ENTER

# Economy Watch

## Monitoring India's macro-fiscal performance

**October 2022**

Building a better working world

# Contents




**Prepared by Macro-fiscal Unit, Tax and Economic Policy Group, EY India**

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# Highlights

1. In September 2022, PMI indicated a slower expansion in both manufacturing and services, with their respective levels at 55.1 and 54.3.

2. IIP contracted for the first time since February 2021 by (-)0.8% in August 2022.

3. CPI inflation rose to a five-month high of 7.4% in September 2022 due to higher food inflation.

4. WPI inflation moderated to an 18-month low of 10.7% in September 2022 from 12.4% in August 2022, led by lower inflation in fuel, selected food and non-food items, and manufactured basic metals.

5. GoI's gross tax revenues (GTR) grew by 18.7% during April-August FY23 with growth in direct taxes at 28.8% and that in indirect taxes at 11.2%.

6. During April-August FY23, GoI's total expenditure grew by 8.9% with growth in revenue expenditure at 3% and that in capital expenditure at 46.8%.

7. During April-August FY23, GoI's fiscal and revenue deficits relative to BE stood at 32.6% and 32.4% respectively, only slightly higher than the corresponding ratios in FY22.

8. The RBI increased the repo rate by 50 basis points to 5.9% in its monetary policy review held on 30 September 2022.

9. Merchandise exports growth remained subdued at 4.9% in September 2022 whereas merchandise imports growth decelerated to a 19-month low of 8.7%.

10. Current account deficit widened to an eight-quarter high level of (-)2.8% of GDP in 1QFY23 as compared to (-)1.5% of GDP in 4QFY22.

11. Net FPI inflows surged to a 20-month high of US$7.4 billion in August 2022 while net FDI inflows fell to a 26-month low of US$0.3 billion.

12. Average global crude price at US$88.2/bbl. in September 2022 eased to its lowest level since January 2022.

13. The IMF, in its October 2022 release of the World Economic Outlook, has projected India's growth at 6.8% in FY23 and 6.1% in FY24, the highest among major economies of the world.

# Foreword

## Recessionary clouds on the global horizon: India remains a bright spot

Several multilateral institutions such as the IMF, World Bank, UNCTAD and WTO have recently released their assessment of global growth, inflation, and trade outlook. The IMF, in its October 2022 release of the World Economic Outlook, has forecasted global growth to ease from 6% in 2021 to 3.2% in 2022 and 2.7% in 2023. This is the weakest growth profile since 2001, except for the 2008 global financial crisis and the acute phase of the COVID-19 pandemic. Three major economies of the world namely, China, Euro area and the US, are expected to slow sharply in 2022 and 2023. Growth in the US is projected to decline from 5.7% in 2021 to 1.6% in 2022 and just 1% in 2023. In the Euro area, growth is projected at 3.1% in 2022, falling to 0.5% in 2023. China's growth estimated at 3.2% in 2022 would be its lowest in more than four decades, excluding the initial COVID-19 crisis in 2020. India's growth is forecasted at 6.8% in FY23 and 6.1% in FY24, the highest among major economies of the world. India is projected to retain this position during the forecast period from 2022 to 2027 (FY23 to FY28 for India). The World Bank, in its South Asia Economic Focus released on 6 October 2022, has estimated India's FY23 growth at 6.5%, slightly lower than its earlier forecast due to deteriorating external environment. However, growth is projected to recover to 7% in FY24.

The UNCTAD, in its Trade and Development Report released on 3 October 2022, projected global growth at 2.5% in 2022, falling to 2.2% in 2023 on account of rapid interest rate increases and fiscal tightening in advanced economies. Alongside, it projected[1] global trade to grow in the range of 2 to 4% in 2022, a sharp deceleration from 7 to 10% in 2021 (measured in constant prices). The WTO has also projected growth in world merchandise trade volume to fall from 3.5% in 2022 to just 1% in 2023[2].

In regard to inflation, the IMF has projected global inflation to rise from 4.7% in 2021 to 8.8% in 2022, with CPI inflation in advanced economies reaching unprecedented high levels. Inflation in the UK, the Euro area and the US in 2022 is projected at 9.1%, 8.3% and 8.1% respectively. India's inflation is projected at 6.9% in FY23, easing to 5.1% in FY24. The World Bank's estimates of India's CPI inflation in FY23 and FY24 are slightly higher at 7.1% and 5.2% respectively.

In this challenging global economic scenario, policy makers in India have remained focused on containing inflation while continuing to support economic recovery. India's CPI inflation was at a five-month high of 7.4% in September 2022, led by higher inflation in consumer food items. Consumer food inflation increased to a 22-month high of 8.6% in September 2022 from 7.6% in August 2022 driven by higher inflation in vegetables which increased to a four-month high of 18.1% in September 2022 due to the adverse impact of erratic rains. Inflation in cereals and products and spices was at 105-month high levels of 11.5% and 16.9% respectively in September 2022. CPI inflation was at 7% in 2QFY23.

High frequency indicators continue to signal the ongoing economic recovery in the Indian economy although the growth momentum eased due to inflationary pressures. Headline manufacturing PMI at 55.1 in September 2022 expanded for the fifteenth successive month although falling from 56.2 in August 2022. On a quarterly basis, PMI manufacturing was at 55.9 in 2QFY23, rising from 54.4 in 1QFY23. PMI services also increased for the fourteenth successive month in September 2022 although its level fell to 54.3 from 57.2 in August 2022. As per the data released by Federation of Automobile Dealers Associations (FADA), all-India retail sales of vehicles showed a y-o-y growth of 10.9% in September 2022 as compared to 8.3% in August 2022. This momentum in overall sales was led by two wheelers and passenger vehicle segments which showed growth rates of 9.0% and 9.7% respectively in September 2022. Outstanding bank credit by SCBs grew by 16.4% in the week ended 23 September 2022. Gross GST collections at INR1.48 lakh crore in September 2022 remained above INR1.4lakh crore for the seventh successive month in 2022. However, given sluggish export growth, the current account deficit as a proportion of GDP surged to a 15-quarter high of (-)2.8% in 1QFY23. IIP also showed a contraction of (-)0.8% in August 2022.

Given the inflationary pressures, the RBI, in its September 2022 monetary policy review, raised the repo rate again by 50 basis points, taking it to 5.9%. Thus, since April 2022, the repo rate has been increased by a cumulated 190

[1] https://unctad.org/webflyer/trade-and-development-report-2022
[2] https://www.wto.org/english/news_e/pres22_e/pr909_e.htm

basis points. These increases were also meant to address the continuing depreciation of the Indian Rupee after the US Fed had raised the federal funds rate by 75 basis points. The Indian Rupee had fallen from INR79.9/US$ on 21 September 2022 to INR83.2/US$ by 20 October 2022. While the Indian economy has remained resilient to the global headwinds, the RBI has revised down its FY23 GDP growth expectation marginally to 7.0% from 7.2% projected earlier in August 2022. However, the inflation projection has been retained at 6.7% for the current year. The quarterly decomposition of CPI inflation indicates that it is only in 4Q of FY23 that inflation may fall below RBI's 6% upper tolerance limit to 5.8%. With CPI inflation remaining above 6% for three consecutive quarters, the RBI is expected to submit a report to parliament explaining the sources for the elevated inflation levels, along with proposed remedial actions.

WPI inflation has continued to remain above the CPI inflation, averaging 14.2% during April to September 2022. This implies that the implicit price deflator (IPD) based inflation would be relatively high in the current year. Our assessment is that this may be slightly above 9% in FY23. Accordingly, nominal GDP growth may be close to 17% against the GoI's FY23 budget expectation of 11.1%. With a higher nominal GDP growth, even if the budgeted buoyancies for direct and indirect taxes are retained respectively at 1.2 and 0.5, GoI's GTR may exceed the budgeted magnitude by a margin of about INR3.6 lakh crore. Assuming that the central government retains the fiscal deficit at the budgeted level of 6.4% of GDP for FY23, it is also implied that in terms of magnitude, the nominal fiscal deficit would be INR1.1 lakh crore higher than the budgeted magnitude of INR16.6 lakh crore. Together, this would mean additional room of nearly INR4.7 lakh crore for fiscal stimulus. While the RBI may remain focused on controlling CPI inflation and minimizing the impact of global interest rate hikes on the exchange rate by gradual withdrawal of liquidity and one or more rounds of repo rate hikes, the central government can focus on sustaining and promoting growth. For this purpose, a continued emphasis on expanding government capital expenditure after providing for inflation related increases in food and fertilizer subsidies. Government expenditure focused on infrastructure would support the ongoing recovery. This is expected to further improve domestic capacity utilization, which had touched 75.3% in 4Q of FY22.

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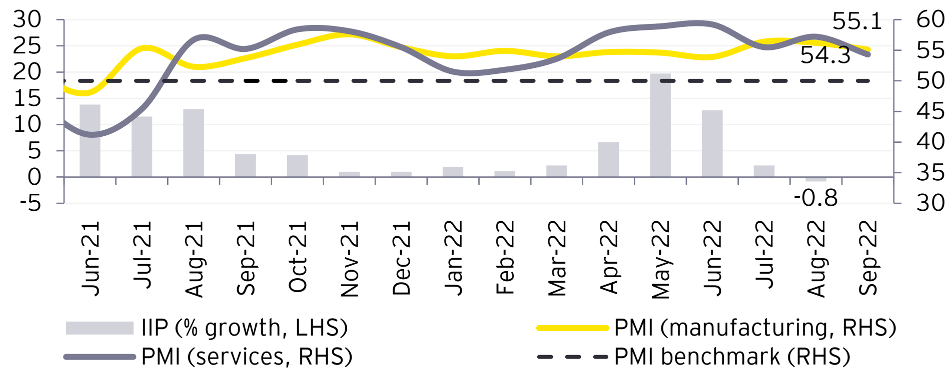
# 1. Growth: PMI signaled slower expansion in private sector output in September 2022

## A. PMI: signaled slower expansion in both manufacturing and services in September 2022

- Headline manufacturing PMI (seasonally adjusted (sa)) at 55.1 in September 2022 expanded for the fifteenth successive month although falling from 56.2 in August 2022 **(Chart 1)**. On a quarterly basis, PMI manufacturing was at 55.9 in 2QFY23, rising from 54.4 in 1QFY23.
- PMI services also showed growth for the fourteenth successive month but its level at 54.3 in September 2022 indicated the weakest rate of expansion since March 2022. This was attributed to price pressures, which dampened consumer spending. On a quarterly basis, PMI services was at 55.7 in 2QFY23, down from 58.7 in 1QFY23.
- Indicating a loss in growth momentum of the private sector output, the composite PMI Output Index (sa) fell to 55.1 in September 2022 from 58.2 in August 2022. Nonetheless, the September 2022 level remained above the long-term average. On a quarterly basis, composite PMI Output Index was at 56.6 in 2QFY23, down from 58 in 1QFY23.

**Chart 1: PMI and IIP growth**




**In September 2022, PMI indicated a slower expansion in both manufacturing and services with their respective levels at 55.1 and 54.3.**

Source: MoSPI and S&P Global.

## B. IIP: contracted by (-)0.8% in August 2022

- As per the quick estimates of IIP released by the MoSPI on 12 October 2022, IIP contracted for the first time since February 2021 by (-)0.8% in August 2022 **(Chart 1)**. In July 2022, IIP showed a low growth of 2.2% (revised).
- Among the sub industries, mining output contracted for the second successive month by (-)3.9% in August 2022 as compared to (-)3.3% in July 2022. Manufacturing output, with a share of 77.6% in the overall IIP, also contracted by (-)0.7% in August 2022 as compared to a growth of 3.0% in July 2022. Although, the output of electricity grew by 1.4% in August 2022, it was lower than that in July 2022 at 2.3%.

**IIP contracted for the first time since February 2021 by (-)0.8% in August 2022.**

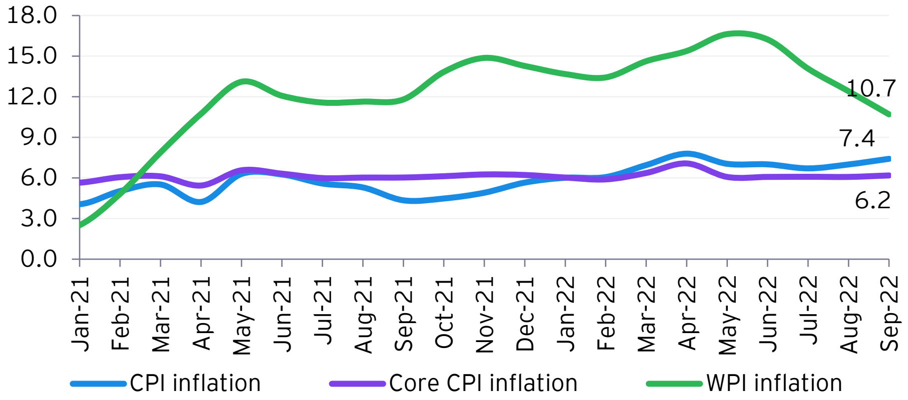
- As per the use-based classification of industries, output of both consumer durables and non-durables, together accounting for 28.2% of overall IIP, contracted by (-)2.5% and (-)9.9% respectively in August 2022. In July 2022, the output of consumer durables had grown by 2.3% and that of consumer non-durables had contracted by (-)2.8%.
- Output of capital goods grew by 5.0% in August 2022, moderating from 5.7% in July 2022. Similarly, growth in the output of infrastructure/construction goods also fell to 1.7% in August 2022 from 3.8% in July 2022.
- According to provisional estimates, growth in the output of eight core infrastructure industries (core IIP) moderated further to 3.3% in August 2022 from 4.5% in July 2022. This was due to a fall in the y-o-y growth of steel (2.2%), electricity (0.9%) and coal (7.6%) output relative to their growth rates in July 2022. Additionally, output of crude oil ((-)3.3%) and natural gas ((-)0.9%) continued to contract in August 2022. On the contrary, the output growth of fertilizers (11.9%) and petroleum refineries (7.0%) showed an improvement in August 2022.

