and banking sectors, coupled with subdued industrial activity, is contributing to a muted growth outlook. On the inflation front, the IMF projects global headline inflation to decline to 4.3% in CY 2025, continuing a disinflationary trend as energy prices stabilize and supply-side disruptions ease. The softening of labour markets—reflected in lower job vacancy rates and modest increases in unemployment—is also expected to help reduce core inflation. This provides room for some central banks to initiate cautious interest rate cuts, although the broader economic outlook remains uncertain due to persistent global risks.

1.3 GDP Growth Across Major Regions

GDP growth across major global regions—including Europe, Latin America & the Caribbean, Middle East & Central Asia, and Sub-Saharan Africa—continues to display varied trajectories. While some regions are stabilizing post-pandemic, others remain challenged by structural and cyclical issues. The global outlook presents a mixed scenario, with emerging economies continuing to outperform advanced economies.



Note: F – Forecast, Source-IMF World Economic Outlook April 2025 update.

In Emerging and Developing Asia, growth is projected to moderate from 5.3% in CY 2024 to 4.5% in CY 2025, before recovering slightly to 4.6% in CY 2026. India is expected to grow at 6.2% in CY 2025, supported by resilient rural consumption and sustained infrastructure investments, though lower than 6.5% growth recorded in CY 2024. In contrast, China's growth is likely to decelerate to 4.0% in CY 2025, amid persistent real estate concerns and weak domestic demand.

Sub-Saharan Africa is projected to grow at 3.8% in CY 2025, slightly below the 4.0% growth in CY 2024, with a further improvement to 4.2% in CY 2026. The recovery is being aided by improved weather conditions and better functioning supply chains.

In the Middle East and Central Asia, the economy is forecasted to expand at 3.0% in CY 2025, up from 2.4% in CY 2024, and further strengthen to 3.5% in CY 2026, driven by stabilization in oil production and ongoing economic reforms.

For Latin America and the Caribbean, modest growth of 2.0% is forecast for CY 2025, holding steady from CY 2024, with expectations of a rebound to 2.4% in CY 2026, helped by stronger macroeconomic management across key economies.

Emerging and Developing Europe remains subdued, with growth estimated at 2.1% in CY 2025, down from 3.4% in CY 2024, expected to be stable at 2.1% by CY 2026. The region continues to face structural manufacturing challenges, particularly in major economies like Germany.

Overall, while global growth is expected to remain steady, regional disparities persist, influenced by a combination of domestic challenges, external geopolitical tensions, and fluctuating commodity prices.

1.4 Global Economic Outlook

At the midpoint of the year, so far in 2025 the global economy continues to exhibit mixed performance, with divergence in outcomes across regions due to differences in economic growth, inflation dynamics, and policy responses. The global GDP growth is projected at 2.8% in CY 2025, down from an estimated 3.3% in CY 2024. While short-term prospects have improved since early 2024 due to easing inflation and gradual loosening of monetary policy in several regions, the broader environment remains challenging. Structural headwinds, such as tighter credit conditions, supply-side bottlenecks, and lingering geopolitical risks, are keeping global growth below historical averages.

The United States has continued to outperform other advanced economies, with growth projected at 1.8% in 2025, though slightly down from 2.8% in 2024, as the economy absorbs the lagged effects of previous monetary tightening and persistent inflation. In contrast, the Euro Area remains subdued, with GDP growth expected to 0.8% in 2025, supported by the European Central Bank's first-interest rate cuts since 2019 (implemented in June 2024) and stronger domestic demand. However, countries like Germany, France, and Italy continue to struggle due to weak manufacturing performance, whereas Greece and Spain have benefited from robust tourism activity.

In China, growth has held up at a projected 4.0% for CY 2025, supported by targeted stimulus and a gradual recovery in the real estate sector. Growth in the rest of Asia is also benefiting from a revival in global trade and domestic demand. India remains one of the strongest performers globally, with GDP growth forecasted at 6.2% in 2025, supported by robust consumption, capital investment, and favourable demographics.

In Latin America and the Caribbean, growth is more uneven. Larger economies like Brazil and Mexico are seeing moderate expansions, but the overall regional outlook is weaker, with GDP growth forecast at 2.0% in 2025, due to external headwinds, commodity price volatility, and political uncertainty. Meanwhile, Sub-Saharan Africa's growth is expected to slow slightly to 3.8%, as global financial conditions tighten, and oil-exporting nations face declining revenues. The Middle East and North Africa (MENA) region is also seeing tempered prospects, with growth revised down to 2.6%, influenced by lower oil prices and ongoing geopolitical pressures.

Globally, industrial production has remained sluggish through the first half of 2025, constrained by high interest rates, trade fragmentation, and lingering supply chain disruptions. However, a mild recovery is anticipated in the second half of the year as global trade stabilizes and domestic demand for goods strengthens. Central banks in several advanced economies—including the Eurozone, Switzerland, Sweden, and Canada—have begun cutting rates to support demand, though inflation trends remain

uneven. Disinflation has progressed slower than expected, particularly in services and wage-heavy sectors, making monetary easing cautious and data-dependent.

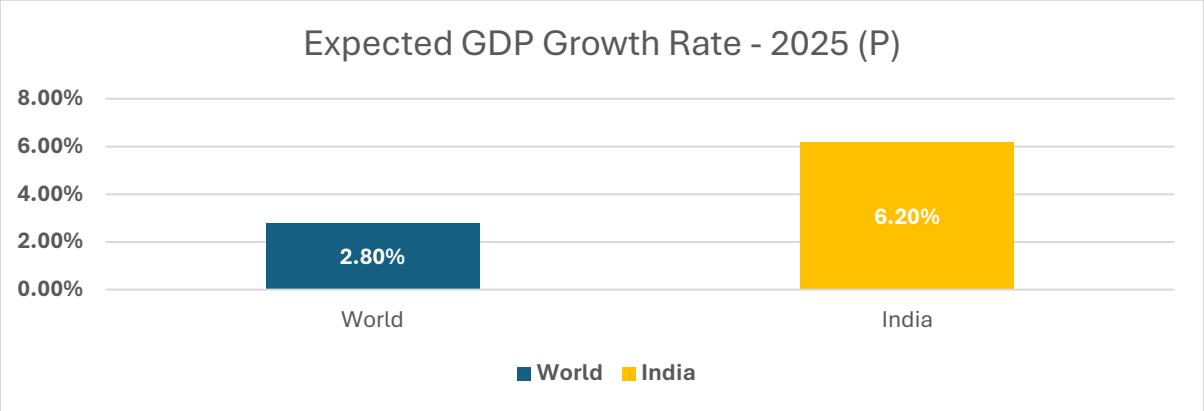
Overall, the global economy appears to be stabilizing, but growth in CY 2025 remains below historical averages. Advanced economies continue to grow modestly under the weight of tight policies and weak external demand, while emerging markets, particularly in Asia, show stronger but slowing momentum. The outlook for the remainder of 2025 depends significantly on geopolitical developments, the trajectory of inflation, and the pace of monetary easing.

2.India's Macroeconomic Scenario

2.1 Gross Domestic Product (GDP)

India Expected to Grow at Twice the Pace of Global Economic Growth

The global economy continues to face persistent challenges, including the lingering effects of the COVID-19 pandemic, heightened geopolitical tensions, and climate-related disruptions that have affected energy and food supply chains. Global real GDP growth is projected at 2.8% in 2025, indicating a moderation in global momentum. In contrast, India's real GDP is projected to grow at 6.2% in 2025, continuing its trend of significantly outpacing global averages and reaffirming its position as the fastest-growing major economy. This implies that India is expected to grow at more than twice the pace of global GDP, supported by strong domestic demand, structural reforms, and increased infrastructure investment. India's resilience among the G20 economies further strengthens its role as a key driver of global economic growth in the coming years.



Global and India Growth Outlook Projections (Real GDP growth)

Notes: P-Projection; Source: IMF – World Economic Outlook, April 2025

India's Economic Growth Momentum Remains Strong, Poised to Surpass USD 4 Trillion by 2025

In FY 2024-25, India was the fifth-largest economy globally, with an estimated real Gross Domestic Product (GDP) at constant prices of INR 184.88 lakh crore, against the Provisional Estimate of GDP for the year 2023-24 of INR 173.82 lakh crore registering a GDP growth rate of 6.4% as compared to 8.2% in FY 2023-24. Since FY 2005, India's GDP growth has consistently outpaced global economic growth, often growing at nearly twice the global average, and this trend is expected to continue over the medium term.

According to IMF, India's GDP is projected to cross USD 4 trillion in CY 2025 and is on track to become the fourth-largest economy by CY 2025 surpassing Japan.

Source: MOSPI, first advance estimates of GDP 2024-25 released on January 7th, 2025

GDP Growth Rate Projections for India

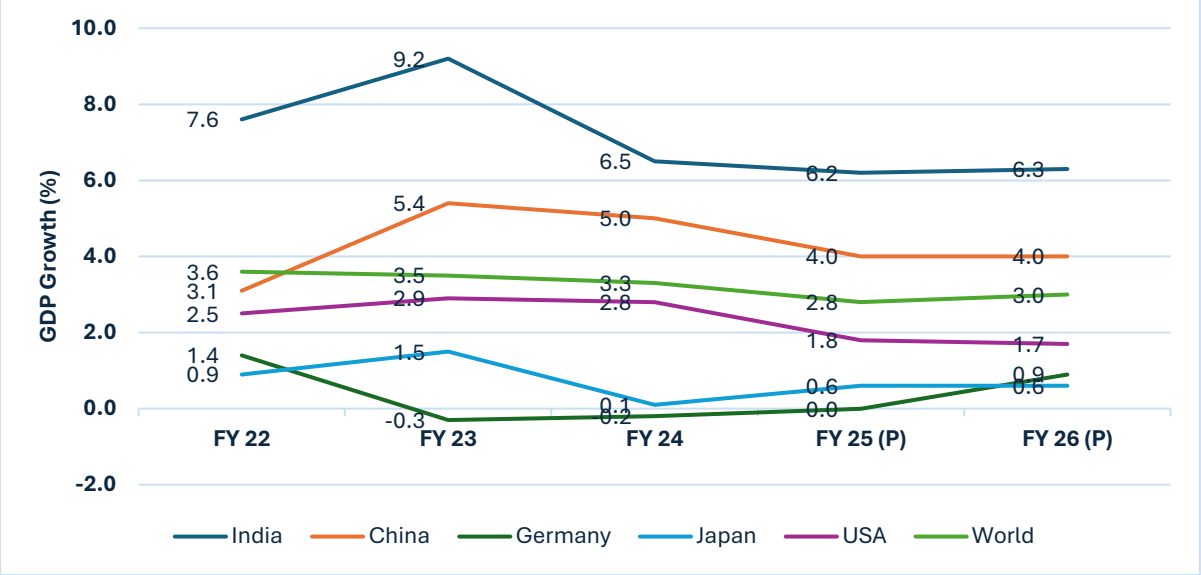
GDP growth projections by Government of India and other agencies are summarised below:

	Estimated GDP Growth Rate		
	FY 25E	FY 26E	FY 27E
Ministry of Finance, GOI	6.4%	6.3%-6.8%	N.A.
IMF*	6.2%	6.3%	N.A.
RBI#	6.6%	6.5%	N.A.
National Statistical Office (NSO)@	6.4%	N.A.	N.A.
PHDCCI@	6.5%	6.7%	6.7%
S&P Global@	6.8%	6.5%	6.8%
Morgan Stanley@	6.3%	6.5%	6.5%
Asian Development Bank#	6.5%	6.7%	N.A.
Moody's Agency	6.1%	N.A.	N.A.
Fitch Ratings@	6.3%	6.5%	6.3%

** Note: E- Estimate, Source: World Economic Outlook Update April 2025*

@ Data is updated as of 28th March 2025, #updated as of 10th April 2025

India and Top 5 Global Economies GDP Growth Forecast



Note: P = Projections, Source: IMF World Economic Outlook April 2025 update.

In September 2024, India achieved a significant milestone by overtaking Japan to become the third most powerful nation in the Asia-Pacific region, as per the Asia Power Index 2024. India's overall score rose to 39.1, reflecting a 2.8-point increase from the previous year, driven by growing influence across economic, military, and diplomatic dimensions.

Key factors behind India's rise include its strong economic performance, expanding and youthful workforce, and increasing strategic engagement across the region. India's Economic Capability improved significantly, supported by its position as the world's third-largest economy in terms of purchasing power parity (PPP). Additionally, a notable increase in its Future Resources score highlights the demographic advantage that is expected to sustain its growth trajectory in the coming years.

2.2 Gross Value Added (GVA)

Gross Value Added (GVA) is the measure of the value of goods and services produced in an economy. GVA gives a picture of the supply side whereas GDP represents consumption.

Industry and Services sector leading the recovery charge

- India's economy demonstrated robust growth across various sectors. The gap between GDP and GVA growth turned positive. The positive gap between GDP and GVA growth indicates robust tax collections contributing to GDP growth.
- India's sector-wise economic performance in FY 2024–25 reveals a shift in momentum across its primary, secondary, and tertiary sectors, with notable differences compared to the previous fiscal year.
- The Primary Sector—comprising agriculture, livestock, forestry, fishing, and mining & quarrying—registered a growth of 3.6% in FY25, showing a notable improvement from the 2.1% growth in FY24. This uptick can be attributed to stronger performance in agriculture and allied activities, along with moderate gains in mining and quarrying. However, erratic monsoon patterns and rising input costs may have constrained agricultural output during the year.
- In contrast, the Secondary Sector—which includes manufacturing, electricity, gas, water supply & other utilities, and construction—recorded a solid growth of 6.5% in FY25, though lower than the impressive 9.7% growth seen in the previous year. This resilient performance was primarily driven by a notable recovery in manufacturing and robust momentum in infrastructure-related segments like construction and utilities.
- The Tertiary Sector or services sector posted 7.2% growth in FY25, slightly lower than the 7.6% achieved in FY24, yet it remained a major pillar of overall economic growth. Strong performances were observed in trade, hotels, transport, financial services, real estate, and professional services. However, public administration and defence services saw more modest growth, slightly dampening the overall momentum in this segment.
- Overall, growth in India's real Gross Value Added (GVA) in FY25 was primarily driven by the resurgence of the secondary sector and sustained strength in key segments of the services sector, even as the primary sector showed signs of moderation.

Sectoral Growth (Y-o-Y % Growth) - at Constant Prices

Sector-wise growth in GVA at constant (2011-12) prices (in %)	FY 2024	FY 2025
Primary	2.1	3.6
Secondary	9.7	6.5
Tertiary	7.6	7.2

Source: MOSPI, First advance estimates of GDP 2024-25, released on January 7th, 2025

2.3 Consumer Price Index (CPI)

Inflation Stable Inflationary Environment

In fiscal year 2025 (FY25), India's General Index inflation, as measured by the Consumer Price Index (CPI), averaged 4.6%, marking the lowest annual inflation rate since 2018–19. This moderation in inflation reflects a significant improvement in the country's price stability post-COVID. In March 2025, CPI Inflation stood at 3.34%, the lowest monthly rate since August 2019, indicating sustained disinflationary momentum in recent months.

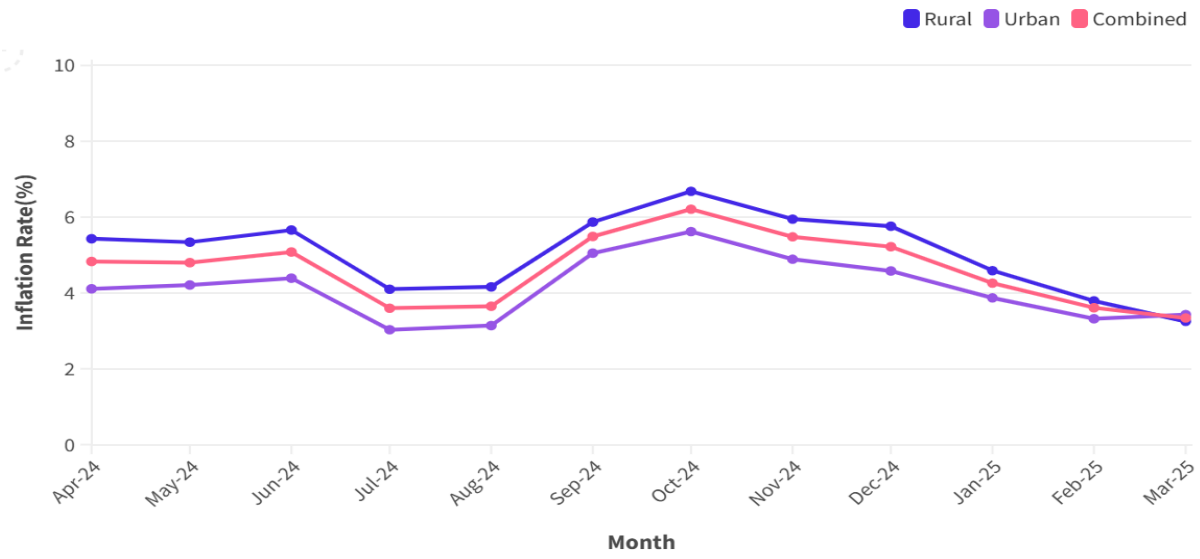
Source: - RBI, Annual Report-Inflation, Money and Credit Dated May 29th, 2025

Several key factors contributed to this decline in inflation:

The Reserve Bank of India (RBI) pursued a pro-growth monetary policy, aiming to strike a balance between supporting economic recovery and containing inflation. In parallel, the government actively intervened in food markets, particularly by augmenting buffer stocks of essential commodities and releasing them strategically to stabilize prices. These coordinated efforts helped ease supply-side pressures, especially on food inflation.

Looking ahead, projected CPI inflation for FY26 to average around 4%, signalling continued focus on maintaining price stability. In support of this trajectory, the RBI recently announced a cut in the repo rate, which is expected to result in a more accommodative monetary policy stance in the coming months. This environment of low inflation and easing interest rates may provide a favourable backdrop for economic expansion in the near term.

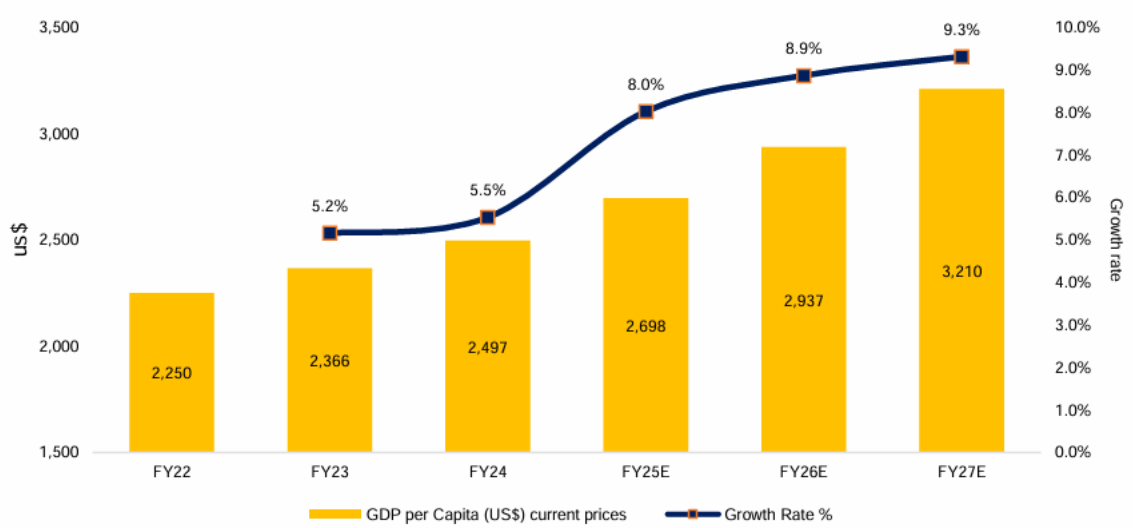
India's CPI Inflation Monthly



Source: MOSPI

2.4 India Per Capita GDP Forecast

Per capita GDP growth at current prices for India is estimated at 8.0% for FY25. Increased individual incomes are expected to create additional discretionary spending, which may be beneficial for the Refurbishment and E-waste management Industry.



Note: E = Estimated, Source: IMF World Outlook October 2024 National Statistics Office, Ministry of Statistics & Programme Implementation (MoSPI), Govt of India

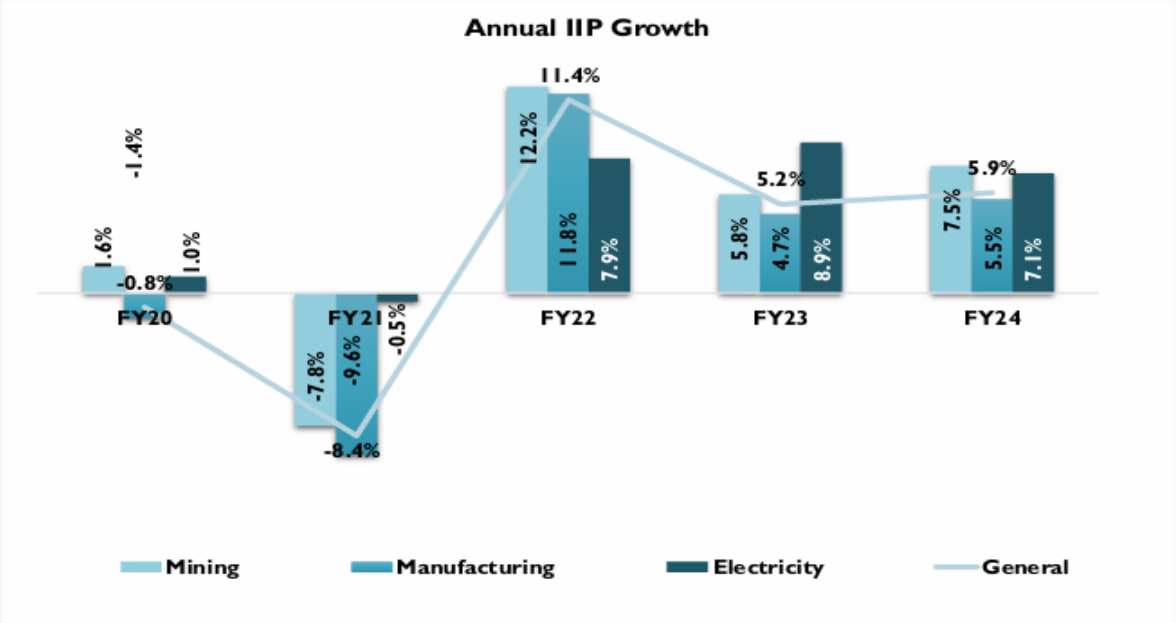
2.5 Private Final Consumption Expenditure (PFCE)

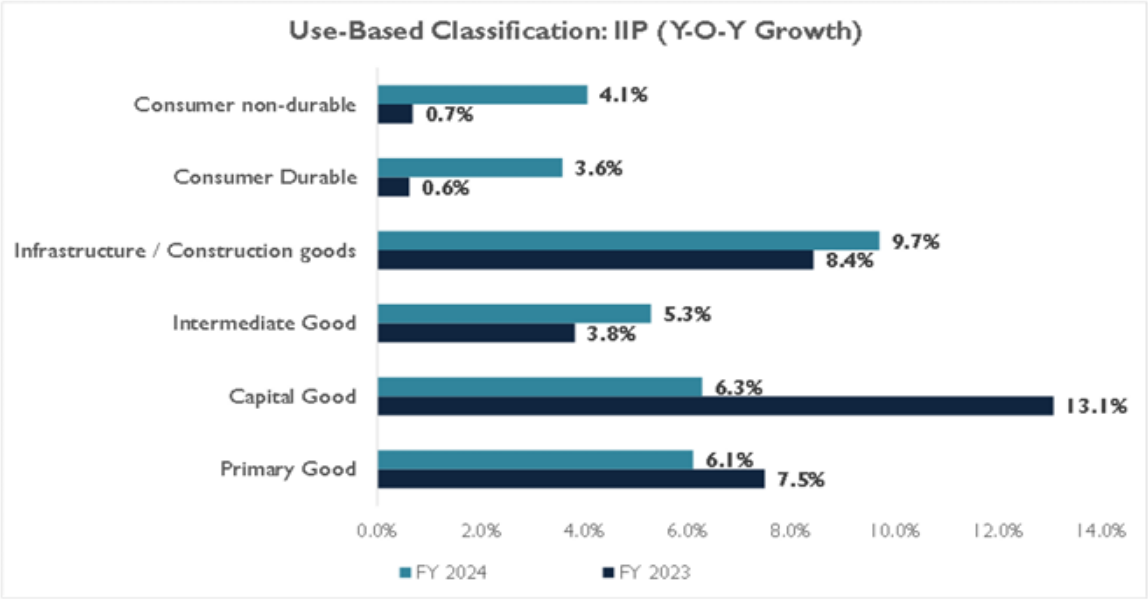
Private Final Consumption Expenditure (PFCE) represents the total spending by resident households on final consumption of goods and services, serving as a key indicator of consumer demand and overall economic well-being. It reflects the extent of household consumption and plays a crucial role in driving GDP growth. In FY2025, PFCE at constant prices rose to 56.7% of GDP, up from 56.1% in FY2024, indicating a gradual improvement in household spending patterns. This increase suggests stronger consumer confidence, supported by factors such as easing inflation, improving income levels, and a favourable consumption environment.

Source: - MOSPI, Second Advance Estimates of GDP 2024-25 dated February 28,2025

2.6 IIP Growth – Index of Industrial Production

Industrial sector performance as measured by IIP index; in FY 2024 it is growing at 5.9% (against 5.2% in FY 2023). Previously IIP index exhibited temporary recovery in FY 2022 from the low of Covid induced slowdown in industrial growth during FY 2020 and FY 2021. Manufacturing index, with 77.6% weightage in overall index, grew by 5.5% in FY 2023 against 4.7% y-o-y growth in FY 2022 while mining sector index too grew by 7.5% against 5.8% in the previous years. Mining & manufacturing both shown improvement according to previous except the Electricity sector Index, witnessed an improvement of 7.1% against 8.9% in the previous year.