# 2. Inflation: CPI inflation increased to a five-month high of 7.4% in September 2022

**CPI inflation rose to 7.4% in September 2022 from 7.0% in August 2022 due to higher food inflation (Chart 2). In 2QFY23, CPI inflation averaged 7.0% as compared to 7.3% in 1QFY23.**

- Consumer food inflation increased to a 22-month high of 8.6% in September 2022 from 7.6% in August 2022 led by higher inflation in vegetables which increased to a four-month high of 18.1% in September 2022 due to the adverse impact of erratic rains. Inflation in cereals and products, and spices was at 105-month high levels of 11.5% and 16.9% respectively in September 2022.
- Inflation in transportation and communication services remained relatively low at 5.4% in September 2022 as compared to 5.2% in August 2022 as inflation in petrol and diesel used for conveyance was negative for the second successive month at (-)0.1% and (-)1.9% mainly due to favorable base effects.
- Fuel and light-based inflation remained elevated at 10.4% in September 2022 as compared to 10.8% in August 2022, owing to significantly higher inflation in kerosene and LPG.
- Inflation in clothing and footwear surged to a 112-month high of 10.2% in September 2022.
- Core CPI inflation[3] increased marginally to 6.2% in September 2022 relative to 6.1% in August 2022.

**Chart 2: Inflation (y-o-y, in %)**




Source: MoSPI, Office of the Economic Adviser, Government of India (GoI)

CPI inflation increased to a five-month high of 7.4% in September 2022 led by an uneven monsoon that adversely impacted food inflation.

**WPI inflation moderated to an 18-month low of 10.7% in September 2022 from 12.4% in August 2022, led by lower inflation in fuel, selected food and non-food items, and manufactured basic metals.**

- Inflation in fuel and power was at a six-month low of 32.6% in September 2022, reflecting the lower inflation in minerals and crude.
- Inflation in minerals eased to 1.4% in September 2022, its lowest level since October 2020. Inflation in crude petroleum and natural gas was at a 13-month low of 44.7% in September 2022, reflecting the recent moderation in global crude prices.
- WPI food index-based inflation eased to a 10-month low of 8.1% in September 2022 as inflation in fruits fell to a 13-month low of 4.5% and that in non-food articles (including fibres and oilseeds) to a 19-month low of 4.7%. Inflation in vegetables, however, increased to a three-month high of 39.7% in September 2022.
- Inflation in manufactured products eased to a 19-month low of 6.3% in September 2022, mainly reflecting moderation in inflation in manufactured metals and food products which fell to 23-month and 37-month low levels of 6.5% and 3.0% respectively. This was partly aided by a favorable base effect.
- Core WPI inflation eased to a 19-month low of 7.0% in September 2022, mainly due to lower inflation in manufactured basic metals.

[3] Core CPI inflation is measured in different ways by different organizations/agencies. Here, it has been calculated by excluding food, and fuel and light from the overall index.

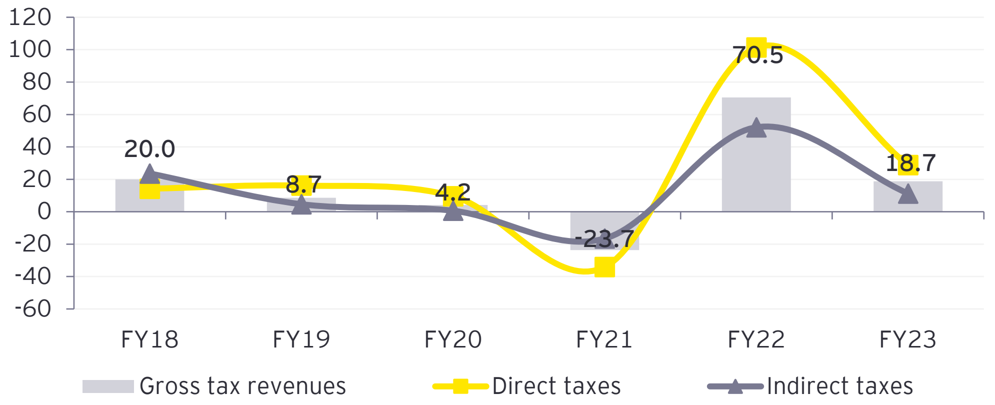
# 3. Fiscal: Union government's gross tax revenues grew by 18.7% during April-August FY23



## A. Tax and non-tax revenues

- As per the CGA, the central government's GTR[b] grew by 18.7% during April-August FY23. GTR had shown a high growth of 70.5% during the corresponding period of FY22, reflecting a favorable base effect **(Chart 3).**
- GoI's GTR during April-August FY23 stood at 37% of the annual budget estimate (BE), close to the corresponding ratio at 38.8% in FY22. During FY01 to FY21, this ratio had averaged relatively lower at 26.5%.
- During April-August FY23, direct taxes[a] showed a growth of 28.8% while indirect taxes[a] grew by 11.2%. Owing to considerable base effects, growth in direct and indirect taxes during the corresponding period of FY22 was high at 101.4% and 52.1% respectively.
- Both corporate income tax (CIT) and personal income tax (PIT) revenues showed strong growth rates of 23.6% and 33.2% respectively during April-August FY23. In comparison, these taxes showed a growth of 159.7% and 69.3% during the corresponding period of FY22.
- Among indirect taxes, central government's GST revenues[c] showed a growth of 33% during April-August FY23 as compared to 46.3% during the corresponding period of FY22.
- Union excise duties (UED) showed a contraction of (-)17% during April-August FY23 as compared to a growth of 36.7% during the corresponding period of the previous year.
- Customs duties also contracted by (-)14.3% during April-August FY23 as compared to a growth of 136% during April-August FY22 that reflected strong base effects.
- Assignment to states witnessed a growth of 49.5% during April-August FY23 as compared to a contraction of (-)2.5% during the corresponding period of FY22. As a proportion of the annual BE, assignment to states during the first five months of FY23 stood at 38.9%, its highest level considering the corresponding ratios for the period FY01 to FY22.
- Due to a higher outgo to states, growth in GoI's net tax revenues during April-August FY23 was at 8.6% as compared to 126.7% during the corresponding period of FY22.

**Chart 3: Growth in central gross tax revenues during April-August (%, y-o-y)**




**Central government's GTR grew by 18.7% during April-August FY23, with growth in direct taxes at 28.8% and that in indirect taxes at 11.2%.**

Source: Monthly Accounts, CGA, Government of India
Notes: (a) Direct taxes include personal income tax and corporation tax, and indirect taxes include union excise duties, arrears of service tax, customs duty, and GST (comprising CGST, UTGST, IGST and GST compensation cess) (b) Other taxes (securities transaction tax, wealth tax, fringe benefit tax, banking cash transaction tax, etc.) are included in the GoI's GTR along with direct and indirect taxes, (c) IGST revenues are subject to final settlement.

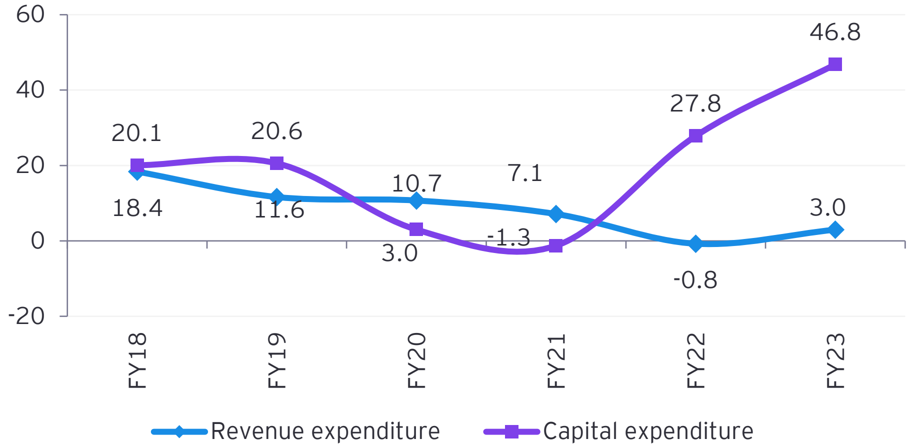
- GoI's non-tax revenues showed a contraction of (-)21.4% during April-August FY23. Non-tax revenues during the first five months of FY23 stood at 43.3% of the annual BE as compared to the corresponding ratio at 61.2% during April-August FY22.
- Non-debt capital receipts of the GoI during April-August FY23 stood at 39.8% of the annual BE as compared to the corresponding ratio of 8.1% during FY22.
- As per DIPAM[4], disinvestment receipts up to 20 October 2022 stood at INR24,543.7 crore, that is 37.7% of the FY23 BE at INR65,000 crore.

[4] https://dipam.gov.in/

## B. Expenditures: revenue and capital

- GoI's total expenditure grew by 8.9% during April-August FY23 as compared to 2.3% during the corresponding period of FY22.
- Revenue expenditure grew by 3% during April-August FY23 as compared to a contraction of (-)0.8% during April-August FY22.
- Capital expenditures showed a strong growth of 46.8% during April-August FY23, significantly higher than the corresponding growth rates in recent years **(Chart 4)**.

**Chart 4: Growth in central expenditures during April-August (%, y-o-y)**



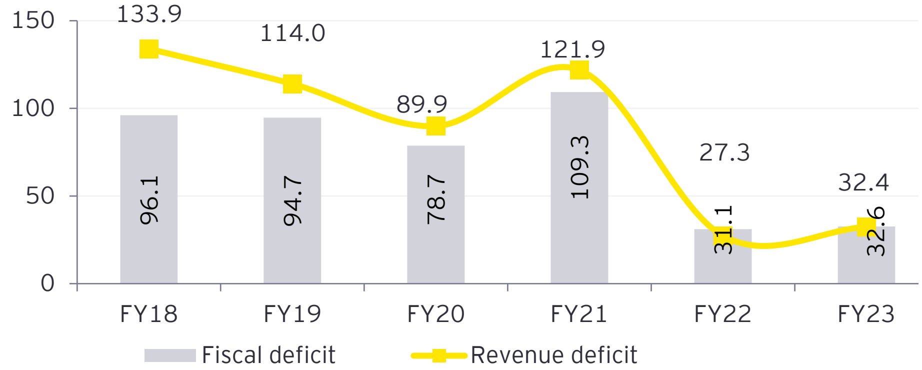

During April-August FY23, GoI's total expenditure grew by 8.9% with growth in revenue expenditure at 3% and that in capital expenditure at 46.8%.

Source (basic data): Monthly Accounts, CGA, Government of India

## C. Fiscal imbalance

- GoI's fiscal deficit during April-August FY23 stood at 32.6% of the annual BE, slightly higher than the corresponding ratio at 31.1% in FY22. However, this remains much lower than the corresponding ratios in recent years. Strong revenue performance of the GoI largely enabled a low level of fiscal deficit relative to BE during this period (**Chart 5**).
- GoI's revenue deficit during April-August FY23 was at 32.4% of the annual BE as compared to 27.3% during the corresponding period of FY22. Revenue deficit during the first five months as a proportion of BE in FY23 was the lowest, considering the period FY02 to FY21.

**Chart 5: Fiscal and revenue deficit during April-August as percentage of BE**




During April-August FY23, GoI's fiscal and revenue deficits relative to BE stood at 32.6% and 32.4% respectively, only slightly higher than the corresponding ratios in FY22.

Source: Monthly Accounts, CGA, Government of India and MoSPI.

# 4. Comparative trends: India's growth to be the highest among major countries during 2022 to 2027

## Real GDP growth

- As per the IMF (World Economic Outlook, October 2022) forecasts, global growth would slow from 6% in 2021 to 3.2% in 2022 and 2.7% in 2023. This is the weakest growth profile since 2001, except for the 2008 global financial crisis and the acute phase of the COVID-19 pandemic **(Table 1).**
- Although global growth is expected to recover beginning 2024, average growth during 2024 to 2027 is expected to remain subdued at 3.3%.
- The three largest economies of the world namely, China, the Euro area and the US, are expected to sharply slow in 2022 and 2023.
- In the US, growth is projected to decline from 5.7% in 2021 to 1.6% in 2022 and just 1% in 2023. In the medium term, declining real disposable income is expected to adversely impact consumer demand and higher interest rates may take a toll on spending, especially on residential investment.

**Table 1: Real GDP growth (%, annual)**

| Country | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|
| **World** | **3.2** | **2.7** | **3.2** | **3.4** | **3.3** | **3.2** |
| **AEs** | **2.4** | **1.1** | **1.6** | **1.9** | **1.9** | **1.7** |
| US | 1.6 | 1.0 | 1.2 | 1.8 | 2.1 | 1.9 |
| UK | 3.6 | 0.3 | 0.6 | 2.3 | 2.2 | 1.5 |
| Euro area | 3.1 | 0.5 | 1.8 | 1.9 | 1.7 | 1.5 |
| Japan | 1.7 | 1.6 | 1.3 | 0.9 | 0.5 | 0.4 |
| **EMDEs** | **3.7** | **3.7** | **4.3** | **4.3** | **4.3** | **4.3** |
| Brazil | 2.8 | 1.0 | 1.9 | 2.0 | 2.0 | 2.0 |
| Russia | -3.4 | -2.3 | 1.5 | 1.0 | 0.8 | 0.7 |
| India* | 6.8 | 6.1 | 6.8 | 6.8 | 6.5 | 6.2 |
| China | 3.2 | 4.4 | 4.5 | 4.6 | 4.6 | 4.6 |
| South Africa | 2.1 | 1.1 | 1.3 | 1.4 | 1.4 | 1.4 |

Source: IMF World Economic Outlook, October 2022
*data pertains to fiscal year

- In the Euro area, growth slowdown is expected to be less pronounced than the US in 2022 but is expected to deepen in 2023. Growth in the region is expected to remain below 2% during 2024 to 2027.
- Among EMDEs, China's growth estimated at 3.2% in 2022 would be the lowest in more than four decades, excluding the initial COVID-19 crisis in 2020.
- India's projected growth at 6.8% in FY23 (2022) is expected to be the highest among major economies of the world. It is notable that India is projected to retain this position during the entire forecast period up to 2027.

## CPI inflation

- Global inflation is forecasted to rise from 4.7% in 2021 to 8.8% in 2022. Inflation is projected to ease to 6.5% in 2023 and 4.1% by 2024 with a faster disinflation in AEs than in EMDEs. However, shocks to energy and food prices due to the global geopolitical conflict is a major risk factor that could delay the moderation of inflation rates.
- Upside inflation revisions have been most widespread among AEs, with greater variability in EMDEs **(Table 2).** For AEs as a group, CPI inflation is projected to increase from 3.1% in 2021 to 7.2% in 2022. For EMDEs, inflation is forecasted to increase to 9.9% in 2022 from 5.9% in 2021.
- Among AEs, the UK, the US, and the Euro area are expected to witness unprecedented levels of CPI inflation in 2022. A moderation in inflation levels is forecasted 2024 onwards, reflecting confidence that inflation may decline as central banks tighten policies and energy prices decline.

**Table 2: CPI inflation (%, annual)**

| Country | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 |
|---|---|---|---|---|---|---|
| **World** | **8.8** | **6.5** | **4.1** | **3.6** | **3.4** | **3.3** |
| **AEs** | **7.2** | **4.4** | **2.4** | **2.0** | **1.9** | **1.9** |
| US | 8.1 | 3.5 | 2.2 | 2.0 | 2.0 | 2.0 |
| UK | 9.1 | 9.0 | 3.7 | 1.8 | 2.0 | 2.0 |
| Euro area | 8.3 | 5.7 | 2.7 | 2.2 | 1.9 | 1.9 |
| Japan | 2.0 | 1.4 | 1.0 | 1.0 | 1.0 | 1.0 |
| **EMDEs** | **9.9** | **8.1** | **5.3** | **4.6** | **4.4** | **4.3** |
| Brazil | 9.4 | 4.7 | 3.9 | 3.0 | 3.0 | 3.0 |
| Russia | 13.8 | 5.0 | 4.0 | 4.0 | 4.0 | 4.0 |
| India* | 6.9 | 5.1 | 4.4 | 4.1 | 4.0 | 4.0 |
| China | 2.2 | 2.2 | 1.9 | 2.0 | 2.0 | 2.0 |
| South Africa | 6.7 | 5.1 | 4.7 | 4.5 | 4.5 | 4.5 |

Source: IMF World Economic Outlook, October 2022
*data pertains to fiscal year

- Among EMDEs, CPI inflation in Russia is projected to be the highest at 13.8% in 2022, followed by Brazil at 9.4% and India at 6.9%. In India, CPI inflation is projected to ease to 5.1% in FY24 and further to 4.4% in FY25. By FY27, inflation is projected to reach the average target of the RBI at 4%.

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# 5. In focus: Economic cycles, shocks and crises — strengthening India's economic resilience

India is aspiring to become a global economic power in terms of the size of its economy relative to the world economy. For achieving this, it is critical not only to uplift India's economic growth but also ensure its stability. India has historically remained vulnerable to various shocks with global and domestic roots. These include, in recent times, crude oil price shocks, COVID-19 and global economic and financial crises/recessions[5]. The importance of tackling economic and financial instability has also been recognized in the fact that the 2022 economics Nobel has been awarded to Bernanke, Diamond and Dybvig for their work relating to aspects of financial instability and economic crises. Domestically, in India, excessive floods and droughts have been a regular occurrence apart from periodic instances of earthquakes and tsunamis. India has evolved institutional innovations and mechanisms over time to minimize the economic impact of such shocks. These mechanisms need to be strengthened to protect the stability of growth in the medium to long term.

## A. Sources of economic instability and shocks

### A1. Episodes of global economic recessions/slowdowns

The world economy has experienced four global recessions during 1950 to 2019 namely, 1975, 1982, 1991, and 2009. During each of these episodes, annual real per capita global GDP contracted, and this contraction was accompanied by weakening of key indicators of economic activity, including global trade. These global recessions were highly synchronized across countries/country groups. As shown in **Table 3**, in the first three instances, growth in overall output slowed down but remained positive while in 2009, it contracted. Average world growth in these four slowdown episodes was only 0.3% while average growth in non-recession years was 3.9%, indicating an average difference of 3.6% points.

**Table 3: Output growth during recession (%)**

| | Global recession years | | | | Avg. | Non-recessions | Global downturns | All years | Non-recession minus avg. (% pts.) |
|---|---|---|---|---|---|---|---|---|---|
| | 1975 | 1982 | 1991 | 2009 | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 (7-6) |
| World economy | 1.1 | 0.4 | 1.3 | -1.8 | 0.3 | 3.9 | 2.3 | 3.7 | 3.6 |
| Advanced economies | 0.2 | 0.3 | 1.3 | -3.4 | -0.4 | 3.5 | 1.8 | 3.3 | 3.9 |
| EMDEs | 4.2 | 0.9 | 1.5 | 1.8 | 2.1 | 4.9 | 4 | 4.7 | 2.8 |
| LICs | 0.1 | 1.0 | -0.5 | 5.9 | 1.6 | 3.9 | 3.6 | 3.8 | 2.3 |

Source (basic data): Kose, M. A., Sugawara, N., & Terrones, M. E. (2020), Global Recessions, World Bank Policy Research Working Paper No. 9172, World bank.

### A2. Crude oil shocks

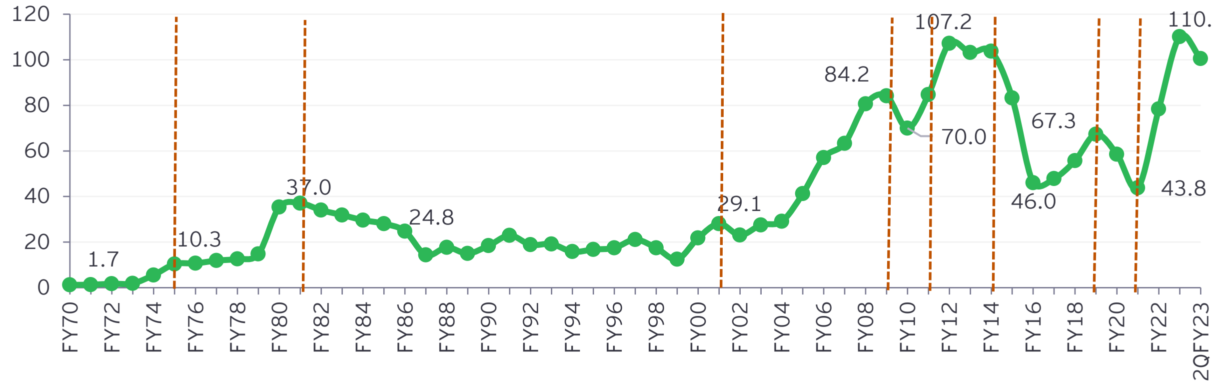
In major economic slowdowns, often a common factor has been shocks emanating from global crude price upsurges. Being a large importer of crude oil, India has remained, over a long period, vulnerable to global crude price shocks. **Chart 6** gives a history of global crude oil price upsurges from time to time. Over the period from FY1970 up to FY2022, crude oil prices that were close to less than US$2/bbl. prior to FY1972 kept moving upwards with an asymmetric cyclicality in terms of amplitude and duration of the upward and downward phases. Notable years of major price episodes may be identified as below.

1. **FY1974:** Crude prices shot up from US$1.7/bbl. in FY72 to US$10/bbl. in FY75.
2. **FY79 to FY81:** Following the Iranian revolution in 1979, the price of crude oil more than doubled to US$37/bbl. by FY81. Oil prices did not subside to pre-crisis levels until the mid-1980s.
3. **FY2001 to FY2009:** The world oil prices showed an accelerated increase during this period, rising from US$29.1/bbl. in FY01 to US$84.2/bbl. in FY09.
4. **FY10:** The FY09 global economic and financial crisis involved a fall in global crude prices to US$69.9/bbl. in FY10 from its elevated level in FY09.
5. **FY11 to FY14:** From FY11 onwards, crude prices increased to levels above US$100/bbl., reaching a peak of US$107.2/bbl. in FY12. Prices remained in excess of US$100/bbl. up to FY14.

[5] Diamond, D. W., & Rajan, R. G. (2005). Liquidity shortages and banking crises. The Journal of finance, 60(2), 615-647; Diamond, D. W., & Rajan, R. G. (2012). Illiquid banks, financial stability, and interest rate policy. Journal of Political Economy, 120(3), 552-591

6. **FY20 and FY21:** After briefly recovering in FY19 to reach a level of US$67.3/bbl., the subsequent sharp fall can be blamed on the adverse impact of COVID-19.
7. **FY22 onwards:** After a brief period of recovery, the onset of the geopolitical conflict (Ukraine-Russia conflict) led to major surge in global crude and energy prices toward the end of FY22, reaching a peak of US$110.1/bbl. in 1QFY23.

**Chart 6: Average global crude prices (US$/barrel): FY70 to FY22**




Source (Basic data): World Bank

### A3. Pandemics and epidemics

Health related global crises in terms of pandemics and epidemics lead to large-scale human suffering and loss of lives besides having a significant disruptive economic impact. **Table 4** summarizes global episodes of major epidemics and pandemics where at least 1 million deaths had occurred. Some instances of major economic losses have been quantified in a number of studies. For example, in a briefing submitted to the European Parliament in 2020[6], it was stated that the total value of losses incurred by a severe global influenza pandemic, such as the 1918 pandemic, could reach about US$500 billion per year, that is, about 0.6% of global income. Further, the briefing also quoted a 2019 joint report from the World Health Organization (WHO) and the World Bank which estimated the impact of such a pandemic upward, bringing the total cost to 2.2% to 4.8% of global GDP (US$3 trillion). With respect to India, the RBI[7] recently estimated the output loss due to COVID-19 over the three years namely FY21, FY22 and FY23 at INR52.6 lakh crore, that is, 7.4% of corresponding estimated nominal GDP.