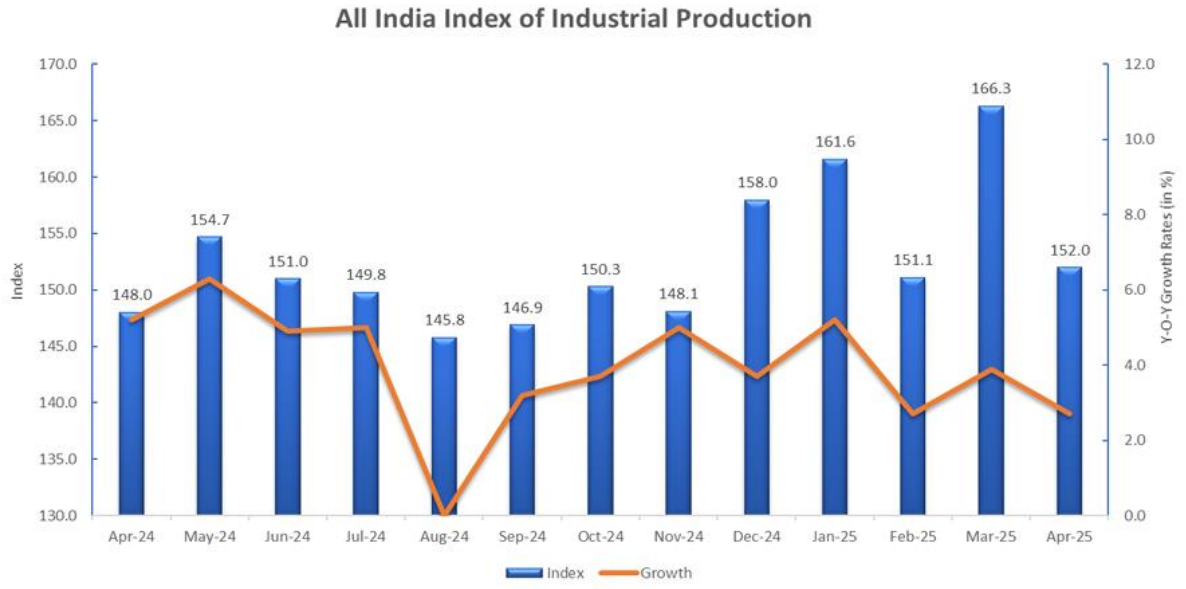




Source: Ministry of Statistics & Programme Implementation (MOSPI)

As per the use-based classification, most of the segments has shown growth for FY 2024 as compared to FY 2023. Capital good and primary goods were segments which faced less growth as compared to previous year. The contracting IIP data points towards adverse operating business climate as global headwinds, high inflation, and monetary tightening cumulatively impacted the broader industrial sector performance. In contrast all the segments except the above two have shown growth.

2.6.1 Monthly IIP Growth Trend



Source: Ministry of Statistics & Programme Implementation (MOSPI), dated May 28, 2025

In April 2025, the Index of Industrial Production (IIP) registered a year-on-year growth of 2.7%, marking a slight moderation from the 3.0% growth reported in March 2025 (as per the Quick Estimate). This marginal decline suggests a tempered start to the fiscal year, possibly due to the normalization of output following a strong year-end performance in March.

Breaking down the sectoral performance:

- **Mining** activity contracted marginally by 0.2%, reflecting subdued momentum in mineral extraction, possibly due to seasonal disruptions or operational slowdowns.
- **Manufacturing**, which has the highest weight in the IIP, continued to exhibit resilience with a healthy growth of 3.4%, indicating sustained production demand and industrial stability.
- **Electricity generation** recorded a growth of 1.1%, suggesting moderate demand from infrastructure and industrial segments.

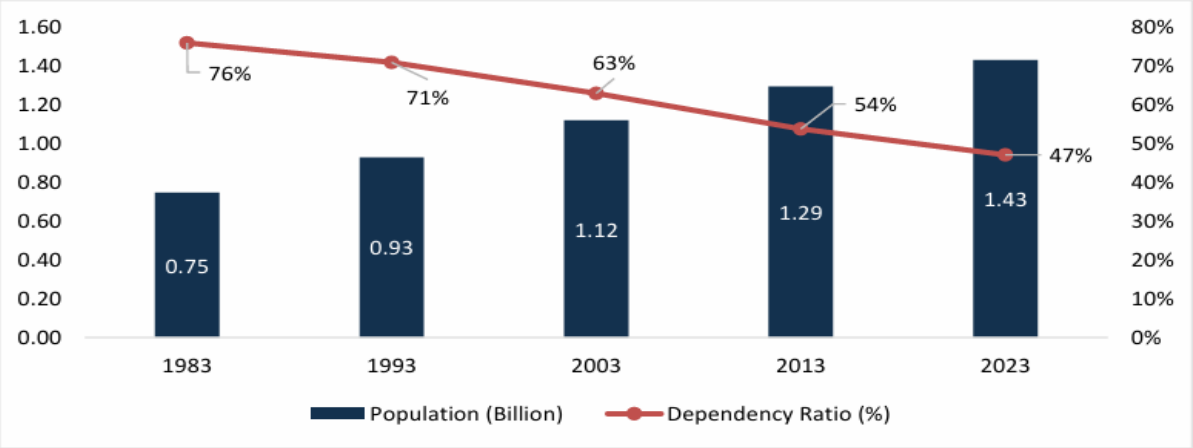
2.7 Overview on Key Demographic Parameters

2.7.1 Population growth and Urbanization

India's economic growth and expanding private consumption are intrinsically linked to its demographic and urbanization trends. According to the World Bank, India's population is estimated to have reached approximately 1.44 billion in 2024, reaffirming its position as the world's most populous country, ahead of China. This continued growth reflects an expanding labour force and consumer base, both of which are critical to sustaining long-term economic development.

A key metric in demographic analysis—the age dependency ratio, defined as the ratio of dependents (individuals aged below 15 or above 64) to the working-age population (15–64 years)—has been on a downward trajectory for several decades. From a high of 76% in 1983, the dependency ratio declined to 47% in 2023 and is estimated at 50.2% in 2024. This decline signifies that for every 100 working-age individuals, there are only about 50 dependents, indicating a favourable demographic dividend. A greater share of the population is now within the working-age group, potentially contributing to enhanced economic productivity and income generation.

Trend of India Population vis-à-vis dependency ratio



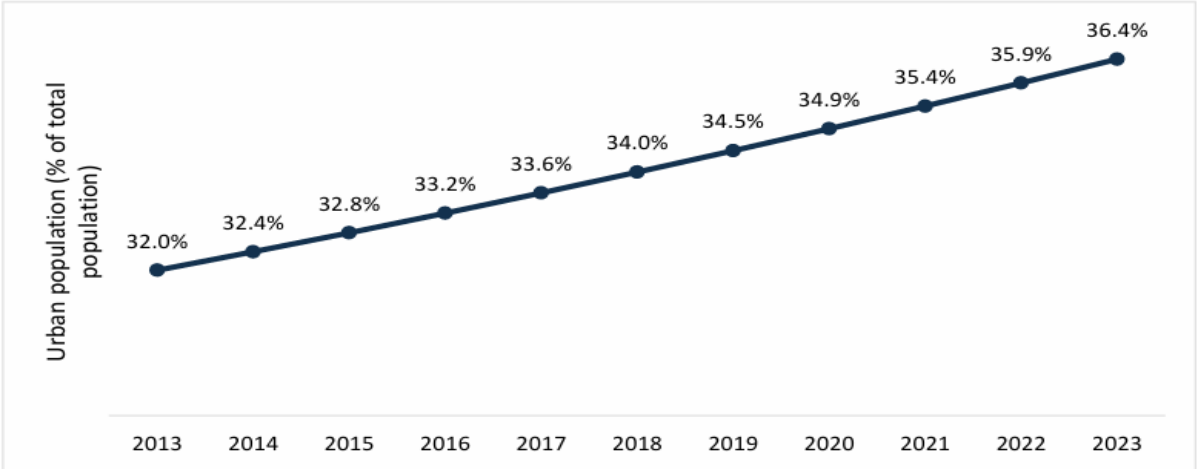
Source: World Bank Database

However, a parallel trend is emerging in the form of a rising old-age dependency ratio—the proportion of individuals aged 65 and above relative to the working-age population. This figure has gradually increased, reaching 10.4% in 2024, suggesting the onset of an aging demographic shift. This highlights the growing need for robust healthcare systems, pension reforms, and social security mechanisms to address future challenges associated with an aging population.

India's youthful demographic remains one of its most significant advantages. With a median age of around 29 years, India has one of the youngest populations globally. Nearly one-fifth of the world's youth resides in India, and as millions enter the workforce each year, this demographic bulge offers enormous potential—provided it is met with adequate job creation, education, and skills training.

Urbanization, too, is transforming India's socio-economic fabric. The urban population rose from 413 million in 2013 (32% of total population) to 519.5 million in 2023 (36.4%), and further to approximately 535 million in 2024 (36.9%), according to World Bank estimates. This rapid growth in urban areas underscores the need for sustainable urban planning, investment in infrastructure, and development of smart cities to accommodate and benefit from the shifting population dynamics.

Urbanization Trend in India



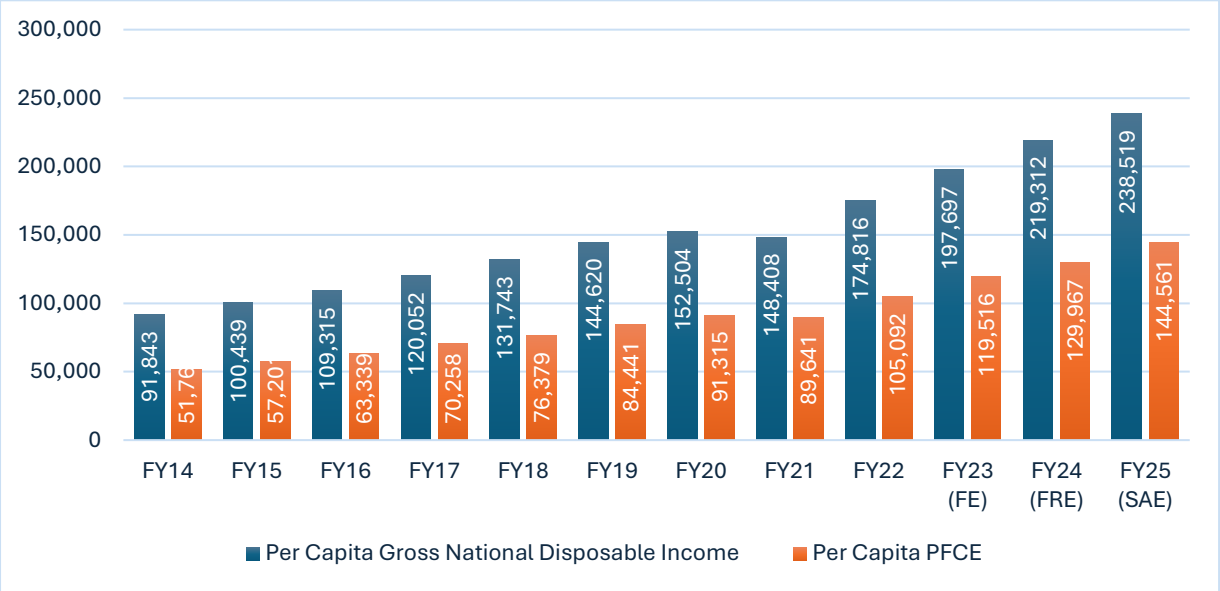
Source: World Bank Database

2.7.2 Disposable Income and Consumer Spending

Gross National Disposable Income (GNDI) represents the total income available to a nation's residents for consumption and saving after accounting for income transfers with the rest of the world. In FY24, Per capita GNDI grew by 9.85%, followed by a moderate growth of 8.05% in FY25. This steady increase indicates that households and businesses had more income at their disposal, which is critical for supporting both consumption and savings—key components of economic resilience and expansion.

The rise in GNDI has translated into higher consumer spending, as reflected in the growth of Private Final Consumption Expenditure (PFCE), which measures the total value of goods and services consumed by households. Per Capita PFCE grew by 8.04% in FY24 and further accelerated to 10.09% in FY25, highlighting strong consumer confidence and robust domestic demand.

Trend of Per Capita GNDI and Per Capita PFCE (Current Price)



Note: Data mentioned is in Rs. Crore, FE – Final Estimates, FRE – First Revised Estimates, SAE – Second Advanced Estimate; Source: MOSPI

2.8 Union Budget FY25-26 Highlights

The **Union Budget FY 2025–26**, presented by Finance Minister Nirmala Sitharaman, introduces a comprehensive set of measures aimed at stimulating economic growth, enhancing infrastructure, and fostering inclusive development. With a focus on sectors such as agriculture, MSMEs, infrastructure, innovation, and exports, the budget seeks to create a conducive environment for sustained economic expansion.

- **Capital Expenditure and Infrastructure Development**
  The government has earmarked a substantial ₹11.21 lakh crore (3.1% of GDP) for capital expenditure in FY 2025–26. This allocation is directed towards infrastructure projects, including rural development, manufacturing, and skill-building initiatives. Notably, the Urban Challenge Fund has been established with a corpus of ₹1 lakh crore, aimed at financing 25% of the cost of bankable urban infrastructure projects, thereby promoting sustainable urban development.
- **Support for MSMEs**
  Recognizing the pivotal role of Micro, Small, and Medium Enterprises (MSMEs) in India's economic landscape, the budget introduces several measures to bolster this sector. The Credit Guarantee cover has been enhanced to ₹10 crore, unlocking ₹1.5 lakh crore in additional funding for MSMEs over the next five years. Additionally, the establishment of a Fund of Funds with a ₹10,000 crore corpus aims to provide equity support to startups and potential MSMEs, focusing on high-growth sectors such as electronics and renewable energy.

- **Tax Reforms and Disposable Income**
  To stimulate consumption and investment, the budget introduces significant tax reforms. The tax-free income threshold has been raised to ₹12 lakh, and the new tax regime offers reduced rates for higher income brackets. These changes are expected to increase disposable income, thereby encouraging higher savings and investment among the middle class.
- **Focus on Agriculture and Exports**
  The budget prioritizes agriculture as a key engine of development, with increased allocations for agricultural credit and initiatives aimed at enhancing productivity. Furthermore, measures to promote exports include the reduction of customs duties on select goods and the introduction of policies to facilitate easier market access for Indian products.
- **Urban Development Initiatives**
  A significant increase in the budget allocation for the Ministry of Housing and Urban Affairs to ₹96,777 crore reflects the government's commitment to urban development. Key initiatives include the establishment of the Urban Challenge Fund, enhanced loans under the PM SVANidhi scheme, and substantial provisions for the Pradhan Mantri Awas Yojana and Urban Rejuvenation Mission, all aimed at improving urban infrastructure and living standards.