**Table 4: Epidemics and pandemics with at least 1 million deaths**

| # | Epidemics/pandemics | Disease | Death toll | Years | Location |
|---|---|---|---|---|---|
| 1 | Spanish flu | Influenza A/H1N1 | 17-100 million | 1918-1920 | Worldwide |
| 2 | Plague of Justinian | Bubonic plague | 15-100 million | 541-549 | North Africa, Europe and West Asia |
| 3 | HIV/AIDS global pandemic | HIV/AIDS | 40.1 million (as of 2021) | 1981-present | Worldwide |
| 4 | COVID-19 pandemic | COVID-19 | 7-25 million (as of Aug. 2022) | 2019 to present | Worldwide |
| 5 | Third plague pandemic | Bubonic plague | 12-15 million | 1855-1960 | Worldwide |
| 6 | 1918-1922 Russia typhus epidemic | Typhus | 2-3 million | 1918-1922 | Russia |
| 7 | 1957-1958 influenza pandemic | Influenza A/H2N2 | 1-4 million | 1957-1958 | Worldwide |
| 8 | Hong Kong flu | Influenza A/H3N2 | 1-4 million | 1968-1969 | Worldwide |

Source: https://en.wikipedia.org/wiki/List_of_epidemics

### A4. Climate change and natural disasters

Natural disasters occur with considerable frequency from time to time covering individual countries or groups of countries. Many of these disasters have recently been the outcome of the ongoing climate change. A 2018 UN Report[8] covering six major disasters namely, earthquake, earthquake and tsunami, storm, extreme temperature, flood and drought provides an estimate of economic losses during the period 1998 to 2017. As per the study, direct

[6] https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/646195/EPRS_BRI(2020)646195_EN.pdf
[7] RBI - Report on Currency and Finance 2021-22
[8] Economic Losses, Poverty and Disasters - 1998-2017 (2018), GoI for Research on the Epidemiology of Disasters, United Nations Office for Disaster Risk Reduction (https://www.undrr.org/publication/economic-losses-poverty-disasters-1998-2017)

economic losses amounted to US$2,908 billion, of which climate-related disasters costed US$2,245 billion or 77% of the total economic losses. India's estimated loss at US$79.5 billion was the fourth largest. The World Bank has also calculated the average per annum cost of natural disasters at nearly US$520 billion, with disasters pushing 26 million people into poverty every year.

***Natural disasters in India: selected episodes***

The Indian economy has remained vulnerable to frequently occurring natural disasters including floods and droughts although some of these may have links to global climate change. The economic cost of these disasters often tends to be quite substantial. Major natural disaster episodes in recent history include floods in Kerala in 2018, and in Uttarakhand and Kashmir in 2013, a tsunami in 2004, an earthquake in Gujarat in 2001, and a super cyclone in Odisha in 1999. In India's longer-term history, calamities linked with the Bengal Famine of 1943 and way back in 1770 linger on in the country's long-term memory. **Table 5** gives a list of instances of major droughts and floods in India during 1987 to 2019. Recommendations of the Finance Commissions (FCs), starting with FC 11, have resulted in the setting up of a number of institutions and mechanisms in India to cope with the damages caused by such natural disasters.

**Table 5: List of recent major droughts and floods in India**

| Droughts | | Floods | |
|---|---|---|---|
| Year | Region affected | Year | Region affected |
| 1987 | Central and North India | 2005 | Mumbai (July) |
| 2000 | North-west and Central India | 2007 and 2008 | Bihar (August of both years) |
| 2002 | North-west parts of India | 2012 | Brahmaputra floods (June) |
| 2008 | Central India | 2013 | North India floods - Uttarakhand (June), Brahmaputra floods (July) |
| 2009 | Most of the country except north and south interior Karnataka | 2014 | Assam (June and August), Gujarat (July), Kashmir (September) |
| | | 2015 | Chennai (November) |
| 2015 | Indo-Gangetic plains and western peninsular India | 2016 | Assam (July) |
| | | 2017 | North-east India floods (June and July), Bihar, West Bengal and Gujarat (July), Mumbai (August) |
| 2016-18 | The southern Indian states of Andhra Pradesh, Karnataka and Tamil Nadu continuously declared drought from 2016 to 2018 linked to low northeast monsoonal rainfall. | 2018 | Kerala (August) |
| | | 2019 | Widespread over Indian regions (July, August and September) |

Source: Krishnan, R., Sanjay, J., Gnanaseelan, C., Mujumdar, M., Kulkarni, A., & Chakraborty, S. (2020). *Assessment of climate change over the Indian region: a report of the ministry of earth sciences (MOES), government of India* (p. 226). Springer Nature and Mishra, V., Thirumalai, K., Jain, S., & Aadhar, S. (2021). Unprecedented drought in South India and recent water scarcity. Environmental Research Letters, 16(5), 054007.

## A5. Country-differentiated aging of populations

Differentiated aging profiles of countries during the 21st century have significant economic implications. The growth prospects of countries would be adversely affected as their populations age. During this century, large countries such as India are witnessing a surge in their working age population to total population ratio. They are characterized by a high growth potential with low dependency ratios and high savings rates.

**Table 6: Median age of major economies at decadal intervals (in years)**

| Country | 2000 | 2020 | 2030 | 2040 | 2050 | 2100 | Country | 2000 | 2020 | 2030 | 2040 | 2050 | 2100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Countries with median age of less than 35 years in 2020 | | | | | | | Countries with median age above 35 years in 2020 | | | | | | |
| South Africa | 20.9 | 26.9 | 29 | 30.7 | 33.1 | 40.8 | Australia | 34.4 | 36.7 | 39.5 | 42.1 | 43.6 | 47.9 |
| India | 21.6 | 27.3 | 30.9 | 34.6 | 38.1 | 47.5 | China | 28.9 | 37.4 | 42.7 | 48 | 50.7 | 56.8 |
| Mexico | 21.8 | 28.7 | 32.8 | 36.8 | 40.7 | 52.1 | US | 34.2 | 37.5 | 39.7 | 41.5 | 43.1 | 47.3 |
| Saudi Arabia | 21.2 | 29.2 | 33.4 | 36.2 | 38.8 | 47.6 | Russia | 35.6 | 38.6 | 42.1 | 44.9 | 43.6 | 46.2 |
| Indonesia | 23.7 | 29.3 | 31.7 | 34 | 36.5 | 44.5 | UK | 36.6 | 39.5 | 41.6 | 43.8 | 44.9 | 49.2 |
| World | 25.3 | 29.7 | 32.1 | 34 | 35.9 | 42.3 | Canada | 35.8 | 39.9 | 42 | 43.9 | 45.3 | 48.4 |
| Turkey | 23.6 | 30.6 | 34.8 | 38.5 | 41.1 | 50.5 | France | 36.8 | 41.4 | 43.5 | 45.1 | 46.1 | 50.4 |
| Argentina | 26.8 | 31 | 34.1 | 37.1 | 39.9 | 49 | South Korea | 30.7 | 42.8 | 48.4 | 53.2 | 56.7 | 59.3 |
| Brazil | 24.3 | 32.4 | 36.5 | 40.4 | 43.6 | 50.4 | Germany | 39 | 45 | 45.9 | 48.1 | 49.2 | 49.8 |
| Source: UN World Population Prospects, 2022 | | | | | | | Italy | 39.2 | 46.4 | 50.3 | 52.4 | 53.4 | 54.2 |
| | | | | | | | Japan | 40.7 | 48 | 51.5 | 53 | 53.6 | 54.4 |

On the other hand, many countries have already started aging by 2020. **Table 6** provides a listing of two groups of countries amongst the G20 countries according to their respective median ages in 2020, based on the UN World Population Prospects, 2022 data.

Countries where median age is less than 35 years in 2020 include South Africa, India, Mexico, Saudi Arabia, and Indonesia. Countries where the median age has already crossed 35 years in 2020 include China, the US, France, South Korea, Germany, Italy and Japan. Countries where population is aging fast through the rest of the century will face a significant shortage of human resources and *ceteris paribus*, their growth rates are likely to dip unless counterbalanced by accelerated immigration. India's population, although presently young with a median age of 27.3 years (2020), starts to age rapidly and by 2060, its median age would have crossed 40 years *(not shown in Table 6).* Thus, the four decades from 2020 to 2060 should be considered as the golden period for India's growth potential.

### A6. Supply chain disruptions

The global economy is currently undergoing major structural upheavals. Post COVID-19, with the onset of geopolitical conflict, global supply chains have been significantly adversely affected. These changes are likely to have long-lasting effects. Supply chain disruptions consist of five major dimensions:

i. **Sources of raw materials:** Important raw materials, such as crude, primary metals, and urea, have been facing critical shortages affecting industries such as automobiles, aeronautics, electronics, and fertilizers.

ii. **Sources of intermediate products:** There have also been major shortages of intermediate products, particularly energy (crude, coal, and natural gas) and semiconductors. The resulting scarcity and upsurge in energy prices is one of the key factors responsible for the ongoing economic recessions/slowdowns in many economies.

iii. **Sources of final outputs:** Supply disruptions and trade sanctions have also led to historically higher prices for a number of final goods, including wheat, oilseeds, cereals, rice, maize, edible oils, and milk.

iv. **Disruption in trade and transport routes:** Trade channels and transportation routes have been adversely affected. In some parts of the world, maritime companies have closed lanes and suspended shipping services. Further, airspace closures due to the geopolitical conflict have accentuated the supply chain disruptions[9].

v. **Disruption of financial settlement architecture:** There has also been a disruption linked to financial and business-related sanctions, including a bar on the use of the SWIFT platform for selected countries. Selective export bans and delays and difficulties in making international payments have disrupted trade as well.

### A7. Domestic economic cycles: Agricultural and non-agricultural cycles

In this section, we discuss some major economic shocks to the Indian economy in the relatively recent past. India has remained vulnerable both to global disasters as well as India-specific crises. Among these, a frequently occurring crisis relates to agriculture, which is periodically affected by floods and droughts.

**Chart 7: Cyclicality of agricultural GVA**

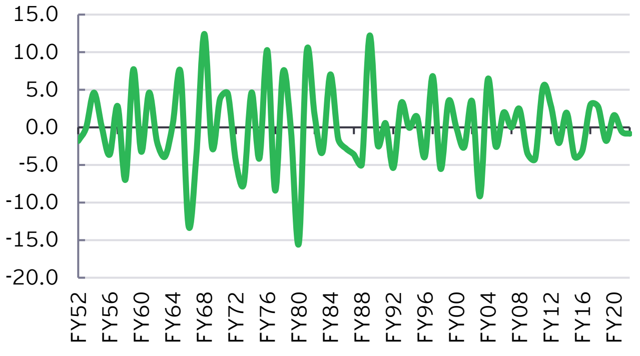
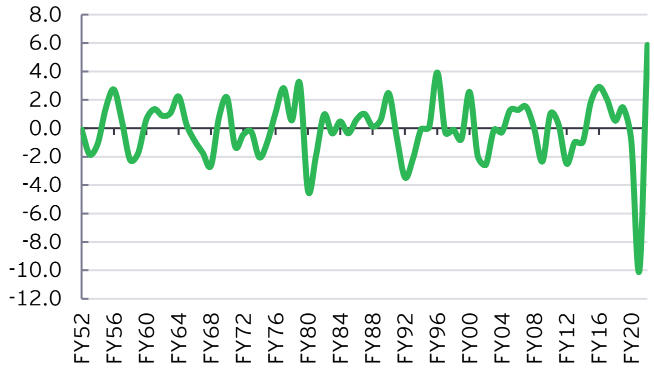



**Chart 8: Cyclicality of non-agricultural GVA**




Source (Basic data): MoSPI

In spite of cumulated investment in irrigation across India, agriculture remains heavily dependent on monsoon and therefore, the cycles that get generated linked to the cyclicality of the rainfall relative to its long period average. This cyclicality is regular in terms of its periodicity, broadly comparable in terms of the related cyclical amplitudes, and its impact on agricultural output and incomes, as well as the overall economy. **Chart 7** indicates that the periodicity of

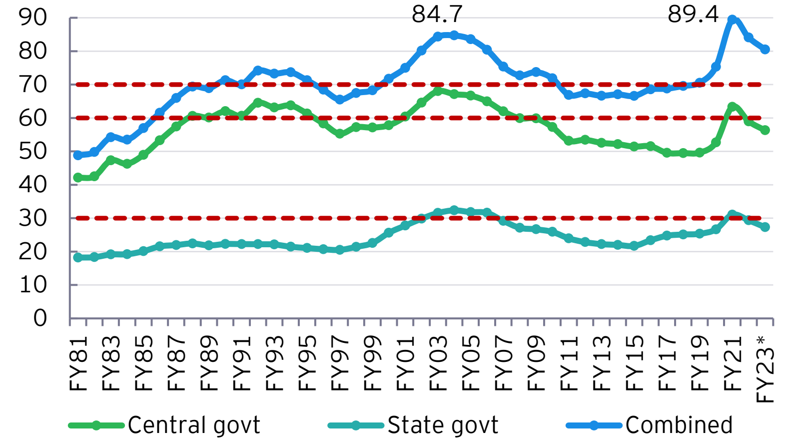
[9] https://economictimes.indiatimes.com/small-biz/trade/exports/insights/airspace-closures-after-ukraine-invasion-stretch-global-supply-chains/articleshow/89938255.cms?from=mdr

real growth in agricultural output (GVA) in India over the last 70 years is close to three years. We also notice that the amplitude of agricultural cycles has come down over time. Since the share of non-agricultural sectors in India's GVA has been increasing over time, cyclicality of non-agricultural output is also a critical determinant of economic performance. Looking at the growth of non-agricultural GVA over the period from FY1952 to FY2022, we observe that the average periodicity of the non-agricultural cycle measured as the difference between trend growth and actual growth is close to six years (**Chart 8**). Its amplitude has been +27.6%/-30.4% (calculated as the average of positive and negative deviations relative to trend growth) over this period. The year FY21 witnessed a much sharper negative deviation due to the impact of COVID-19.

### A8. Fiscal imbalances and sustainability challenges

India's debt-GDP ratio is recognized to have reached levels that are well above sustainability levels. **Chart 9** shows that the combined debt-GDP ratio has increased from a level of close to 50% in the early 1980s to a level close to 90% in the COVID year of FY21. This is after having reached a peak of nearly 85% in FY04. Recognizing the need to bring the debt-GDP level down, the central and state governments during the period from 2003 to 2008 enacted their respective Fiscal Responsibility Legislations (FRLs). These legislations were amended from time to time. As a result, government debt-GDP ratio had fallen and remained close to 70% of GDP during FY11 to FY19. Subsequently, an economic slowdown in FY20 followed by COVID-19 led to a sharp upsurge in the government debt-GDP ratio. The latest amendment to the central government's Fiscal Responsibility and Budget Management Act (FRBMA) in 2018 has specified sustainable levels of combined and central debt-GDP ratios at 60% and 40% respectively and that for states at 20%. At the end of FY23, the combined debt to GDP ratio is estimated to be 80.5%. As per the amended FRBMA, the Union Government has been mandated to prescribe the annual targets for reduction of fiscal deficit for the period beginning from the date of commencement of the act and ending on 31 March 2021. The revenue deficit target provided for in the original FRBMA of 2003 has been given up.

**Chart 9: Debt to GDP ratio: Central and state governments and combined**

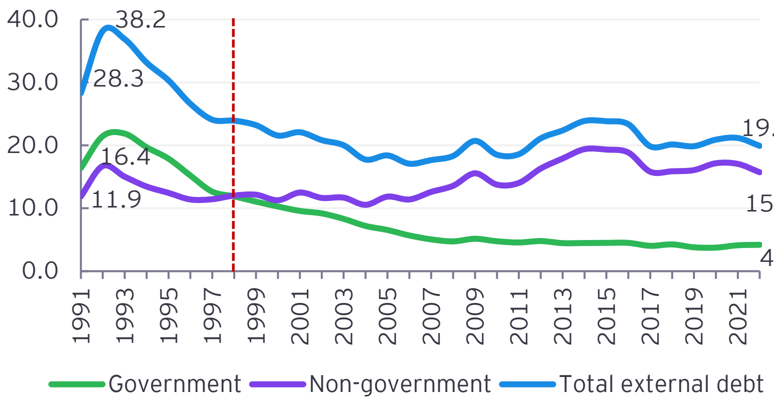



Source (basic data): RBI; *estimated for 2022-23
Notes: (1) In 2022-23, Central government's fiscal deficit is assumed to be at the budgeted level of 6.4% of estimated GDP at INR276.9 lakh crore, (2) Fiscal deficit of states in aggregate is taken to be at 3.5% of GDP[10]

### A9. External sector imbalances and sustainability issues

A similar sustainability issue arises in the context of external debt and current account deficit. **Chart 10** shows external debt as a percentage of GDP and its composition by type of borrowers. During 1991 to 1998, government's share in external debt was higher than that of non-government sector. At present, total external debt relative to GDP is nearly 20% (2022). The volume of external debt poses a different kind of economic problem, particularly if the share of exports is also limited. The entire external sector needs to remain stable to protect the economy against external shocks. India's exposure to global GDP upheavals depends significantly on the share of its exports and imports in GDP.

**Chart 10: Composition of external debt as % of GDP**




Source (basic data): Ministry of Finance, Government of India

[10] https://www.ndtv.com/business/fiscal-deficit-seen-at-6-7-in-2022-23-report-3031889

**Table 7: Share of exports and imports in GDP (%): real and nominals**

| Year | At constant prices | | At current prices | |
|---|---|---|---|---|
| | Exports | Imports | Exports | Imports |
| FY91 | 6.2 | 6.7 | 7.1 | 8.5 |
| FY95 | 7.8 | 10.0 | 9.9 | 10.2 |
| FY00 | 10.2 | 13.1 | 11.5 | 13.4 |
| FY05 | 16.2 | 16.7 | 17.9 | 19.6 |
| FY10 | 20.3 | 25.5 | 20.4 | 25.9 |
| FY15 | 23.9 | 25.3 | 23.0 | 26.0 |
| FY20 | 19.4 | 22.9 | 18.7 | 21.3 |
| FY21 | 18.8 | 21.1 | 18.7 | 19.1 |
| FY22 | 21.5 | 26.3 | 21.4 | 23.9 |

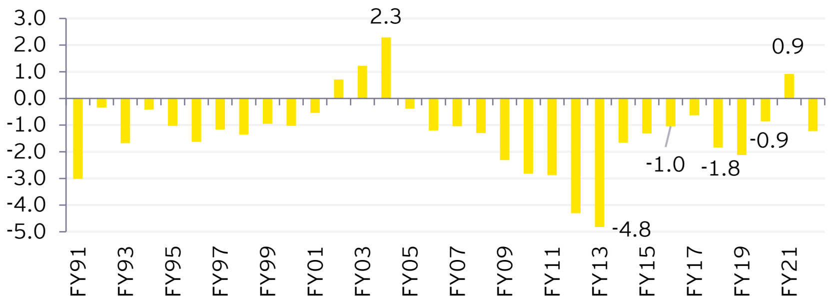
Source (basic data): MoSPI

**Table 8: Contribution of net exports to real GDP growth (% points)**

| Period | Average contribution |
|---|---|
| FY01 to FY05 | -0.1 |
| FY06 to FY10 | -1.1 |
| FY11 to FY15 | 0.5 |
| FY16 to FY20 | -0.6 |
| FY21 | 1.4 |
| FY22 | -2.9 |
| All period (FY01 to FY22) | -0.3 |

India's share of exports in nominal terms has ranged between 20.4% and 25.4% during the period FY07 to FY15, averaging close to 23%. Since then, it has fallen, averaging 19.5% during the FY16 to FY22 (**Table 7**). Thus, in a global slowdown, India's exports fall by a few percentage points and in an expansionary phase, they regain this ground. A similar pattern characterizes the share of imports. India's vulnerability to global headwinds also depends on the contribution of net exports to GDP growth. **Table 8** shows that the five yearly averages over the period from FY01 to FY20 have ranged between (-)0.6% points to 0.5% points. The overall average contribution of net exports to real GDP growth is negative at (-)0.3% points.

**Chart 11: Current account balance as % of nominal GDP: long term perspective**




Source (basic data): RBI
Note: -ve shows a deficit and +ve indicates a surplus

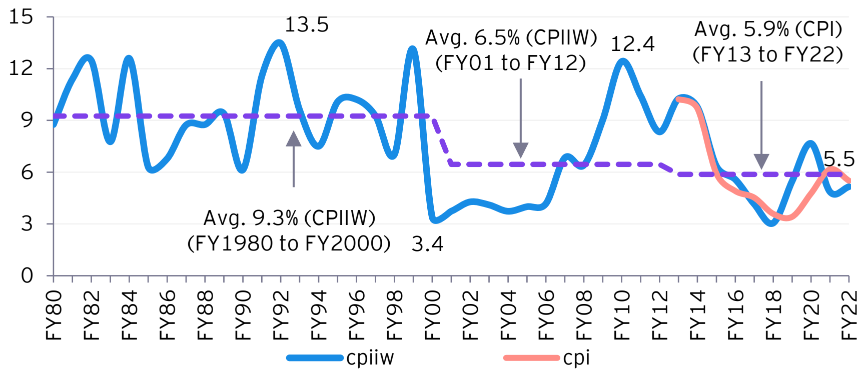
Major upheavals are also occurring in capital flows affecting India's current and capital account balances, which in turn have an impact on domestic inflation and current account sustainability. These trends have been accelerated because of high CPI inflation rates in many of the developed countries, including the US, the UK and many EU countries.

**Chart 11** provides a relatively longer-term perspective in the movement of India's current account balance. Most years show a deficit on the current account while there have been only four years characterized by a surplus. The current account deficit had reached a peak of (-)4.8% of GDP in FY13 after which it had started to fall. The long period average of current account balance as percentage of GDP over the period FY1991 to FY2022 is (-)1.2%. In fact, there is a noticeable correlation between global crude prices and the size of India's current account deficit. With a minimization of exposure to crude price volatility, the volatility of the current account deficit may also be contained.

### A10. Price instability

**Chart 12** shows the annual volatility of CPI inflation around the periodic average level of CPI inflation. During FY1980 to FY2000, CPI inflation as measured by CPI Industrial workers (general index) averaged 9.3%. This average fell to 6.5% during FY01 to FY12. The new CPI inflation series was introduced in 2012. The average CPI inflation during FY13 to FY22 has been 5.9%. High average CPI inflation levels as well as volatility around it are major concerns for not only households but also policymakers. To cope with issues of price instability, important

**Chart 12: Trends in CPI (Industrial workers) index-based inflation**




Source (basic data): RBI

institutional mechanisms were installed in 2015 through a Monetary Policy Framework (MPF) discussed in section B10.

## B. Coping with instability and shocks: existing mechanisms and potential future initiatives

### B1. Dealing with global economic crises

Historically, both fiscal and monetary instruments have been used to address economic crises with global roots. In a recession or economic slowdown, monetary authorities expand liquidity by reducing policy rates and undertaking other related measures. After the establishment of the MPF, the monetary authorities are cognizant of the upper limit of inflation in expanding the money supply. Often their action needs to be supplemented by expansionary policies of the fiscal authorities who have a degree of flexibility regarding government fiscal deficit. Both fiscal and monetary instruments are exercised under certain constraints due to the FRBMA and the MPF. In India, their effective coordination can be improved by setting up a mechanism for coordinated action under the guidance of an overarching supervisory mechanism such as a Fiscal and Monetary Policy Coordination Council so that both the growth and inflation objectives are tackled in a balanced way. In dealing with stabilization issues, the central government has the primary role, which is consistent with the literature on fiscal federalism. In India, however, there may also be a case for the state governments to play a complementary role. This is discussed further in section B7.

Global economic shocks tend to be irregular, having a large economic impact and leaving the domestic economy vulnerable. These can emanate from various causes, economic and non-economic, including geopolitical upheavals and health related unanticipated challenges. Different kinds of shocks require different types of preparations. Some of these are covered in the discussions below.

### B2. Oil price shocks: Oil price stabilization fund

India used to have oil pool accounts until the late 1990s. These were meant to serve as stabilization funds. However, due to non-replenishment of these funds in the expansionary phase of economic cycles, these funds accumulated substantive deficits and eventually had to be abandoned. Stabilization funds can work only if there is appropriate fiscal discipline exercised by governments to replenish funds in expansionary phases of a cycle while withdrawing these in the recessionary or slowdown phases. Given the repetitive nature of global crude or oil price shock, it may be useful to revive the idea of an 'Oil Price Stabilization Fund'[11]. The Stabilization Fund should be used such that the price signals are not necessarily fully blocked but the extent of their volatility is reduced. This would allow economic agents to start adjusting to the price signals while partially mitigating the excessive adverse economic impact of large cyclical movements. In the medium term, the capacity for storage of oil needs to be expanded so that more options are available for absorbing external price shocks. In the long run, there is a need to reduce India's dependence on imported oil by accelerating the pace of the pursuit of non-conventional energy sources along with further exploiting domestic oil and gas reserves, both offshore and on land.

### B3. Dealing with epidemics and pandemics: need for future planning

Recent experience with COVID-19 has left a painful memory of limited preparedness for such health emergencies as evinced in shortages of dedicated beds, facilities, and oxygen supplies, among other things. India's health infrastructure has remained deficient relative to global benchmarks due to under-investment and under-prioritization over a long period. Investing in expanding health infrastructure is justifiable because of its salient inter-linkages with other sectors of the economy. This will prepare India to deal with any future epidemics and pandemics.

One underlying strategy could be to build dual use infrastructure meant to serve both peace time requirements and crisis related emergencies so as to cope with unanticipated exogenous shocks including pandemics, chemical, biological and nuclear emergencies, and global natural disasters such as tsunamis.

### B4. Coping with climate change and natural disasters

The National Policy on Disaster Management (NPDM) 2009 issued under the Disaster Management Act 2005 envisages building a safe and disaster-resilient India by developing a holistic, proactive, multiple disaster-oriented and technology-driven strategy through a culture of prevention, mitigation, preparedness and response. Under the provisions of the Act, the National Disaster Management Authority (NDMA) has been set up and the National Disaster Response Force raised. There are 12 natural disasters notified under the State Disaster Relief Fund (SDRF) for release of assistance and gratuitous relief to the affected families and persons in cases of death and injury of persons, death of animals and damage to property. These are (i) Drought; (ii) Flood; (iii) Earthquake; (iv) Cyclone;

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[11] For more details, refer to September 2022 edition of the EY Economy Watch; https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/tax/economy-watch/2022/09/ey-economy-watch-september-2022.pdf?download

(v) Fire; (vi) Hailstorm; (vii) Landslide; (viii) Tsunami; (ix) Avalanche; (x) Cloud Burst; (xi) Pest Attack (xii) Frost and cold wave.