The Union Budget FY 2025–26 presents a balanced approach to economic growth by addressing immediate consumption needs and laying the foundation for long-term sustainability. Through targeted investments in infrastructure, support for MSMEs, tax reforms, and sector-specific initiatives, the budget aims to foster an inclusive and resilient economy. These measures are expected to create new opportunities for financial institutions, as the growing demand for investment products will provide avenues for expansion and innovation in the financial services sector.

2.9 Concluding Remarks about Macroeconomic Scenario

The major headwinds to global economic growth remain significant, with escalating geopolitical tensions, volatile global commodity prices, high interest rates, inflationary pressures, instability in international financial markets, climate change, rising public debt, and the rapid evolution of new technologies. Despite these challenges, India's economy is relatively well-positioned compared to other emerging markets. According to the latest IMF forecast, India's GDP growth is expected to be 6.2% in 2025, maintaining its position as the fastest-growing major economy globally, well above the global growth projection of 2.8%. Key positive factors for the Indian economy include continued strong domestic demand, robust government support for capital expenditure, moderating inflation, growing investments in technology, and improving business confidence.

India's strategic position as a manufacturing hub is further strengthened by government initiatives, a skilled labour force, and a dynamic startup ecosystem, all of which bolster the country's economic outlook. The ongoing reforms and focus on innovation are enabling India to seize emerging opportunities, making it a growing player in the global manufacturing landscape. In addition, several high-frequency growth indicators—such as the Purchasing Managers' Index (PMI), E-way bills, bank credit, toll collections, and GST collections—have shown a positive trajectory in FY25. The normalization of employment post-economic reopening is expected to provide further support to consumption expenditure.

Public investment is also poised to grow, with the government allocating a significant ₹11.21 lakh crore for capital expenditure in FY25. The private sector's investment intentions are showing positive signs, as evidenced by increased new project investments and a strong import of capital goods. Furthermore, rural demand is likely to improve, bolstered by healthy sowing, better reservoir levels, and the positive progress of the southwest monsoon, coupled with the government's push for infrastructure investment and other policy measures. These factors are expected to further support the investment cycle and strengthen India's economic resilience in the coming years.

3. Industry Overview – Global and Indian Refurbished Electronics and E-waste management

Some see technology as sleek new gadgets fresh out of the box, while others understand the value in giving used electronics a second life. In an era defined by sustainability, affordability, and digital inclusion, refurbished electronics are emerging as a vital part of the global technology ecosystem. Whether it's a student accessing education online through a low-cost laptop, a small business powering operations on a reused desktop, or an environmentally conscious consumer choosing to reduce e-waste, the impact of the refurbished electronics industry is far-reaching and transformative.

Today, the refurbished electronics sector is one of the fastest-growing segments within the broader technology and sustainability domains. It combines elements of circular economy practices, responsible consumption, and technological innovation to create meaningful change. With rising electronic waste (e-waste) globally and growing concerns over environmental degradation, refurbishing electronics is no longer just a cost-saving alternative—it is a necessity for building a more sustainable future. The sector addresses two critical global challenges: reducing the digital divide and minimizing environmental impact.

The industry operates across a wide ecosystem that includes IT asset disposition (ITAD) providers, authorized refurbishers, recyclers, and e-waste logistics companies. Products ranging from laptops and desktops to tablets, monitors, and accessories are given a new lease of life through certified processes involving testing, repair, and upgrades. These devices are then resold at affordable prices, making technology accessible to students, small businesses, rural populations, and others traditionally underserved by the mainstream tech market.

As digital adoption accelerates, particularly in developing countries, the refurbished electronics industry plays a crucial role in expanding access to devices. In India, for example, the combination of a growing youth population, increased demand for online education, and a push for digital inclusion has created fertile ground for refurbished electronics. Government-led initiatives like Digital India and the E-Waste Management Rules have further strengthened the framework within which this industry operates, promoting responsible e-waste handling and the reuse of valuable electronic components.

Globally, the market for refurbished electronics is expanding rapidly. International organizations such as the United Nations and the International Telecommunication Union (ITU) have highlighted the role of electronics reuse in achieving sustainable development goals.

Refurbishment provides a solution by extending product life cycles, conserving resources like rare earth metals, and creating green jobs.

Technology reuse also supports a more equitable world. Whether it's through nonprofit programs donating refurbished computers to schools or social enterprises enabling digital literacy in remote regions, the refurbished electronics industry is not just about commerce—it's about impact. It fosters inclusion, supports education, enables entrepreneurship, and contributes to a greener planet.

The industry is evolving fast, with innovations such as AI-based grading tools, blockchain-enabled tracking for device histories, and seamless e-commerce platforms for refurbished sales. These advancements are making refurbished products more reliable, traceable, and consumer-friendly than ever before.

As environmental concerns, economic disparities, and digital needs intersect, the refurbished electronics industry stands at a powerful confluence. It represents a future where affordability meets responsibility—where progress does not mean waste, but regeneration. And as more consumers, institutions, and governments embrace reuse over replacement, this industry will only continue to grow in influence, shaping a cleaner, more connected, and more inclusive world for generations to come.

3.1 Key Market Segments

Refurbished computers and laptops are previously owned devices that have been returned to the manufacturer or a certified refurbisher due to defects, minor damages, or simply because the original buyer changed their mind. These devices are thoroughly inspected, repaired, if necessary, cleaned, and restored to a fully functional state to meet quality standards. Unlike used devices sold "as is," refurbished units often come with a warranty and may have updated software or components. They offer a cost-effective and environmentally friendly alternative to buying new, making them popular among budget-conscious consumers and organizations.

Segmentation Category	Segments	Description
1. By Product Type	- Laptops & Notebooks- Desktops & Monitors - Smartphones & Tablets - Printers & Peripherals- Servers & Networking Equipment	Laptops dominate with ~70–75% share. Tablets and smartphones are gaining traction. Desktops and peripherals are common in institutional sales.
2. By End User	- Individual Consumers (B2C) - Small and Medium Enterprises (SMEs)- Educational Institutions	B2C drives volume via online channels; B2B buyers seek bulk,

	- NGOs and NPOs- Government & PSUs	customized, and cost-effective solutions.
3. By Sales Channel	- Online Platforms (e.g., Amazon Renewed, Flipkart)- Direct Institutional/Bulk Sales- Retail & Offline Stores- B2B Marketplaces (Enterprise Hardware)	Online dominates B2C; offline retail strong in Tier-II/III cities; B2B platforms target SMEs and institutions.
4. By Geography (India)	- Tier-I Cities- Tier-II/III Cities- Rural Areas	Tier-I has mature demand; Tier-II/III markets growing rapidly; rural markets emerging through government and NGO initiatives.
5. By Consumer Preference	- Eco-Conscious Buyers- Value Seekers- Tech-Savvy Professionals	Segments vary by motivation: sustainability, affordability, or performance.

3.2 Market Sub-segments

3.2.1 Based on Product Type

- **Laptops:** Laptops are popular due to their portability and are widely used by students, professionals, and small businesses. Refurbished laptops are in high demand because they offer substantial savings over new ones while delivering adequate performance for everyday tasks.
- **Desktops:** Desktops are preferred in office environments, educational institutions, and by users needing a fixed, customizable setup. Refurbished desktops often come with upgraded components like additional RAM or SSDs.
- **Tablets -** Tablets serve as efficient devices for light computing tasks such as web browsing, emailing, video conferencing, and document editing. For many users, particularly those who don't need the full capabilities of a laptop, tablets are a more convenient and cost-effective alternative.

3.2.2 Based on Certification Grade

Based on Grade, the market consists of:

- Grade A: These are top-quality refurbished devices with little to no signs of previous use. They are fully functional, cosmetically near perfect, and often come from returns with no technical faults.
- Grade B: These units may show moderate signs of wear such as scratches or minor dents but are still fully functional. Performance is not affected, making them a solid choice for cost-conscious buyers.
- Grade C: These devices display more noticeable wear and tear, including possible screen blemishes or casing damage. While they function properly, they are best suited for users who prioritize budget over aesthetics.
- Grade D: Typically used for parts or sold at a deep discount, these units have significant cosmetic or functional issues. They may require repairs or upgrades before use.

3.2.3 Based on Operating System Market consists of:

- **Windows refurbished computers & laptops**: These devices run on Microsoft Windows OS and dominate the refurbished market due to their wide availability and compatibility with various software used in business and education.
- **Mac refurbished computers & laptops**: Refurbished Apple devices running macOS, known for their premium build and performance. Often sought after by professionals and creatives looking for a cost- effective entry into the Apple ecosystem.

3.2.4 Based on End Use, the market consists of:

- **Individual consumers**: This segment includes students, remote workers, and general users who purchase refurbished devices for personal use at a lower cost.
- **Businesses**: Companies often buy refurbished computers in bulk to reduce IT expenses, especially for standard office tasks that don't require high-performance systems.
- **Others**: Includes institutions like schools, non-profits, and government agencies that opt for refurbished systems to meet budget constraints while fulfilling tech requirements.

3.2.5 Based on Distribution Channel

- **Online -** Amazon Renewed, Flipkart Green, Back Market (international), among others. These platforms list only certified refurbished products that meet specific quality standards. Devices come with limited warranties (typically 3–12 months) and return policies, increasing buyer confidence. Online channels allow access across India, including Tier II and III cities, where offline access to such devices is limited. Growing digital penetration and e-commerce literacy have made these platforms the fastest-growing channel for refurbished electronics sales in India.

- **OEM (Original Equipment Manufacturer) Sites –** Examples Dell Outlet India, HP Renew, Lenovo Refurbished Store.

  Key Features

  Manufacturer-Certified Devices: Products are refurbished in-house or by authorized partners, maintaining brand-specific quality.

  Software and Hardware Updates: Devices are tested, repaired, and often preloaded with official software like Windows OS.

  After-Sales Support: OEMs usually provide better support and genuine parts compared to third-party refurbishes**.** Appeals to enterprise and brand-loyal customers who prioritize reliability and after-sales service. Often used in corporate or institutional IT refresh cycles, where reliability and compliance matter.

- **Offline Retail Channels -** Local IT hardware dealers, repair shops, computer retail stores. Buyers can physically inspect the device, which appeals to those hesitant to purchase online. Prices can be negotiated, especially for bulk or cash deals. Many of these vendors also offer servicing or upgrades on-site. It is Still dominant in smaller cities, where trust is built through local relationships rather than brand or platform.

- **B2B / B2G Channels (Business-to-Business / Business-to-Government) -** Devices are often procured in bulk through tenders, e-marketplaces (like GeM – Government e-Marketplace), or direct vendor agreements. This channel has seen growth due to Digital India, PM eVidya, and CSR initiatives that encourage digital access through affordable technology.

3.3Global Refurbished Electronics Industry

3.3.1 Market Size & Recovery

The refurbished electronics market size worldwide was valued at US$ 48.29 billion in 2023, which is expected to expand at a CAGR of 10% to reach US$ 94.10 billion by 2030. North America has been a significant player and the largest market for refurbished electronics, primarily because of its well-developed e-commerce infrastructure, tech-savvy population and consumer awareness of sustainability. Europe is the second largest market for refurbished electronics, and it has gained traction due to stringent regulations promoting sustainable practices and consumer protection. Asia-Pacific is the third largest market, and it is growing significantly in the refurbished electronics market, driven by a large population, increasing urbanisation, and rising smartphone ownership. Countries like India, South Korea and China have posted a rise in demand for refurbished smartphones and other electronic devices, serving the budget-conscious consumers. (Source – IBEF)

3.3.2 Global sustainability goals to drive refurbishment

United Nations Sustainable Development Goals (UN SDGs)

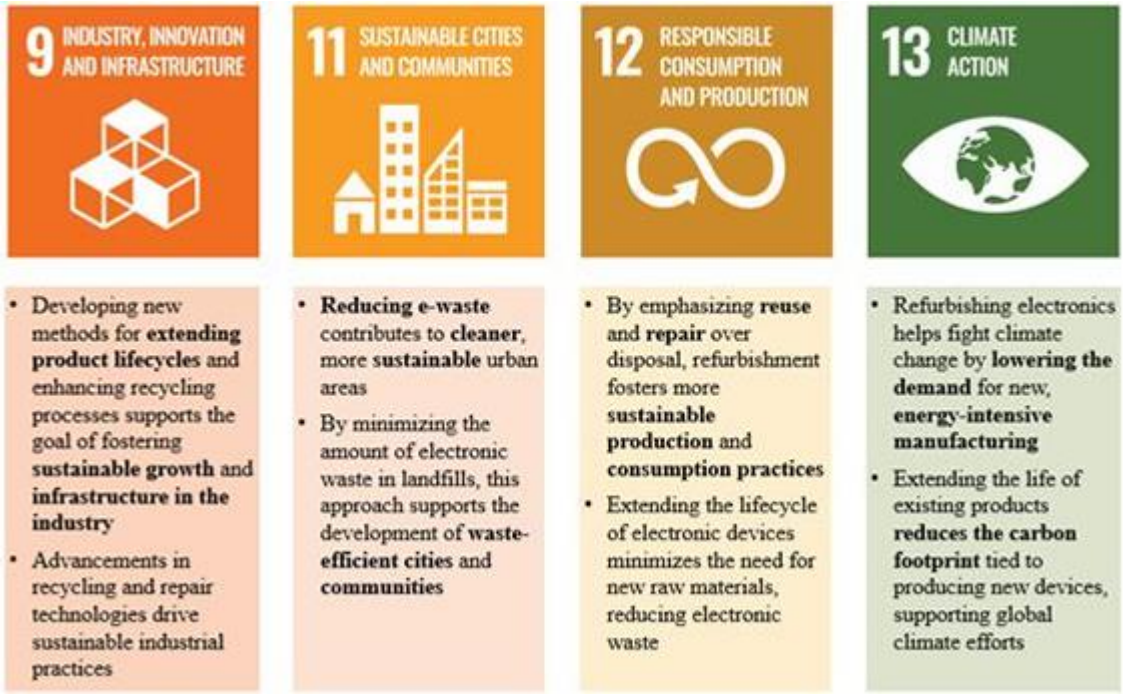
The 2030 Agenda for Sustainable Development, adopted by all UN Member States in 2015, outlines 17 Sustainable Development Goals (SDGs) that serve as a shared blueprint for peace and prosperity. Several of these goals directly support the growth of the refurbished electronics industry.

- **SDG 9 – Industry, Innovation and Infrastructure -** Promotes repair-friendly product design, modularity, and eco-innovation in the electronics industry**.** Encourages R&D in green refurbishment technologies.

- **SDG 11** - **Sustainable Cities and Communities - Encourages** development of urban e-waste collection and repair infrastructure. Supports access to affordable electronics for underserved urban populations through refurbished goods.

- **SDG 12 – Responsible Consumption and Production -** Encourages reuse, refurbishment, and recycling of electronics. Supports sustainable public procurement and eco-labelling schemes that Favor refurbished goods.

- **SDG 13 – Climate Action** - Refurbishing electronics reduces **greenhouse gas emissions** by avoiding energy-intensive manufacturing. Supports countries and corporations in meeting carbon neutrality targets and climate mitigation goals. (United Nations).



3.3.3 Global Refurbished Laptops and Desktops market Size

The global refurbished computers & laptops market was estimated at USD 5.4 billion in 2024. The market is expected to grow from USD 5.7 billion in 2025 to USD 9.6 billion in 2034 at a CAGR of 5.9%. (Source – Global Market Insights)

Growing concerns about sustainability and environmental awareness are the key factors driving the growth of the refurbished computers & laptops market. Growing concerns regarding electronic waste (e-waste) are prompting people and organizations to reuse and rehabilitate electronic gadgets. This decreases waste for the landfill and reduces carbonation emissions from making new products. Worldwide governments are implementing strict e-waste policies and advancing the circular economy.

3.3.4 E-Waste Recycling Industry

The global e-waste management market size was valued at USD 80.0 Billion in 2024. It estimates the market to reach USD 206.0 Billion by 2033, exhibiting a CAGR of 11% during 2025-2033. Asia Pacific currently dominates the market, holding a significant market share of over 47.8% in 2024. (Source -imarc group)

The significant investments in recycling infrastructure, growing research and development activities, increasing number of key players seeking environmental certifications, and growing

awareness about the importance of e-waste disposal is some of the factors propelling the market. Numerous vital factors propel the global e-waste management industry, which are also indicative of the increasing environmental and economic worries about electronic waste. One of the major trends is the rapid growth of consumer electronics such as computers, cell phones.

3.3.5 Key Trends:

Key trends in global refurbished laptops and desktops:

Sustainability and E-waste reduction - Refurbishment involves repairing, upgrading, and testing used electronics to bring them back to a like-new condition. By extending the functional life of existing devices, refurbished laptops and desktops reduce the need for manufacturing new products. This directly lowers the demand for raw materials and reduces energy consumption associated with production. Instead of discarded electronics ending up in landfills or informal recycling operations that can release hazardous substances into the environment, refurbishment helps divert significant amounts of e-waste. This contributes to more responsible electronic waste management. Since refurbishing devices requires less energy than manufacturing new ones, it helps cut carbon emissions. The entire lifecycle carbon footprint of a refurbished laptop or desktop is considerably smaller compared to a brand-new device.

Online Marketplaces and Distribution Channels - The rise of online marketplaces has been a game-changer for the refurbished electronics market, especially for laptops and desktops. Platforms like Amazon Renewed, eBay Refurbished, and Back Market have significantly expanded the accessibility and appeal of refurbished devices worldwide. These platforms connect sellers and buyers globally, making it easy for consumers to find refurbished laptops and desktops that meet their needs from the comfort of their homes.

This eliminates geographical barriers that previously limited access to quality refurbished products. Many of these marketplaces offer certified refurbished products, meaning the devices have gone through rigorous inspection, repair, and testing processes to meet certain quality standards. Certification provides buyers with assurance that the products are reliable and functional, addressing concerns about quality and performance.

Technological Advancements in Refurbishment -Recent innovations in **artificial intelligence (AI)** and **automation technologies** have transformed the refurbishment process, improving both efficiency and product quality. AI algorithms can automatically analyze and assess the condition of used laptops and desktops at a highly granular level. This involves checking hardware components such as the CPU, RAM, hard drives, screens, batteries, and ports for functionality and performance. Precise defect detection Identifying faults that might be

missed by manual inspection, such as subtle performance degradation or impending hardware failures.

Consistent quality grading: Assigning standardized quality grades to refurbished devices based on objective metrics, which helps classify products accurately. Robotics and automated tools assist in component replacement, cleaning, and software reinstallation, reducing human error and improving repair consistency.

Forecast Factors

S.No	Forecast Factor	Description
1	**Growing Demand for Affordable Technology**	Demand for cost-effective computing is rising, driven by income levels, employment rates, and digital inclusion. Refurbished devices serve as viable alternatives for budget-conscious consumers and businesses.
2	**Sustainable and Eco-friendly Consumer Preferences**	Increasing environmental awareness and concern over e-waste encourage consumers to choose refurbished products. Sustainability trends are supporting market expansion.
3	**Technological Advancements and Product Cycles**	Frequent tech upgrades and new product releases increase the availability of used devices for refurbishment. This expanding supply supports refurbishers in meeting market demand for affordable devices.
4	**Growth of Remote Work and Online Learning**	Remote work and e-learning, accelerated by the pandemic, continue to drive demand for computing devices. Refurbished devices provide a low-cost solution for these ongoing needs across households, businesses, and educational institutions.
5	**E-commerce and Online Sales Growth**	Online platforms provide wider market access for refurbished products. The convenience, variety, and accessibility of e-commerce are key drivers of sales growth in this segment.
6	**Consumer Trust and Warranty Programs**	Confidence in refurbished products is boosted by warranty offerings and responsive after-sales service. Quality assurance programs reduce perceived risk and encourage wider adoption.

7	**Competitive Landscape and Market Players**	The market is shaped by the number and strength of refurbishers, their service quality, pricing, and customer outreach. New entrants, consolidation, and strategic partnerships affect market growth and consumer choices.
8	**Government Regulation and Policies**	Policies under e-waste management rules, EPR mandates, and circular economy goals incentivize refurbishment. Government support can significantly influence industry structure, investment, and compliance.

3.4 Indian Refurbished Electronics Industry

India's refurbished laptops and desktops industry has emerged as a vital contributor to the country's dual goals of bridging the digital divide and promoting sustainable development**.** Positioned at the crossroads of affordability, access, and environmental responsibility, this sector plays a pivotal role in expanding digital infrastructure for students, small businesses, government offices, and individual users, while also contributing to India's formal e-waste management ecosystem.

The industry thrives on India's expansive and diverse user base. Educational initiatives such as PM e-Vidya**,** Digital India**,** and Skill India have driven significant demand for affordable computing solutions, particularly in public schools, training centres, and state-level e-governance programs. Refurbished laptops and desktops—often priced 40–60% lower than new units—enable mass-scale procurement without compromising utility. Similarly, the MSME sector, which forms the backbone of India's economy, is increasingly turning to refurbished desktops and workstations to minimize capital expenditure while digitizing operations.

At the consumer level, refurbished devices have found strong traction in Tier II and Tier III cities, where price sensitivity is high and access to digital infrastructure remains limited. E-commerce platforms, including those recognized under the MeitY–STPI Re-commerce Certification framework, are facilitating the safe and reliable distribution of certified refurbished products. These platforms ensure that devices meet stringent quality benchmarks, include warranty coverage, and offer post-sale service, enhancing consumer confidence and market legitimacy.

On the environmental front, the refurbished electronics industry is an essential component of India's regulated e-waste management landscape. Under the E-Waste (Management) Rules, 2022, producers—including OEMs and authorized refurbishes—must collect and channel end-of-life electronics through formal Extended Producer Responsibility (EPR) frameworks. The refurbished device market helps defer e-waste generation by extending product lifespans, while also ensuring eventual responsible recycling.

With rising digital penetration, a national push for **"Right to Repair"** policies, and strong demand from budget-conscious users, India's refurbished laptops and desktops market is set for sustained expansion. The sector is no longer a stop-gap alternative—it is evolving into a **strategic pillar** of India's circular economy, offering inclusive digital access and meaningful contributions to climate and resource sustainability goals

3.4.1 Refurbished Electronics Market Size

Indian buyers are turning more and more towards refurbished electronic devices. This shift has occurred mainly to the exorbitant rise in prices of new products caused by the global supply chain disruptions during the pandemic. Smartphones have been primary growth drivers, to this market; nonetheless, demand for other electronic products, such as laptops, also rose in recent times. As per a report by research firm RedSeer, IT services major, Tata Consultancy Services Ltd., sources 1,00,000 refurbished laptops every year from organised re-commerce companies. The report further states that the refurbished electronics goods market in India could grow to US$ 11 billion in gross value by March 2026, up from ~US$ 5 billion in March 2021. Out of this, laptops, televisions, headphones, wearables, washing machines, and gaming consoles are expected to constitute about US$ 1 billion of the market.

3.4.2 E-waste recycling India

The India e-waste management market size reached USD 2.96 Billion in 2024, and it expects the market to reach USD 8.92 Billion by 2033, exhibiting a growth rate (CAGR) of 12.07% during 2025-2033. The India e-waste management market share is increasing due to the rising electronic usage, high-speed urbanization, growing awareness regarding the environment, government initiatives, and a necessity for green disposal solutions. An increasing requirement for used electronics and the establishment of recycling infrastructure are also boosting the India e-waste management market growth and prompting safe e-waste management measures. Source - imarc

India E-Waste Management Market Trends

- **Increasing Adoption of E-Waste Recycling Technologies -** The India e-waste management market outlook is witnessing the speedy adoption of innovative recycling technologies. As more electronic waste is generated, companies are investing in new-age technologies to recycle and recover valuable materials like gold, silver, copper, and plastics efficiently. Automated processes, robots, and AI-driven sorting machines are increasingly being employed to make e-waste collection, sorting, and processing more efficient. These technologies enhance operational efficiency while also reducing environment risks associated with unsafe disposal. Additionally, the technology for disassembling e-waste and recycling ensures proper disposal of poisonous substances like lead, mercury, and cadmium.

- **Government Initiatives and Policy Support -** The Indian Government has a crucial role to play through its initiatives and actions in policies regarding e-waste management. As per reports by the industry, India is the 3rd largest producer of e-waste in the world. Growth estimation of E-waste in India is approximately 26% comprising around 10% of

the world's total production of E-waste, that too at a compound annual growth rate (CAGR). Stricter laws such as the E-Waste (Management) Rules, 2016, and Enhanced Producer Responsibility (EPR) policy have made manufacturers accountable for their products' lifecycles. These laws require producers to establish e-waste collection centres and provide recycling means, so that it won't burden local authorities, and guarantees environmentally friendly disposal methods. Next, the government launched many public awareness programs to sensitize citizens about e-waste disposal and appropriate recycling.

Key success factors for a company in this industry

Success in the refurbishment industry hinges on quality and credibility, instilling confidence in customers. Trust is built through reliable support and convenient return policies, while competitive pricing and quick transactions attract buyers. A diverse product range and effective distribution strategies broaden market reach, and strong data security measures enhance customer protection and sustainability, solidifying consumer trust.

Criteria	B2B	B2C
Quality Assurance & Credibility	Multi-point quality checks build trust with corporate clients. Extended 12–14-month warranties reduce risk perception for businesses.	Multi-point quality checks assure a seamless user experience. 12–14-month warranties and brand certifications build confidence. Testimonials encourage consumer adoption.
Affordable Prices	Cost-effective bulk purchases reduce operational costs for businesses adopting technology.	High-quality refurbished goods with near-new performance offer value to price-sensitive consumers.
Quick Transactions	Streamlined procurement via digital invoicing and customized payment terms reduce TAT (Turnaround Time).	Faster payments and simplified transactions reduce TAT for consumers.
Multi Distribution Channels	Network of authorized resellers and partners cater to various corporate sectors, improving reach and sales.	Presence on marketplaces and various channels improves consumer accessibility and visibility.

Geographic Reach	Regional hubs support consistent supply locally; international partnerships open access to global markets.	Expansion into metro cities and beyond enhances value creation and trade opportunities.
Customer Support	Dedicated account managers address corporate client needs.	Pan-India support, return/exchange policies, and asset pickup options boost trust and convenience.
Availability of Brands & Offerings	Custom configurations for client requirements. Rental and bulk options for large organizations.	Wide variety of brands and configurations for diverse consumer needs.
Comprehensive ITAD *(IT Asset Disposition)* Support	Secure ITAD includes certified data wiping and recycling for compliance. On-site/off-site destruction services protect enterprise data.	On-site data destruction enhances reliability. Licensed ITAD providers reassure eco-conscious consumers.

Sustainable and eco-friendly consumer preferences

Sustainability has become a crucial driver of consumer preferences in India. This is highlighted by the fact that ~60% of Indian consumers are actively opting for sustainable products. This can be seen by:

• **Demand for eco-friendly products**: This shift reflects a growing awareness of the relationship between personal health and environmental health. As such, the demand for eco-friendly products is reshaping market dynamics, compelling industries to adapt their strategies to meet this evolving consumer consciousness. A study conducted by the World Economic Forum found that 89% of the largest Indian companies have adopted a sustainability strategy. The rise in sustainable consumer preferences has led to a significant industrial impact in the electronics sector.