The primary responsibility for undertaking rescue, relief and rehabilitation measures during a disaster lies with the state governments. The Union government supplements their efforts through logistic, technical and financial support during severe natural disasters. At the same time, the states find that the fiscal burden of financing disaster management, including relief and reconstruction, falls largely on them. As a consequence, the states have been compelled to spend funds in excess of the SDRF from their own resources, particularly on post-disaster restoration and reconstruction, which has adversely affected the fiscal performance of the states.

The Disaster Management Act 2005 envisaged the constitution of two types of funds, one for disaster response and the other for mitigation. These are to be set up at the national, state and district levels. Thus, for disaster response, the Act envisages a National Disaster Response Fund (NDRF), a State Disaster Response Fund (SDRF) and, within the states, a District Disaster Response Fund (DDRF). Similarly, the Act envisages a National Disaster Mitigation Fund (NDMF), State Disaster Mitigation Funds (SDMF) and District Disaster Mitigation Funds (DDMF). The Disaster Response Funds have been set up at the national, state and district levels in most states but the disaster mitigation funds have generally not been set up. It is time to activate these funds and undertake planning and strategies of intervention for disaster mitigation. It may be best to earmark a certain portion of central and state budgets for disaster mitigation funds.

With regard to climate change, India announced a five-point agenda in the COP26 summit in October and November 2021[12] as given below:

1. Increasing India's non-fossil energy capacity to 500 GW by 2030.
2. Meeting 50% of India's energy requirements from renewable energy by 2030.
3. Reducing total projected carbon emissions by one billion tons from now till 2030.
4. Reducing the carbon intensity to less than 45% by 2030.
5. Achieving the target of net zero emissions by 2070.

Pursuing India's endeavor towards green energy initiatives such as captured in the Green Grids Initiative (GGI) and One Sun One World One Grid (OSOWOG) are well conceived.

Further, despite a coal cess being levied for mitigating the adverse environmental impact in the coal producing states, the cess revenue had largely remained unspent. With the inception of GST, the coal cess was merged into the GST compensation fund. With the discontinuation of compensation fund, the coal cess may be resumed according to the original objective so that the environmental impact of coal mining can be mitigated in the coal rich states.

**B5. Budgetary reprioritization favoring education and health**

Governments in India underspend on education and health. A review of government expenditure on education and health in India in a cross-country comparative framework is available in the July 2022 edition of the EY Economy Watch[13]. In this regard, it is best to follow global norms of budgetary allocation for these sectors and set up dynamic targets to reach global norms within a specified period of time.

**B6. Pursuing Aatmanirbhar Bharat**

Sectors which depend more on exports have proved to be relatively vulnerable, providing for a strong argument for the Aatmanirbhar Bharat strategy. This strategy with an increased focus on complex products and strategic sectors should facilitate a stable growth path for India, relatively sheltered from global economic shocks. In the post-COVID-19 geopolitical world economic order, India may be well served by the Aatmanirbhar strategy, which is quite well timed in the current global situation, particularly in the sectors such as defense and space technology. Efforts should be made to attract investment into India so that India can play a major role in the global supply chains. In this context, the government of India's PLI scheme is proving to be quite effective.

It is also worth noting that the structure of global output is likely to become progressively more complex, in which it might be difficult to distinguish outputs that pertain strictly to industry vis-à-vis services. Many manufacturing outputs will have a significant share of services, and many services will utilize manufactured products to a significant degree. In this context, it may be useful for India to prioritize the production of complex products as part of its existing Aatmanirbhar Bharat initiative. Some examples of complex products include robots, drones, self-driven vehicles, satellites and rockets, high-definition cameras, telescopes, microscopes, aircrafts, 3D printing of goods and

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[12] COP26 and energy transition: An outlook on India's stance | Business Standard News (business-standard.com)
[13] https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/tax/economy-watch/2022/07/ey-economy-watch-july-2022.pdf

buildings, financial derivatives, research and designing of semiconductors, artificial intelligence, and Internet of Things.

**B7: Dealing with economic cycles: flexibility in fiscal deficit targets and stabilization funds**

The literature on fiscal federalism has advocated a primary role for the central government in macro stabilization. In India's context, however, states may effectively complement the central government's stabilization effort since many of India's state governments are relatively large and also have the constitutional responsibility of agriculture and therefore agricultural cycles. The share of states in combined primary expenditure in India has increased sharply since FY11 and had reached a peak of 68.1% by FY19. Further, the sum of GSDPs of six states namely, Maharashtra, Tamil Nadu, Gujarat, Uttar Pradesh, Karnataka and West Bengal, considered in real terms (2011-12 series), have accounted for more than 50% of the all states-GSDP in FY19.

The Twelfth Finance Commission (FC12) recommended *(paragraph 15.7 of their Report)* that the overall limit to the annual borrowing of states from all sources should be supervised by an independent body like a Loan Council with representatives from the Ministry of Finance, Planning Commission (erstwhile), RBI, and the state governments.

Existing mechanisms for dealing with economic cyclicality, whether relating to agriculture or non-agriculture, include flexibility in fiscal deficit as embedded in GoI's FRBMA and mechanisms of buffer stocks and price controls with respect to agriculture. There is a need to revise GoI's 2018 FRBMA to provide for higher flexibility in fiscal deficit to GDP ratios, along with more realistic conditions permitting such departures. These mechanisms may be supplemented by setting up central and state stabilization funds. The latter would provide an active role for the state governments also to play a countercyclical role, particularly in respect of agricultural cycles and in selected instances, even in respect of non-agricultural cycles.

**B8. Fiscal responsibility legislations, reforms and periodic institutional reviews**

GoI's FRBM as amended in 2018 should be reviewed with a view to examining the following issues: a) bringing back revenue account balance as a target, b) need for asymmetric targets for debt and fiscal deficits for the GoI and states and c) reconsideration of magnitude of departure of the level of fiscal deficit as percentage of GDP from the sustainability norms and the conditions under which this may be permitted. There is also a need to set up an institutional mechanism, such as a Fiscal Council, to oversee the working of the FRLs at the central and the state levels. The FRBM review committee of 2018 had also recommended setting up of a Fiscal Council.

**B9. External sector: need for defining sustainable CAD limits; mechanism for investing and diversifying FX reserves**

As part of India's medium term growth strategy, it would be useful to acknowledge that for some more years, a current account deficit may be acceptable if it is financed largely by FDI inflows as long as the current account deficit as a percentage of GDP remains sustainable. India continues to carry a significant volume of foreign exchange reserves and it would be useful to ensure that these reserves are managed in a way that would provide a reasonable return on them in terms of foreign exchange earnings. Earlier studies have shown that a current account deficit of about (-)2.3% of GDP annually may be sustainable[14].

**B10. Coping with price instability: MPF**

Monetary policy in India has evolved from a multiple indicator approach and a focus on WPI inflation to a regime of flexible inflation targeting and focus on CPI inflation. In February 2015, MPF was agreed upon between GoI and the RBI. CPI inflation target for 2016-17 and beyond was set at 4% with a tolerance range of +/-2%, implying an overall CPI inflation range of 2% to 6%. This target is to be reviewed once every five years. In order to implement this framework, a Monetary Policy Committee (MPC) was established in September 2016 by amending the RBI Act. The RBI has been mandated to publish a Monetary Policy Report every six months, explaining the sources of inflation and forecasts of inflation for the next 6 to 18 months. According to the MPF, the RBI would fail to meet the target if the rate of inflation is more than 6% or less than 2% for three successive quarters. Further, in case of failure, the RBI is required to submit a report to the GoI detailing a) the reasons for failure, b) remedial actions to be taken and c) estimate of time period within which the target would be achieved. As per the Monetary Policy Statement dated 7 April 2021, the government retained the current targets of the MPF for a period of another five years.

India has followed the example of developed countries to focus on inflation targeting for its MPF. It may be useful for the MPC to coordinate with GoI regarding growth objectives and maintaining sustainable current account deficit along with exchange rate stability.

[14] https://www.epw.in/journal/2013/07/insight/indias-external-sector.html.

## C. Concluding observations

For an economy aspiring to be a leading global economic player, it is important to develop institutions and mechanisms by which the country and its population can be effectively protected against expected and unexpected economic shocks and crises. India has already taken recourse to a number of mechanisms to deal with economic cycles, shocks and crises, including setting up of buffer stocks, enacting FRLs, and setting up of MPF. Some more steps may be undertaken, including the following:

1. Building adequate infrastructure to deal with exogenous multidimensional shocks including chemical, biological, nuclear emergencies, pandemics and tsunamis.
2. Mechanisms for coordination between monetary and fiscal policies.
3. Setting up an 'Oil Price Stabilization Fund' to minimize exposure to excessive global crude price volatility.
4. Activating Disaster Mitigation Funds at the national, state and district levels and earmarking a certain portion of government budgets for disaster preparedness and avoidance.
5. Accelerating green energy initiatives, including Green Grids Initiative (GGI) and One Sun One World One Grid (OSOWOG) and restoring coal cess.
6. Budgetary reprioritization favoring education and health
7. Pursuing Aatmanirbhar Bharat: focus on complex products and strategic sectors
8. Flexibility in fiscal deficit targets and setting up of stabilization funds
9. Amending FRBMA (2018) and setting up of a Fiscal Council
10. Defining current account deficit limits on an annual basis

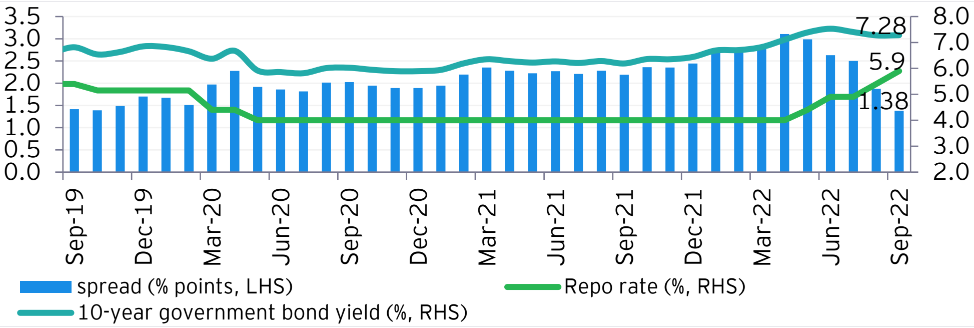
# 6. Money and finance: repo rate increased by 50 bps to 5.9% in September 2022

## A. Monetary sector

### Monetary policy

- The RBI, in its monetary policy review held on 30 September 2022, increased the repo rate by a magnitude of 50 basis points for the third consecutive time thereby, taking the overall rate to 5.9% from 5.4%. **(Chart 13).** Consequently, the standing deposit facility (SDF) and the marginal standing facility (MSF) rates were revised to 5.65% and 6.15% respectively from 5.15% and 5.65% respectively in August 2022.
- In addition, the RBI decided that the monetary policy stance would remain focused on withdrawal of liquidity in order to contain the CPI inflation within the target range going forward.
- The RBI noted that the CPI inflation remained elevated due to (a) adverse global conditions leading to large supply shocks, (b) firming up of domestic demand, and (c) spillovers from uncertain global financial market sentiments leading to a sharp appreciation of the US$.

**Chart 13: Movements in the repo rate and 10-year government bond yield**




**The RBI increased the repo rate by 50 basis points to 5.9% in its monetary policy review held on 30 September 2022.**

Source: Database on Indian Economy, RBI

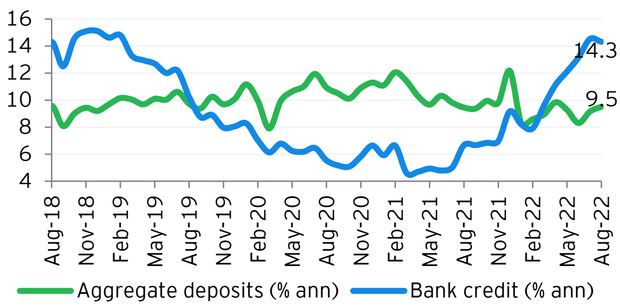
### Money stock

- Growth in broad money stock (M3) eased marginally to 8.6% in September 2022 from 8.9% in August 2022 due to lower growth in narrow money (M1).
- Growth in M1 moderated to 8.5% in September 2022 from 10% in August 2022 due to a fall in the growth of demand deposits to its lowest level since April 2020. Growth in demand deposits fell to 8.3% in September 2022 from 12.4% in August 2022 while currency with the public grew by 8.2% in September 2022, similar to its level in August 2022.
- Time deposits, accounting for slightly over 75% of M3 on average (last three years), grew by 8.7% in September 2022 as compared to 8.6% in August 2022.