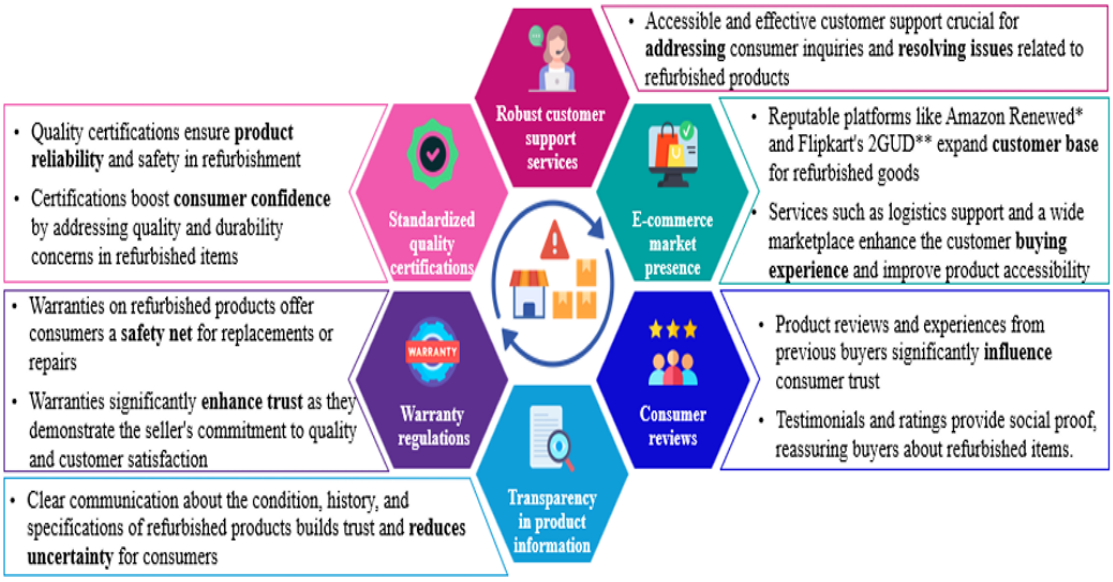
• **Company adoption**: Companies are increasingly adopting green marketing strategies to align with consumer values and stakeholder expectations. This trend is evident as India aims to become a leader in sustainable electronics manufacturing, emphasizing the need for environmentally responsible practices across the supply chain. Green initiatives not only resonate with consumers but also drive operational efficiencies and enhance brand loyalty. In this landscape, the refurbishment industry is uniquely positioned to benefit from sustainable preferences.

• **Changing customer priorities**: Gen Z and millennials, of India's population, show a notable inclination toward refurbished and recycled products. These consumers prioritize functionality and trends over brand value, and they demonstrate a willingness to pay more for sustainable options. The growing demand for eco-friendly, affordable products positions the refurbishment industry for growth, aligning with India's shift towards sustainability

Consumer trust and warranty programs

Building consumer trust in refurbished products relies on quality certifications, industry standardization and robust warranty programs that reassure buyers about reliability and safety. The development of industry standards for refurbished products has played a crucial role in improving product quality and consistency, ensuring that consumers receive dependable devices that meet recognized benchmarks. Clear communication regarding product condition and accessible customer support further reduce uncertainty. Additionally, reputable platforms and positive reviews enhance the overall buying experience, fostering confidence in the refurbished market.

Features & benefits offered by refurbishers to enhance customer trust



4. Market Dynamics

4.1 Key Growth Drivers

India's refurbishment sector is experiencing robust growth, propelled by a combination of demographic shifts, infrastructural advancements, and strategic government initiatives. Below is a detailed analysis of the key growth drivers:

- **Cost Effectiveness and Affordability** - One of the most compelling drivers of growth in the refurbished laptops and desktops market is their significant cost advantage over new devices. Refurbished computing devices are typically priced 30% to 70% lower than their brand-new counterparts, depending on the model, brand, condition, and warranty coverage. This price differential makes them an attractive option for cost-conscious consumers, particularly in price-sensitive markets like India and other developing economies. The affordability of refurbished laptops has enabled access to digital technology for large segments of the population who might otherwise be excluded due to financial constraints. This includes students, freelancers, small businesses, startups, and non-profit organizations, all of whom benefit from acquiring reliable computing power at reduced costs.
- **Digital Inclusion and Remote Learning -** The acceleration of digital transformation in education, particularly after the COVID-19 pandemic, has significantly boosted the demand for affordable computing solutions such as refurbished laptops and desktops. As schools, colleges, and training institutes rapidly transitioned to online learning models, access to personal computing devices became a necessity rather than a luxury. However, for millions of students and families in rural and semi-urban areas, the high cost of new laptops posed a major barrier to participation in digital education.
- **Corporate and Institutional Upgrades -** A major supply-side driver of the refurbished laptops and desktops market is the regular IT hardware upgrade cycles followed by businesses, government departments, and large institutions. Corporations typically replace their computing equipment every 3 to 5 years to keep pace with evolving technological standards, security protocols, and productivity requirements. As a result, they generate a consistent and large volume of decommissioned devices—most of which are still operational and suitable for further use after refurbishment.

  On the demand side, a wide range of institutions—such as schools, coaching centres, training academies, NGOs, and healthcare organizations—actively purchase refurbished computers to meet their IT needs within limited budgets. These buyers prioritize affordability, durability, and reliable post-sale support, all of which are increasingly offered by certified refurbished vendors. In essence, corporate IT upgrades feed the refurbishment

ecosystem with high-quality supply, while institutions help absorb this supply at scale, making refurbished electronics a sustainable and economically viable solution across multiple sectors.

- **Environmental Awareness and Sustainability** - The growing global emphasis on environmental sustainability has become a powerful driver of the refurbished laptops and desktops market. As concerns around e-waste management and carbon emissions continue to rise, refurbishment is being recognized as a practical solution to reduce the environmental impact of electronic devices. By extending the useful life of laptops and desktops through repair, upgrade, and resale, the refurbishment process helps prevent millions of devices from ending up in landfills, where they contribute to hazardous waste and environmental degradation. Moreover, refurbishing electronics consumes significantly fewer resources and generates far lower emissions than manufacturing new devices, thereby helping to reduce the overall carbon footprint associated with the electronics lifecycle.

4.2 Challenges

The refurbished laptop and desktop industry, particularly in India, faces several significant challenges, as highlighted by various government reports and policy discussions. These challenges span data availability, market structure, quality control, and product design:

- **Dominance of the Informal Sector**: In India, the informal sector plays a significant role in e-waste collection and recycling, handling an estimated 80-90% of activities. While the E-Waste (Management) Rules, 2022, aim to formalize the sector and include "Refurbishers," a large portion of refurbishment activities still occur outside formal reporting mechanisms. This informal dominance poses challenges for quality control, environmental compliance, and accurate data collection, as formal EPR data primarily focuses on recycling tonnage rather than specific refurbished product volumes. The government is working on strategies to integrate this sector, but it remains a complex issue.

- **Quality Control and Building Consumer Trust**: Ensuring consistent quality in refurbished products is paramount for consumer confidence. The influx of low-quality or improperly refurbished products can erode trust in the entire sector. Governments, such as India, have introduced mandatory certifications like BIS (Bureau of Indian Standards) for imported used/refurbished electronics to curb the sale of substandard goods. While beneficial for quality assurance, these regulations add a layer of compliance and cost for refurbishing companies.

- **Limited Repair Options and Shortened Product Lifecycles**: The rapid pace of technological advancements and design choices that prioritize new sales over longevity contribute to shorter product lifecycles and limited repair options for electronic devices. This directly impacts the availability of suitable devices for refurbishment and the economic viability of repair services. Experts advocate for "upstream" solutions, such as product design regulations that promote durability and ease of repair, to extend product lifecycles and foster circularity.

- **Supply Chain and Spare Parts Availability:** A robust supply chain for sourcing used devices and genuine spare parts is crucial for refurbishers. Challenges arise from the fragmented nature of e-waste collection and the difficulty in obtaining reliable components. In countries like India, where a significant share of electronics products are imported and local value addition is low, strengthening the spare parts supply chain for formal repair and refurbishment businesses is a recognized need.

- **Regulatory Compliance and Policy Measurement:** Navigating complex and evolving regulatory frameworks, such as e-waste management rules and import policies, can be challenging for refurbishing companies. Furthermore, even when governments express intent to support the refurbished market (e.g., through sustainable procurement targets), they sometimes face difficulties in measuring the actual extent of such procurement. This lack of measurable outcomes can hinder the sector's ability to demonstrate its value and secure further policy support. Additionally, platforms like the Government e-Marketplace (GeM) classify "Delivering Fake or Counterfeit or refurbished products" as a "Grave" deviation, imposing strict penalties and requiring refurbishers to maintain rigorous quality and authenticity standards.

4.3 Opportunities

- **Job Creation and Skill Development -** The e-recycling and refurbishment industries create a wide range of jobs, from technicians and engineers to logistics specialists and sales professionals. Formalizing the informal e-waste sector, particularly in India, has the potential to transform precarious work into secure, skilled employment for thousands. Organizations like the Electronics Sector Skills Council of India (ESSCI) and Skill India are actively involved in upskilling e-waste workers through vocational training and certification programs.

- **Environmental Benefits and Climate Change Mitigation -** Buying refurbished electronics directly reduces electronic waste, contributing to a more sustainable planet. Extending the lifespan of electronic devices by just one year can reduce carbon emissions. Formal e-waste management activities contributed to avoiding 93 million tonnes of CO2-equivalent emissions in 2022, primarily from recaptured refrigerants and avoided emissions from virgin metals mining. Recycling processes inherently consume less energy compared to the energy-intensive activities of mining and processing raw materials.

- **Bridging the Digital Divide -** Refurbished PCs play a vital role in making technology more accessible and affordable, particularly for students and low-income households, thereby helping to bridge the digital gap. Government bodies and NGOs are funding programs to provide refurbished devices to schools in developing countries.

- **Innovation and Technological Advancement -** The sector stimulates innovation in product design (for durability and repairability), repair services, and advanced recycling technologies. Investment in AI-driven diagnostics is a key trend, aiming to improve the quality and consistency of refurbishment processes. Advanced metal

recovery techniques, AI-powered sorting systems, and eco-friendly dismantling processes are crucial for maximizing efficient material recovery. The "Right to Repair" movement incentivizes businesses to innovate in developing more robust repair services and accessible spare parts supply chains.

5. Government Initiatives and Policy Support

Government Policies in India that impact the refurbished electronics industry, specifically focusing on laptops and desktops. These policies promote sustainable practices, digital inclusion, and formalization of the recommerce sector:

- **E-Waste (Management) Rules, 2022 -** Enforced by the Ministry of Environment, Forest and Climate Change (MoEF&CC), these rules mandate Extended Producer Responsibility (EPR) for electronic manufacturers and importers. Encourages collection, refurbishment, and responsible recycling of old laptops and desktops. Producers can meet EPR targets by partnering with refurbishers.

- **MeitY–STPI Re-commerce Certification Framework** - Introduced by the Ministry of Electronics and Information Technology (MeitY) in collaboration with Software Technology Parks of India (STPI). Certifies and formalizes refurbished electronics vendors to ensure quality, reliability, and consumer protection. Promotes trust in the refurbished IT hardware market.

- **Digital India Programme -** A national initiative to transform India into a digitally empowered society. Includes schemes like PM e-Vidya, Diksha, and Common Service Centres (CSCs). Drives demand for affordable computing devices (including refurbished laptops) for schools, students, and rural communities.

- **Production Linked Incentive (PLI) Scheme for IT Hardware -** Supports domestic manufacturing of laptops, desktops, tablets, and servers. Though primarily for new production, it strengthens the local ecosystem which refurbishers depend on for parts and base devices.

- **Government e-Marketplace (GeM) Policies -** GeM allows procurement of refurbished and remanufactured goods under approved categories. Enables public institutions to buy refurbished laptops and desktops legally, expanding B2G demand.

- **Right to Repair Framework (Proposed) -** Under formulation by MeitY and Department of Consumer Affairs, this policy promotes access to spare parts, manuals, and repair services. Will significantly empower refurbishers and reduce electronic waste by making repair and resale of laptops easier and more cost-effective.

Union Budget (2025-26)

Key Initiatives and Allocations:

- **Promotion of Circular Economy and Recycling -** The Government of India has taken significant steps to advance the principles of a circular economy, with direct implications for the refurbished electronics industry. One of the most impactful policy measures is the full customs duty exemption on waste and scrap materials, including lithium-ion batteries, cobalt powder, lead, zinc, and other critical minerals. These materials are crucial components in electronic devices and batteries, and the exemption makes it financially viable for companies to recover and recycle them from e-waste rather than relying solely on imported virgin resources. This not only reduces the cost of raw materials for electronics refurbishment but also encourages the development of a domestic e-waste recycling infrastructure.

- **MSME and Startup Enablement** – The Union Budget 2025–26 introduces a robust framework to empower MSMEs and startups, particularly those operating in high-potential sectors like electronics refurbishment. One of the standout initiatives is the introduction of Udyam Credit Cards for micro-enterprises. These cards, with a credit limit of up to ₹5 lakh, will be issued to 10 lakh micro businesses registered on the Udyam portal. This move is particularly beneficial for small refurbishing units and startups that often struggle with cash flow issues. The cards provide quick and collateral-free access to working capital, which is essential for purchasing tools, components, and equipment used in the repair and reconditioning of electronic goods.

- **Skill Development and Innovation** - In line with India's vision of building a self-reliant and globally competitive manufacturing ecosystem, the Union Budget 2025–26 places strong emphasis on skill development and innovation, with specific relevance to the electronics and clean technology sectors, including refurbished electronics. One of the key initiatives announced is the establishment of five National Centres of Excellence for Skilling, which will be developed in partnership with global institutions. These centres aim to train the youth in high-demand technical skills tailored to "Make for India, Make for the World" industries. The focus areas include electronics manufacturing, clean technology, and advanced industrial processes, which are integral to the growth of the refurbished electronics industry**.** These centres will offer comprehensive training programs, curriculum development, and certification frameworks that align with international standards, thus ensuring that India's workforce is well-equipped to meet the demands of modern, sustainable manufacturing.

- **Niti Aayog Initiatives –** Indian government's policy think tank, NITI aayog, has been actively promoting the circular economy. They have released several reports and action plans outlining the strategies for waste management, resource efficiency and the promotion of recycling industries. By creating several a supportive environment and promoting sustainable practices, these measures aim to reduce waste, encourage recycling, and support sustainable economic growth.

Government Policies for E-waste Recycling

- **Extended Producer Responsibility (EPR) Framework -** Under the EPR framework, producers of electronic goods are obligated to ensure that a fixed percentage of the products they place in the market are collected and processed at the end of their lifecycle. This includes activities such as refurbishing, recycling, or environmentally sound disposal. The aim is to promote circular economy principles by holding manufacturers accountable for the post-consumer phase of their products. This incentivizes eco-friendly design, facilitates the availability of used electronics for refurbishers, and reduces the burden on landfills and informal recycling sectors.

- **CPCB EPR Portal for E-Waste -** The CPCB has launched a centralized digital platform to facilitate the implementation of EPR. This portal serves as a one-stop solution for producers, recyclers, refurbishers, and dismantlers to register themselves, manage their obligations, and trade EPR certificates. It also enables real-time monitoring of compliance with recycling targets and acts as a data repository to ensure transparency in operations. This digital shift streamlines administrative procedures and reinforces accountability across the e-waste management value chain**.**

- **Guidelines for Environmentally Sound Recycling of E-Waste (CPCB, 2021) -** In 2021, CPCB issued specific guidelines that outline best practices for the environmentally sound dismantling and recycling of e-waste. These guidelines cover methods for safe handling, material recovery, separation of hazardous components, and proper disposal techniques. The goal is to minimize environmental and health risks posed by informal e-waste processing. These standards also help recyclers implement structured, scientific, and non-polluting operations while recovering valuable materials like copper, silver, and gold from discarded electronics.

- **Authorisation of Dismantlers and Recyclers -** To formalize and regulate the recycling sector, the policy mandates that all dismantlers and recyclers must obtain authorization from State Pollution Control Boards (SPCBs) and register with the CPCB. This ensures that only qualified entities engage in e-waste processing, thereby improving the safety, efficiency, and environmental compliance of the sector.

It also helps reduce the dominance of informal recyclers, who often operate without adequate safety or pollution control measures.

6. Technology & Digital Transformation

India is advancing its electronics lifecycle management through digital tools, policy frameworks, and infrastructure development. These efforts aim to formalize the refurbished electronics market and enhance e-waste recycling processes.

- **Launch of CPCB EPR Portal for E-Waste Tracking -** The Central Pollution Control Board (CPCB) has launched a centralized Extended Producer Responsibility (EPR) portal to digitally track the collection, refurbishment, and recycling of electronic waste. As of 2024, over 5,000 producers, recyclers, and refurbishers are registered on the platform. This system enables real-time submission of e-waste return data, EPR certificate trading, and performance monitoring, enhancing compliance, traceability, and sector formalization.

- **AI-Driven Grading and Refurbishment Processes -** Technology-led refurbishers in India have begun deploying AI-enabled diagnostics and quality grading tools to assess the condition of used laptops and desktops. These systems automate fault detection, categorize devices by grade (A, B, C), and assist in decision-making for part replacement or resale. This not only improves consistency and efficiency but also increases consumer trust in certified refurbished electronics**.**

- **Digital Certification under Re-commerce Framework -** Under the MeitY–STPI Re-commerce Certification Framework, refurbishers are now required to follow standardized digital processes to test, repair, and certify electronics. This includes issuing digital quality certificates, tracking device history, and ensuring traceable resale.

- **Blockchain Pilots for E-Waste Lifecycle Management -** Pilot initiatives in collaboration with state pollution control boards and private sector recyclers are leveraging blockchain technology to enable end-to-end traceability of e-waste—from product sale, refurbishment, and collection to final recycling. These pilots aim to eliminate leakages into informal channels, support accurate reporting, and enhance accountability in the e-waste processing ecosystem.

- **IoT-Enabled Smart E-Waste Collection Systems -** Several urban municipalities are piloting IoT-enabled bins and QR-coded collection systems for e-waste pickup. These systems notify collection agents in real time, track location and fill levels, and assign material grades at the point of collection. Pilots in cities like Pune, Bengaluru, and Gurugram are being scaled to enable cleaner and more efficient recovery of reusable laptops, desktops, and accessories.

- **Integration with National Skill Development Platforms -** To address the skill gap in electronics testing and refurbishment, the Ministry of Electronics and IT (MeitY), under the Electronics System Design and Manufacturing (ESDM) scheme, is digitizing training modules and certification for repair and refurbishment technicians. These modules are integrated with national skilling portals and are helping to upskill thousands of youths in electronics lifecycle management.

7. PESTEL Analysis of the Industry

This analysis highlights the key macro-environmental factors shaping the growth, challenges, and policy outlook for India's refurbished electronics and e-waste recycling sectors.

Factors	Key Insights
Political Factors	• **Strong Regulatory Framework**: The Government of India has introduced robust policies such as the **E-Waste (Management) Rules, 2022**, mandating Extended Producer Responsibility (EPR) and formalizing refurbishes and recyclers. • **Government Support for Circular Economy**: Initiatives under **MeitY** and **MoEF&CC** promote responsible recycling and reuse of electronic products, aligning with national sustainability goals.
Economic Factors	• **Cost-Driven Demand**: India's large price-sensitive population drives demand for affordable refurbished devices, especially laptops and desktops for education, MSMEs, and remote work. • **PLI Scheme Indirect Benefits**: The **Production Linked Incentive (PLI) Scheme for IT Hardware** strengthens domestic manufacturing, which indirectly supports refurbishment through availability of components and post-use base devices.
Social Factors	• **Digital Inclusion Mandate**: Programs like **Digital India**, **PM e-Vidya**, and **NEP 2020** are accelerating the adoption of low-cost computing devices, including refurbished ones, in education and skill-building. • **Environmental Awareness**: Increasing public concern about e-waste and climate impact is improving social acceptance of refurbished products and ethical recycling practices.
Technological Factors	• **AI-Enabled Refurbishment**: Companies are using **AI and automation** for diagnostics, quality grading, and testing, improving the reliability of refurbished laptops and desktops. • **Digital EPR Monitoring**: The **CPCB E-Waste Portal** digitally tracks producer responsibility, credit trading, and recycler/refurbisher registrations, enhancing transparency and compliance.

Environmental Factors	• **E-Waste Growth Challenge**: India generated 1.75 million metric tonnes of e-waste in 2023–24 (Source: CPCB), highlighting the urgency of effective recycling and reuse strategies. • **Circular Economy Push**: Government policy and industry alignment are promoting refurbishment as a tool for reducing carbon footprint, conserving resources, and preventing landfill contamination.
Legal Factors	• **Mandatory EPR Compliance**: Producers and refurbishers must comply with legally binding EPR targets and submit documentation on collections and processing. • **Formalization of Recyclers**: Legal registration under CPCB and State Pollution Control Boards (SPCBs) is now required for recyclers and dismantlers, moving the sector away from informal channels.

8. Competitive Landscape

The competitive landscape of the Global Refurbished Computers and Laptop market exhibits a degree of fragmentation, with key players including Lenovo, Dell, Apple, Amazon Renewed, BestBuy, and others. These companies have been able to establish a competitive edge by consistently innovating their products and anticipating the evolving needs of their consumers. Substantial investments in research and development, strategic mergers and acquisitions, and partnerships have further solidified their market positions. (Source: Mordor Intelligence)

8.1 Key Industry Players

Global Leaders in Refurbishment Industry

Company	Region	Description
Amazon Renewed	Global (incl. India)	Offers certified refurbished laptops and desktops with warranties; one of the largest online platforms for recommerce.
Back Market	Europe, US, expanding globally	A French startup specializing in refurbished electronics; partners with certified refurbishers and promotes sustainability.
Dell Outlet	Global	Dell's official platform for factory-certified refurbished desktops, laptops, and workstations, with warranty and support.
HP Renew	Global	HP's program to sell OEM-refurbished laptops and desktops with full warranty and quality assurance.
Lenovo Refurbished	Global (via partners)	Sells refurbished ThinkPad and other models through select marketplaces and authorized partners.

Major Refurbishment Companies in India

Segment	Company	Details
Full-Stack Refurbishers	NewJaisa Technologies Ltd.	India's largest seller of refurbished laptops and desktops, with over 50,000 devices sold. Offers a 1-year warranty and a wide range of certified products.
	Reboot Systems	Microsoft Registered Refurbisher providing certified and co-branded refurbished computers. Offers RAAS (Refurbishing as a Service) for individuals, NGOs, and corporates.
	Electronics Bazaar	Provides high-quality, refurbished laptops and desktops with up to 3-year replacement warranty. Offers products from brands like Dell, HP, and Lenovo.
	Budli.in	Offers a wide range of certified refurbished laptops and desktops with substantial cost savings. Provides a 25-point quality check and warranty coverage.
	RenewIT	India's first Microsoft Authorized Refurbisher offering certified branded desktops and laptops with genuine Windows licenses. Focuses on providing affordable computers to everyone.
Emerging Platforms	Edify.club	Offers premium refurbished laptops with a 6-month warranty. Sells top brands like HP, Apple, Dell, and Lenovo at competitive prices.
	2ndBazaar	Provides refurbished laptops with a 1-year minimum warranty and a 30-day money-back guarantee. Offers significant savings compared to new devices.
	Sunray Systems	Based in Ahmedabad, serving over 1,200 corporate and SME customers in Gujarat with refurbished laptops and desktops.

	UsedComputerIndia.com	Offers top-quality refurbished laptops and desktops with performance guarantees and a focus on sustainability.

8.2 Competitive Strategies

The refurbished electronics and e-waste recycling sectors in India are becoming increasingly competitive as companies strive to meet rising demand, formalize operations, and align with regulatory and environmental goals. As digital inclusion accelerates and sustainability becomes a key market driver, industry players are adopting differentiated strategies to build consumer trust, streamline operations, and expand market reach. These strategies are helping refurbishers and recyclers position themselves as reliable, cost-effective, and eco-conscious solutions for individuals, institutions, and government agencies:

- **Brand Differentiation**
  Leading refurbishers are enhancing their brand positioning by offering certified quality assurance, transparent return policies, and partnerships with OEMs. For instance, NewJaisa Technologies Ltd. markets itself as India's first publicly listed refurbishment brand with institutional credibility and a warranty-backed product portfolio. Similarly, Electronics Bazaar and Budli.in differentiate through extended warranties, customer service, and premium refurbishment standards, appealing to both individual and institutional buyers.

- **Technology Integration**
  Companies are increasingly leveraging **Artificial Intelligence (AI)** and **automation** to improve diagnostics, grading, and device testing. AI tools are used to assess laptop condition, detect hardware issues, and categorize devices into refurbishment grades (A/B/C). Meanwhile, digital integration with platforms like the **CPCB EPR portal** enables seamless compliance tracking and waste flow reporting. Some firms are also piloting **blockchain-based traceability** for lifecycle management of electronics from first sale to recycling.

- **Pricing & Promotions**
  Given the price-sensitive nature of the Indian market, refurbished brands are using **dynamic pricing**, EMI options, and seasonal promotions to attract buyers. Platforms like Amazon Renewed and Electronics Bazaar offer flash deals on laptops during Back-to-School and festive seasons. NewJaisa has introduced bulk discounting and GST-compliant billing for institutions and corporates, further lowering acquisition costs.

- **Localization**
  To expand in Tier II/III markets, refurbishers are customizing their customer engagement through regional language support, vernacular marketing, and hyperlocal sales campaigns. Companies like RenewIT and Yantra promote refurbished

laptops through rural e-learning initiatives and CSR programs, increasing trust and adoption in underserved communities. Localized content, call-centre support, and delivery logistics have become key to tapping non-metro demand.

- **Vertical Integration**
  Refurbishers and recyclers are evolving into **end-to-end solution providers**, offering services like **device trade-in**, **EPR certificate fulfilment**, **bulk asset recovery**, and **post-warranty support**. Companies like **Reboot Systems** offer "Refurbishment as a Service (RaaS)" for corporates and NGOs, handling everything from collection, refurbishment, and redistribution. Meanwhile, formal recyclers provide downstream dismantling and raw material recovery, completing the circular loop.

8.3 Barriers to Entry

The refurbishment and e-waste recycling industry in India presents promising growth opportunities driven by increasing environmental awareness, regulatory support, and rising consumer demand for sustainable solutions. However, the sector is also characterized by significant entry barriers that can hinder new players. Prospective entrants face structural, technological, regulatory, and market challenges, often reinforcing the position of established firms with strong supply chains and compliance frameworks. Key barriers to entry include:

- **High Initial Capital Investment** – Setting up refurbishment or e-waste recycling operations requires considerable upfront investment in multiple critical areas:
    - Processing Infrastructure: Establishing facilities equipped with advanced dismantling, sorting, and material recovery technologies demands substantial capital expenditure.
    - Technology and R&D: Incorporating sophisticated diagnostic tools and refurbishment technologies, including software for device testing and repair, involves ongoing investment.
    - Logistics and Collection Networks: Building an efficient reverse supply chain for sourcing used electronics and e-waste from diverse urban and rural sources requires significant financial resources.
      These investments are capital-intensive and involve high operational risks, especially due to fluctuating scrap prices and the need for scale to achieve cost efficiencies.
- **Regulatory Approvals and Compliance** – The refurbishment and e-waste recycling sector in India operates under stringent and evolving regulatory frameworks:
    - Environmental Clearances: Obtaining permits for recycling operations requires compliance with environmental protection standards and hazardous waste management regulations.
    - Extended Producer Responsibility (EPR) Norms: Adherence to government-mandated EPR guidelines for e-waste management adds complexity for recyclers and refurbishers.
    - Certification and Quality Standards: Certification from agencies such as the Bureau of Indian Standards (BIS) or e-waste recyclers' accreditation is often mandatory for market credibility.
      Navigating these regulatory requirements is especially challenging for new

entrants lacking dedicated legal and compliance teams, raising operational costs and timelines.