### Aggregate credit and deposits

- Gross bank credit by SCBs grew by 14.3%[15] in August 2022, marginally moderating from 14.5% in July 2022 **(Chart 14).**
- In August 2022, non-food credit growth eased to 14.8% as compared to 15.1% in July 2022.
- Sectoral bank credit data indicate that credit to services continued to grow at a robust pace of 17.2% in August 2022, increasing from 16.5% in July 2022. This was followed by agricultural credit, which grew by 13.4% in August 2022 as compared to 13.2% in July 2022.

**Chart 14: Growth in credit and deposits**




Source: Database on Indian Economy, RBI

[15] As per the RBI's press release dated 30 September 2022 (https://bit.ly/3CTThS4), gross bank credit amounted to INR124.58 trillion as on 26 August 2022 as compared to INR108.98 trillion as on 27 August 2021. Similarly, non-food credit amounted to INR124.3 trillion in August 2022 as compared to INR108.3 trillion in August 2021. Using these magnitudes, the calculated y-o-y growth rates of gross bank credit and non-food credit are 14.3% and 14.8% respectively. However, RBI's press release gives these growth rates at 15.5% and 16.0% respectively.

- Growth in outstanding credit to industries increased for the fifth consecutive month to 11.4% in August 2022, its highest level since April 2014. Within the industrial sector, growth in credit to chemicals and chemical products was the highest at 23.5% in August 2022 as compared to 20.2% in July 2022. This was followed by credit to infrastructure, which grew by 11% in August 2022 close to its growth of 11.1% in July 2022.
- Credit to cement and cement products and iron and steel grew by 3.3% and 3.1% respectively in August 2022 as compared to a growth of 1.9% each in July 2022.
- Personal loan growth increased to 19.5% in August 2022, its highest level since April 2020, reflecting a strong growth momentum in the retail loan segment.
- Growth in aggregate deposits of residents increased to 9.5% in August 2022 from 9.2% in July 2022.

## B. Financial sector

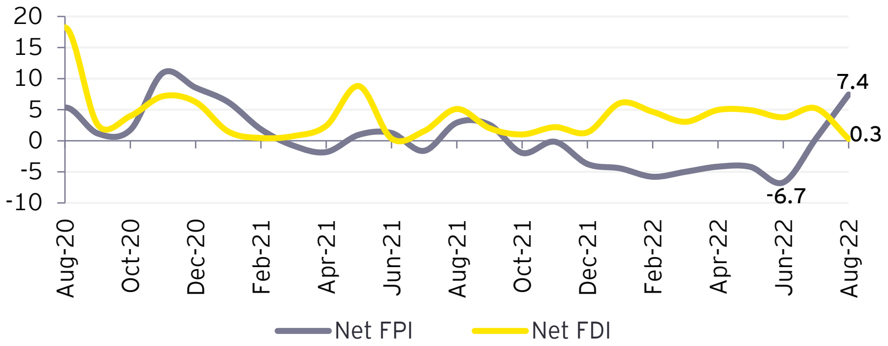
### Interest rates

- As per the data released by the RBI on 7 October 2022, the average interest rate on term deposits with a maturity period of more than one year was increased for the fifth successive month to 5.7% in September 2022 from 5.61% in August 2022, with the actual rate ranging from 5.3% to 6.1%.
- The average MCLR was also increased from 7.23% in August 2022 to 7.3% in September 2022 and the actual MCLR ranged between 6.85% and 7.75% during the month.
- The average yield on 10-year government bonds remained stable at 7.28% in both August and September 2022. **(Chart 13)**. However, within the month, the benchmark bond yield increased by 29 basis points from 7.12% in the week ended 9 September 2022 to 7.41% in the week ended 30 September 2022.
- WALR on fresh rupee loans by SCBs increased by 15 basis points to 8.33% in August 2022, its highest level since July 2020. In July 2022, WALR on fresh rupee loans by SCBs was at 8.18%. During April to August 2022, WALR on fresh rupee loans increased by only 82 basis points on a cumulated basis as compared to the repo rate increase of 140 basis points.

### FDI and FPI

- As per the provisional data released by the RBI on 17 October 2022, overall foreign investments[16] (FIs) surged to its highest level since August 2021 to US$7.8 billion in August 2022 from US$5.7 billion (revised) in July 2022. This was largely on account of higher FPI inflows.

**Chart 15: Net FDI and FPI inflows (US$ billion)**




**Net FPI inflows surged to a 20-month high of US$7.4 billion in August 2022 while net FDI inflows fell to a 26-month low of US$0.3 billion.**

Source: Database on Indian Economy, RBI

- Net FDI inflows fell from US$5.4 billion in July 2022 to US$0.3 billion in August 2022, its lowest level since June 2020 **(Chart 15)**. Gross FDI inflows fell to US$4.6 billion in August 2022 from US$7.0 billion (revised) in July 2022.
- Net FPI inflows increased to US$7.4 billion in August 2022, its highest level since December 2020. In July 2022, net FPI inflows were at only US$0.4 billion.

[16] Foreign Investment (FI) = net FDI plus net FPI

# 7. Trade and CAB: current account deficit surged to an eight-quarter high of (-)2.8% in 1QFY23

## A. CAB: current account deficit widened to (-)2.8% of GDP in 1QFY23

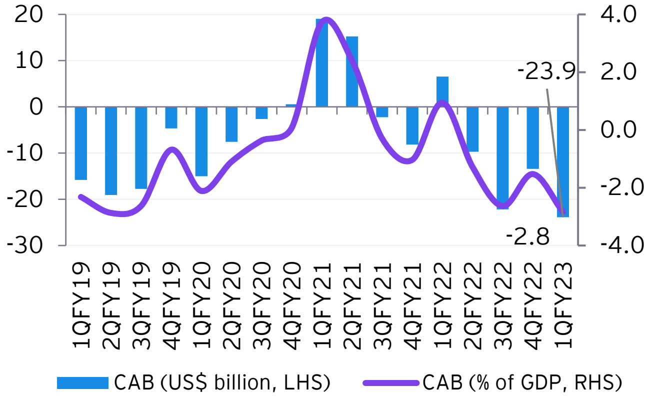
- Current account deficit widened to (-)2.8% of GDP in 1QFY23 from (-)1.5% of GDP in 4QFY22 **(Chart 16, Table 9)** reflecting an expansion in net merchandise trade deficit to a 36-quarter high of (-)8.1% of GDP. This was due to a surge in imports to 22.8% of GDP in 1QFY23 from 19.6% in 4QFY22. In comparison, there was a milder improvement in exports to 14.6% from 13.4% over the same period, largely reflecting rising global crude and commodity prices.
- Net invisibles relative to GDP increased to an eight-quarter high of 5.3% in 1QFY23 as net services exports improved to 3.7% of GDP in 1QFY23 from 3.2% in 4QFY22.

**Table 9: Components of CAB in US$ billion**

| Fiscal year | CAB as % of nominal GDP | CAB | Goods account net | Invisibles* net |
|---|---|---|---|---|
| FY19 | -2.1 | -57.3 | -180.3 | 123.0 |
| FY20 | -0.9 | -24.7 | -157.5 | 132.8 |
| FY21 | 0.9 | 23.9 | -102.2 | 126.1 |
| FY22 | -1.2 | -38.8 | -189.5 | 150.7 |
| 2QFY22 | -1.3 | -9.7 | -44.5 | 34.8 |
| 3QFY22 | -2.6 | -22.2 | -59.7 | 37.6 |
| 4QFY22 | -1.5 | -13.4 | -54.5 | 41.1 |
| 1QFY23 | -2.8 | -23.9 | -68.6 | 44.7 |

Source: Database on Indian Economy, RBI
Note: (-) deficit; (+) surplus; *invisibles include services, current transfers and income components

**Chart 16: CAB**



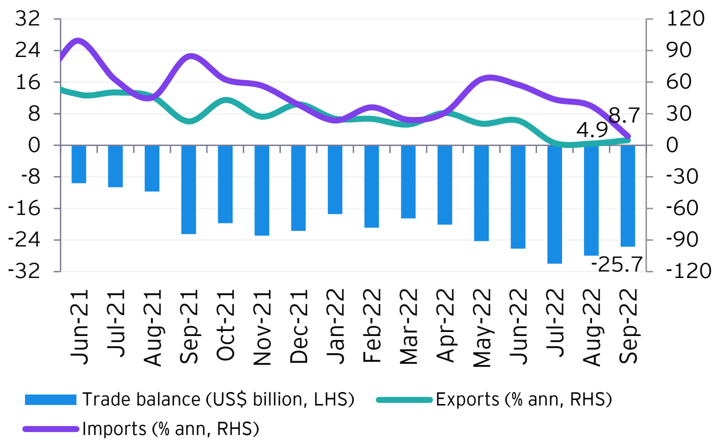

Source: Database on Indian Economy, RBI

## B. Merchandise trade and exchange rate

**Merchandise exports growth remained subdued at 4.9% in September 2022 as compared to 1.6% in August 2022 whereas merchandise imports growth decelerated to a 19-month low of 8.7% in September 2022.**

- The pace of growth in merchandise exports marginally increased in September 2022 mainly led by exports of oil followed by gems and jewelry and electronic goods, which grew by 43.0%, 17.3% and 72% respectively in September 2022 as compared to 22.8%, (-)3.0% and 50.8% in August 2022.
- The deceleration in imports was mainly due to a sharp fall in growth of crude, coal, electronic goods and chemicals to (-)5.4%, 60.8%, 3.8%, and 0.4% respectively in September 2022 as compared to 87.4%, 133.6%, 23.3%, and 43% in August 2022, partly owing to base effect.
- Exports excluding oil, gold and jewelry contracted for the second successive month by (-)4.5% in September 2022, whereas growth in imports of this segment remained high at 21.8% as compared to 43.1% in August 2022. Consequently, the trade deficit of this category reached a historic high of US$(-)14.5 billion in September 2022.
- Merchandise trade deficit eased marginally to US$(-)25.7 billion in September 2022 from US$(-)28.0 billion in August 2022 **(Chart 17).**
- Services trade surplus increased to a five-month high of US$10.3 billion in September 2022.
- In September 2022, the rupee depreciated significantly to a historic low of INR 80.2 per US$ (average) from INR79.6 per US$ led by the Federal Funds rate hike, wide trade deficit and high global crude prices.

**Chart 17: Developments in merchandise trade**




Source: Ministry of Commerce and Industry, GoI

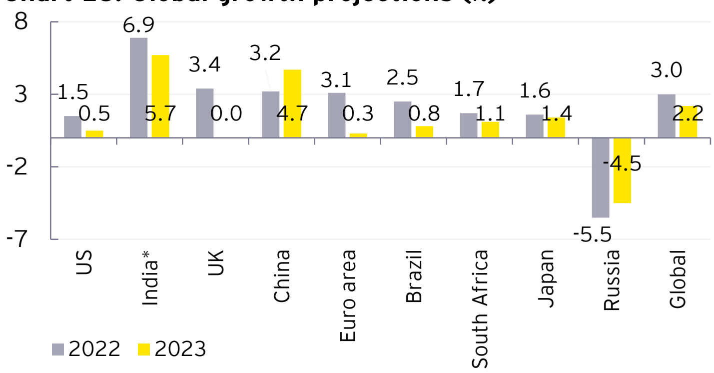
# 8. Global growth: OECD projected global growth at 3% in 2022, easing to 2.2% in 2023

## A. Global growth

The OECD has projected global growth at 3% in 2022, with India's FY23 growth forecasted at 6.9%.

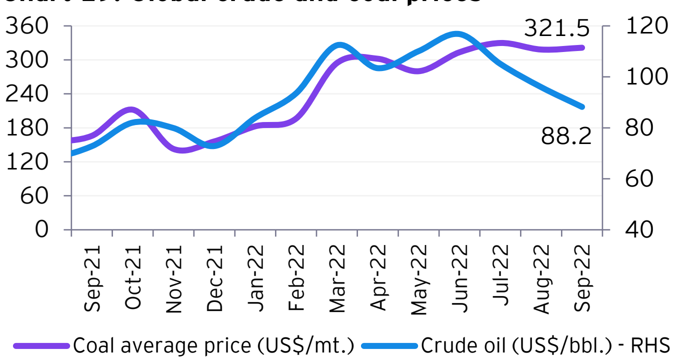
- As per the OECD (Economic Outlook Interim Report, September 2022), global growth is projected at 3% in 2022 and 2.2% in 2023 **(Chart 18)**. Relative to OECD projections made before the geopolitical conflict in December 2021, global output in 2023 is projected to be nearly US$2.8 trillion lower (in PPP terms and 2015 prices).
- A major factor slowing global growth is the ongoing generalized monetary policy tightening in major economies in response to the greater than expected surge in inflation over the past year. Erosion of real disposable household incomes, low consumer confidence, and high energy prices may have an adverse impact on both private consumption and business investment.
- Growth in the US is projected to slow sharply from 1.5% in 2022 to 0.5% in 2023. In the UK, growth is projected to fall from 3.4% in 2022 to 0% in 2023, and that in the Euro area from 3.1% to 0.3%. The OECD has estimated that in Europe, a more severe fuel shortage, especially for gas, could reduce growth by a further 1.25% points and increase inflation by over 1.5% points in 2023.
- In China, an unusually weak growth of 3.2% is projected in 2022. Policy measures equivalent to 2% of GDP are expected to strengthen infrastructure investment and along with a rebound effect from COVID-19-related restrictions this year, growth is expected to recover to 4.7% in 2023.
- Russia is projected to witness a contraction in both 2022 and 2023. Growth in Brazil and South Africa is expected to weaken to 0.8% and 1.1% respectively in 2023 as these two economies are relatively more exposed to global economic cycle and demand in advanced economies.
- Due to softer external demand, India's growth is projected to fall from 8.7% in FY22 to 6.9% in FY23 and to 5.7% in FY24, but this still represents a rapid growth in the context of a weak global economy.