- **Competitive Pricing Pressure** – The refurbishment market is price-sensitive with competition from both formal and informal players:
    - Price Undercutting by Informal Sector: Informal refurbishers and scrap dealers often operate at lower costs by bypassing regulations, posing pricing challenges to formal businesses.
    - Consumer Price Expectations: End-users expect refurbished products at significantly discounted rates compared to new devices, limiting margin flexibility.
    - Cost of Compliance: The added expenses associated with certified recycling and refurbishment reduce price competitiveness for new entrants. This pricing environment creates significant pressure on profitability, making it difficult for new players to scale without strategic cost management.
- **Network Effects Favoring Established Players** – Market incumbents benefit from entrenched supply and distribution networks:
    - Supplier and Collection Partnerships: Established players have long-standing relationships with e-waste generators, manufacturers, and collection agencies ensuring steady input supply.
    - Brand Trust and Certification: Recognized recyclers and refurbishers with certification enjoy greater consumer and business trust, critical for market acceptance.
    - Access to Technology and Skilled Workforce: Experienced players have better access to advanced technology and trained manpower, providing operational efficiency and higher recovery rates. These factors create substantial entry barriers for newcomers, who struggle to build comparable networks and market credibility quick

8.4 Company Positioning – EPW India Limited

EPW India Limited is strategically positioned as a sustainability-driven, tech-enabled in India's rapidly growing refurbished IT electronics sector, with a strong presence in both B2B and B2C markets. Headquartered in Hyderabad, the company specializes in high-quality, affordable refurbished laptops, desktops, Chromebooks, and IT peripherals. With its proprietary reverse supply chain model and centralized operations, EPW addresses the increasing demand for cost-effective computing solutions among educational institutions, small and medium enterprises, non-profits, and digitally underserved populations across Tier-I, II, and III cities.

EPW differentiates itself through its end-to-end refurbishment ecosystem, which includes a proprietary 11-step quality assurance process, over 70 quality checks, and a customized ERP system that ensures operational efficiency and seamless customer experience. The company's vertical integration strategy is reinforced by the 100% acquisition of Renavart Recyclers India Pvt. Ltd. in 2024, gaining an 87,120 sq. ft. government-licensed e-waste recycling facility. This acquisition not only strengthens EPW's sourcing and sustainability capabilities but also enables it to operate with full compliance under India's E-Waste (Management) Rules.

Founded as Exclusive PC World in 2008 and rebranded as EPW India Private Limited in 2021, the company has transitioned into a debt-free, fast-scaling private entity. Under the founder Mr. Yousuf Uddin and co-founders Mr. Zaki Uddin and Mr. Fasi Uddin, EPW has grown from a regional refurbishment player to a nationally recognized brand serving a client base of over 100 institutional customers. Its revenue has surged from ₹2.7 crore in FY22 to a projected ₹360 crore by FY28, driven by strategic investments in infrastructure, technology, and market expansion.

In addition to product sales, EPW is building a B2B service layer through bulk provisioning, customized institutional orders, and white-label partnerships. The company is also developing exclusive e-commerce capabilities on platforms like Amazon and its in-house portal, supported by multilingual customer care centres and regional logistics networks. These omnichannel capabilities enable EPW to meet the rising demand from remote learners, gig workers, and rural consumers seeking affordable computing.

EPW's brand positioning—"Refurbished Right, Powered for Progress"—emphasizes its commitment to the circular economy and digital inclusion. Its active participation in public-sector campaigns like Digital India, make in India, and the ERSO Hub initiative further amplifies its credibility as a future-ready green tech player. With a growing market share, scalable infrastructure, and an IPO planned for FY26 to raise ₹35 crore, EPW is well on track to establish itself as the dominant force in India's refurbished electronics and e-waste recycling industry.

8.5 Outlook on Competitive Dynamics

The competitive landscape of the refurbished electronics and e-waste management industry in India is evolving rapidly, shaped by rising environmental awareness, government regulation, digital inclusion efforts, and increased affordability expectations. The following trends highlight how competition is intensifying and diversifying in this sector:

- **Formalization of the Refurbishment Sector through Regulation**

Government mandates under the E-Waste (Management) Rules (2022) and Extended Producer Responsibility (EPR) have begun to formalize a sector previously dominated by informal players. This transition is favouring structured companies like EPW India, which operate with licensed facilities and compliance infrastructure. Market players unable to adapt to compliance-heavy environments are gradually being phased out, consolidating market share among compliant, tech-enabled companies.

- **Rise of Circular Economy Startups and Green-Tech Models**

The growth of sustainability-focused startups is fueling competition in the refurbished IT and electronics segment. These new entrants often position themselves around niche sustainability value propositions (e.g., carbon credits, green computing certifications), leveraging growing investor interest in ESG-focused ventures. Companies like Newjaisa Technologies and other platform-based refurbishers are emerging competitors to watch.

- **Expansion into Tier-II and Tier-III Markets with Localized Offerings**

Affordability, digital literacy, and education-focused demand in smaller towns are driving major players to develop vernacular content, regional distribution partnerships, and customized packages for schools and SMEs. EPW India's expansion in Telangana, Andhra Pradesh, and Karnataka reflects this trend, and its scalable logistics model provides a competitive advantage in last-mile delivery.

- **E-Commerce and Marketplace Integration Intensifying Online Competition**

The growing prominence of platforms like Amazon Renewed, Flipkart, and independent refurbishers' websites has created a highly price-competitive digital marketplace. To remain competitive, companies must focus on differentiated warranties, customer service, and transparency. ERP-driven quality control, and direct-to-consumer channel help it maintain position in terms of reliability and after-sales support.

- **Technology-Enabled Quality Assurance as a Differentiator**

As consumer trust remains a key challenge in the refurbished market, players are leveraging technology to establish reliability. Use of AI-powered diagnostics, data wiping protocols, and real-time tracking are becoming standard. EPW India's in-house ERP system and 70+ point

refurbishment checklists serve as strong differentiators that promote quality consistency and customer retention.

- **Vertical Integration and In-House Recycling for Margin Protection**

With rising competition in sourcing quality used devices, vertical integration has become a crucial advantage. EPW India's acquisition of Renavart Recyclers gives it upstream control over e-waste collection and recycling, reducing dependency on third-party suppliers and enabling better cost control, compliance, and environmental accountability.

- **Institutional Demand and B2B Procurement Ecosystems**

The demand for bulk refurbished devices from schools, government schemes, NGOs, and startups is creating opportunities for companies with strong B2B capabilities. EPW India is well-positioned with customized order options, wholesale pricing, and dedicated account management to serve these high-volume segments.

These dynamics suggest a maturing but opportunity-rich market where regulatory alignment, sustainability positioning, localized presence, and operational efficiency will be the key levers of long-term competitive advantage. EPW India, with its fully integrated model and strategic IPO planning, is primed to capitalize on these trends in India's circular electronics economy.

9. Future Outlook

India's refurbished laptops and desktops, along with e-waste recycling and management, are poised for significant growth, driven by increasing e-waste generation, regulatory advancements, and rising demand for affordable and sustainable computing solutions. As digital infrastructure expands and sustainability becomes a national priority, this sector is expected to play a pivotal role in resource conservation, job creation, and environmental protection. The following key trends and projections underscore the sector's long-term potential:

- E-Waste Generation Trends- According to the Central Pollution Control Board (CPCB), India generated approximately 1.6 million tonnes of e-waste in the financial year 2021–22. This figure represents a significant increase from previous years, highlighting the growing challenge of e-waste management. The CPCB estimates that the e-waste generation will continue to rise, necessitating enhanced recycling and refurbishment efforts.
- Regulatory Developments-The E-Waste (Management) Rules, 2022, which came into effect on April 1, 2023, introduced an improved Extended Producer Responsibility (EPR) regime. These rules mandate that manufacturers, producers, refurbishers, and recyclers register on the portal developed by the CPCB, ensuring environmentally sound management of e-waste. The revised rules aim to formalize the sector and promote sustainable practices.
- Infrastructure and Investment The government's initiatives, such as the Production-Linked Incentive (PLI) scheme for large-scale electronics manufacturing, have attracted significant investments and are expected to bolster the growth of the electronics sector. While these initiatives primarily focus on manufacturing, they indirectly support the refurbishment and recycling sectors by increasing the availability of electronic products and components.
- Circular Economy Integration -The promotion of a circular economy through the EPR regime encourages the refurbishment and recycling of electronic products, reducing the demand for new resources and minimizing environmental impact. This approach aligns with global sustainability goals and positions India is responsible electronics management.

In conclusion, the refurbishment of laptops and desktops and e-waste recycling and management in India are set to experience significant growth, driven by increasing e-waste generation, supportive regulatory frameworks, and a shift towards a circular economy. These developments present opportunities for businesses and stakeholders to engage in sustainable practices that contribute to environmental conservation and economic development.

10. Recent Developments

By Government

- **Electronics Component Manufacturing Scheme (ECMS) -** In April 2025, the Union Cabinet approved the Electronics Component Manufacturing Scheme (ECMS), aiming to attract significant investments in the electronics component manufacturing ecosystem. The scheme focuses on increasing domestic value addition and integrating Indian companies with global value chains, thereby strengthening the overall electronics manufacturing sector.

- **Guidelines for Used/Refurbished Equipment in SPECS Scheme -** The Scheme for Promotion of Manufacturing of Electronic Components and Semiconductors (SPECS) outlines that used or refurbished plant, machinery, and equipment must have a minimum residual life of five years to be eligible. These assets should be procured or leased through legally valid documents after payment of applicable taxes and duties. The value of such equipment is determined based on the lower of the depreciated value or the value assessed by a Chartered Engineer.

- **Import Restrictions on Refurbished Electronics-** The Directorate General of Foreign Trade (DGFT) has reinforced restrictions on importing refurbished and second-hand electronic goods. As per the Electronics and Information Technology Goods (Requirement of Compulsory Registration) Order, 2021, such imports are prohibited unless registered with the Bureau of Indian Standards (BIS) and compliant with labeling requirements. This move aims to ensure product safety, standardization, and data security.

By Private Players -

- **Attero's Launch of 'Selsmart' Platform -** In July 2024, Attero, an e-waste recycler, launched its integrated e-waste Consumer Take-Back platform, Selsmart, marking its entry into the D2C sector. This move aims to transform the e-waste recycling landscape and tackle India's growing e-waste challenge, projected to reach 14 million tonnes by 2030. Selsmart simplifies the recycling process, providing scheduled doorstep pickups for old electronics.

- **Quick Heal and NewJaisa Technologies Partnership** - Quick Heal and NewJaisa Technologies have partnered to pre-install Total Security on refurbished devices in

New Delhi. This collaboration aims to enhance digital security in refurbished electronics, catering to the growing market demand for affordable yet secure devices.

- **Emergence of 'Frankenstein' Laptops -** A growing trend sees technicians revitalizing discarded electronics to create affordable “Frankenstein” laptops. These hybrid machines, built from salvaged parts of old or discarded systems, serve budget-conscious students, freelancers, and small business owners unable to buy new laptops. This movement reflects India’s ingrained repair culture, promoting sustainability, reducing e-waste, and extending product lifespans amid growing digital demands.

11. Abbreviation Table

Abbreviation	Full Form	Abbreviation	Full Form
GDP	Gross Domestic Product	**GVA**	Gross Value Added
CPI	Consumer Price Index	**PFCE**	Private Final Consumption Expenditure
IIP	Index of Industrial Production	**IMF**	International Monetary Fund
RBI	Reserve Bank of India	**NSO**	National Statistical Office
GOI	Government of India	**FY**	Financial Year
CY	Calendar Year	**USD**	United States Dollar
CAGR	Compound Annual Growth Rate	**MSMEs**	Micro, Small and Medium Enterprises
PHDCCI	PHD Chamber of Commerce and Industry	**S&P**	Standard & Poor's
ADB	Asian Development Bank	**PPP**	Purchasing Power Parity
FE	First Estimates	**FRE**	First Revised Estimates
PE	Provisional Estimate	**SAE**	Second Advance Estimate
ITAD	IT Asset Disposition	**OEM**	Original Equipment Manufacturer
B2C	Business to Consumer	**B2B**	Business to Business
B2G	Business to Government	**MeitY**	Ministry of Electronics and Information Technology
STPI	Software Technology Parks of India	**SDG**	Sustainable Development Goal

UN	United Nations	**ITU**	International Telecommunication Union
AI	Artificial Intelligence	**PMI**	Purchasing Managers' Index
GST	Goods and Services Tax	**GeM**	Government e-Marketplace
EU	European Union	**F**	Forecast
E	Estimate	**MENA**	Middle east and North africa
CPI	Consumer Price Index	**LFPR**	Labour force Participation rate
PLFS	Periodic Labour force Survey	**GNDI**	Gross National Disposable Income
NGO	Non-governmental Organisation	**NPO**	Non-profit Organisation
PSU	Public sector undertaking	**CPCB**	Central Pollution control Board
SPCB	State Pollution control Board	**D2C**	Direct to Consumer
G7	Group of seven (*the United States, Japan, Germany, France, Italy, the United Kingdom, and Canada)*		

Your faithfully

Uday TG

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