**Chart 18: Global growth projections (%)**




Source: OECD Economic Outlook, Interim Report (September 2022)
*Data pertains to fiscal years FY23 and FY24 respectively.

**Chart 19: Global crude and coal prices**




Source (basic data): World Bank Pink Sheets, October 2022

## B. Global energy prices: global crude price eased to US$88.2/bbl. in September 2022

- Average global crude price[17] at US$88.2/bbl. in September 2022 eased to its lowest level since January 2022 due to fears of global economic recession, rising US interest rates and a stronger dollar **(Chart 19).** On a quarterly basis, the global crude price averaged US$96.4/bbl. in 2QFY23, falling from US$110.1/bbl. in 1QFY23. However, the OPEC+ countries, in their recent meeting in October 2022, decided to cut oil production by 2 million barrels per day from their August 2022 levels beginning November 2022[18]. This may put an upward pressure on prices. On a daily basis, brent crude price had reached close to US$94.5/bbl. as on 11 October 2022.
- Average global coal price[19] remained above US$310/mt. for the fourth successive month, with its level at US$321.5/mt. in September 2022. Global coal price averaged at an unprecedented high level of US$323.2/mt. in 2QFY23.

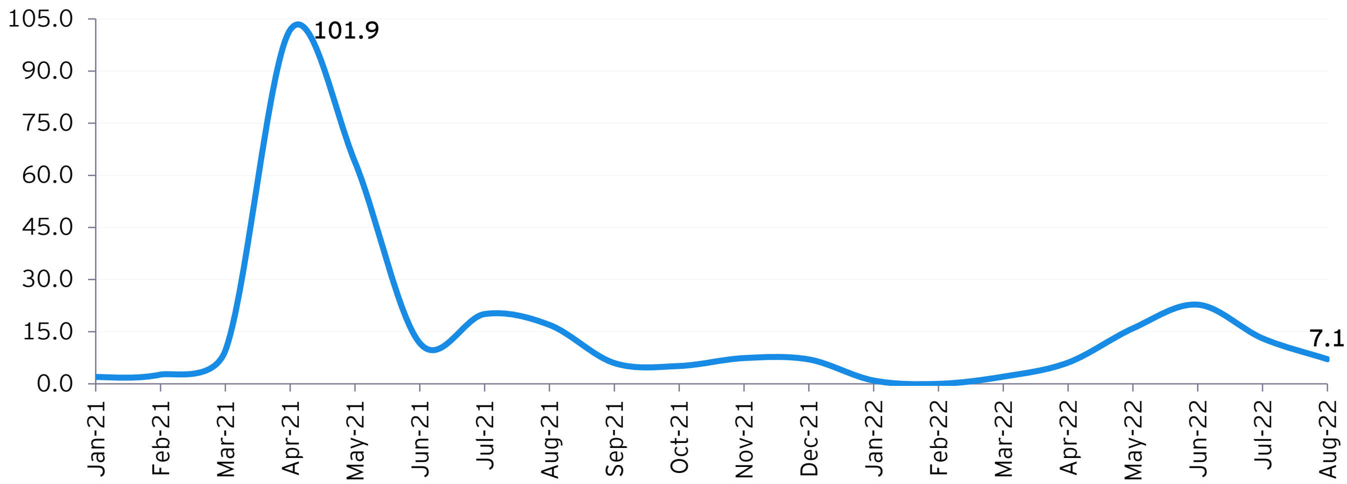
[17] Simple average of three spot prices, namely, Dated Brent, West Texas Intermediate and Dubai Fateh
[18] https://www.opec.org/opec_web/en/press_room/7021.htm
[19] Simple average of Australian and South African coal prices. Data for Australian coal prices has not been reported since February 2022.

# 9. Index of Aggregate Demand (IAD): grew by 7.1% in August 2022

## IAD grew at a slower pace of 7.1% in August 2022 due to unfavorable base effect

- EY has developed an Index of Aggregate Demand (IAD) to reflect the monthly combined demand conditions in the agriculture, manufacturing, and services sectors. It considers the movements in PMI for manufacturing and services, both measured in seasonally adjusted (sa) terms, tracing the demand conditions in these sectors. Movements in the monthly agricultural credit off-take (sa)[20] capture the demand conditions in the agricultural sector.
- Growth in IAD moderated to 7.1% in August 2022 from 13.1% in July 2022 led by unfavorable base effects **(Chart 20 and Table 10).**
- Demand conditions in the services sector improved significantly in August 2022. In the case of manufacturing sector, despite an improvement in demand conditions during the month, there was a marginal loss in its momentum when compared to that in July 2022.
- Demand conditions in the agricultural sector, as indicated by growth in agricultural credit offtake, remained strong and was broadly stable in August 2022.

**Chart 20: Growth in IAD (y-o-y)**




Source (Basic data): S&P - IHS Markit PMI, RBI and EY estimates
Note: From this issue onwards, we will be using seasonally adjusted data for constructing the IAD.

**Table 10: IAD**

| Month | Dec-21 | Jan-22 | Feb-22 | Mar-22 | Apr-22 | May-22 | Jun-22 | Jul-22 | Aug-22 |
|---|---|---|---|---|---|---|---|---|---|
| IAD | 145.9 | 140.4 | 141.4 | 142.9 | 148.4 | 150.1 | 151.0 | 149.9 | 152.3 |
| Growth (% y-o-y) | 7.0 | 1.0 | 0.0 | 2.1 | 6.1 | 16.0 | 22.8 | 13.1 | 7.1 |
| Growth in agr. credit | 14.7 | 10.1 | 10.3 | 9.5 | 10.5 | 11.9 | 13.1 | 13.1 | 13.3 |
| Mfg. PMI** | 5.5 | 4.0 | 4.9 | 4.0 | 4.7 | 4.6 | 3.9 | 6.4 | 6.2 |
| Ser. PMI** | 5.5 | 1.5 | 1.8 | 3.6 | 7.9 | 8.9 | 9.2 | 5.5 | 7.2 |

**Values here indicate deviation from the benchmark value of 50. A positive value indicates expansion in demand while a negative value implies contraction in demand; PMI for Mfg. and Serv. are seasonally adjusted.

Source (basic data): IHS Markit PMI, RBI and EY estimates

[20] We have constructed a seasonally adjusted series for agricultural credit using Census X-13 technique in E-views (version 12).

# 10. Capturing macro-fiscal trends: data appendix

**Table A1: Industrial growth indicators (annual, quarterly, and monthly growth rates, y-o-y)**

| Fiscal year/ quarter/ month | IIP | Mining | Manufacturing | Electricity | Core IIP | Fiscal year/ quarter /month | PMI mfg. | PMI ser. |
|---|---|---|---|---|---|---|---|---|
| | % change y-o-y | | | | | | | |
| FY19 | 3.8 | 2.8 | 3.8 | 5.2 | 4.4 | FY19 | 52.8 | 52.2 |
| FY20 | -0.8 | 1.6 | -1.4 | 0.9 | 0.4 | FY20 | 52.3 | 51.9 |
| FY21 | -8.5 | -7.8 | -9.6 | -0.5 | -6.4 | FY21 | 50.2 | 41.7 |
| FY22 | 11.4 | 12.2 | 11.7 | 8.0 | 10.4 | FY22 | 54.0 | 52.3 |
| 2QFY22 | 9.5 | 17.1 | 8.6 | 9.3 | 9.2 | 3QFY22 | 56.3 | 57.3 |
| 3QFY22 | 2.1 | 6.1 | 1.4 | 2.7 | 5.3 | 4QFY22 | 54.3 | 52.3 |
| 4QFY22 | 1.8 | 3.8 | 1.2 | 3.9 | 4.9 | 1QFY23 | 54.4 | 58.7 |
| 1QFY23 | 12.8 | 9.1 | 12.8 | 17.1 | 13.9 | 2QFY23 | 55.9 | 55.7 |
| May-22 | 19.7 | 11.2 | 20.7 | 23.5 | 19.3 | Jun-22 | 53.9 | 59.2 |
| Jun-22 | 12.7 | 7.8 | 13.0 | 16.4 | 13.2 | Jul-22 | 56.4 | 55.5 |
| Jul-22 | 2.2 | -3.3 | 3.0 | 2.3 | 4.5 | Aug-22 | 56.2 | 57.2 |
| Aug-22 | -0.8 | -3.9 | -0.7 | 1.4 | 3.3 | Sep-22 | 55.1 | 54.3 |

Source: MoSPI, Office of the Economic Adviser, Ministry of Commerce and Industry and S&P Global

**Table A2: Inflation indicators (annual, quarterly, and monthly growth rates, y-o-y)**

| Fiscal year/ quarter/ month | CPI | Food Price Index | Fuel and light | Core CPI | WPI | Food Price Index | Mfg. products | Fuel and power | Core WPI |
|---|---|---|---|---|---|---|---|---|---|
| | % change y-o-y | | | | % change y-o-y | | | | |
| FY19 | 3.4 | 0.1 | 5.7 | 5.5 | 4.3 | 0.6 | 3.7 | 11.5 | 4.2 |
| FY20 | 4.8 | 6.7 | 1.3 | 3.8 | 1.7 | 6.9 | 0.3 | -1.8 | -0.4 |
| FY21 | 6.2 | 7.7 | 2.7 | 5.5 | 1.3 | 4.0 | 2.8 | -8.0 | 2.2 |
| FY22 | 5.5 | 3.8 | 11.3 | 6.1 | 13.0 | 6.8 | 11.1 | 32.5 | 11.0 |
| 3QFY22 | 5.0 | 2.2 | 12.9 | 6.2 | 14.3 | 6.8 | 12.0 | 40.4 | 12.2 |
| 4QFY22 | 6.3 | 6.3 | 8.5 | 6.1 | 13.9 | 9.2 | 10.3 | 32.3 | 10.5 |
| 1QFY23 | 7.3 | 8.0 | 10.1 | 6.4 | 16.1 | 10.5 | 10.3 | 46.3 | 10.6 |
| 2QFY23 | 7.0 | 7.6 | 11.0 | 6.1 | 12.4 | 9.1 | 7.4 | 36.9 | 7.8 |
| Jun-22 | 7.0 | 7.7 | 10.1 | 6.1 | 16.2 | 11.8 | 9.3 | 50.9 | 9.5 |
| Jul-22 | 6.7 | 6.7 | 11.8 | 6.1 | 14.1 | 9.3 | 8.2 | 44.6 | 8.5 |
| Aug-22 | 7.0 | 7.6 | 10.8 | 6.1 | 12.4 | 9.9 | 7.5 | 33.7 | 7.9 |
| Sep-22 | 7.4 | 8.6 | 10.4 | 6.2 | 10.7 | 8.1 | 6.3 | 32.6 | 7.0 |

Source: Office of the Economic Adviser, Ministry of Commerce and Industry and MoSPI
* The CPI for April and May 2020 has been imputed

**Table A3: Fiscal indicators (annual growth rates, cumulated monthly growth rates, y-o-y)**

| Fiscal year/month | Gross tax revenue | Corporate tax | Income tax | Direct taxes* | Indirect taxes** | Fiscal deficit % of GDP | Revenue deficit % of GDP |
|---|---|---|---|---|---|---|---|
| FY19 (CGA) | 8.4 | 16.2 | 13.1 | 14.9 | 3.0 | 3.4 | 2.4 |
| FY20 (CGA) | -3.4 | -16.1 | 4.0 | -7.8 | 1.7 | 4.7 | 3.3 |
| FY21 (CGA) | 0.7 | -17.9 | -2.3 | -10.7 | 12.7 | 9.2 | 7.3 |
| FY22 (CGA) | 33.8 | 55.7 | 43.5 | 49.6 | 20.0 | 6.7 | 4.4 |
| FY23 (BE over FY 22 RE) | 9.6 | 13.4 | 13.8 | 13.6 | 5.7 | 6.4 | 3.8 |
| | Cumulated growth (%, y-o-y) | | | | | % of budgeted target | |
| Jan-22 | 38.5 | 63.8 | 48.3 | 56.1 | 24.1 | 58.9 | 48.6$ |
| Feb-22 | 36.6 | 61.3 | 45.7 | 53.3 | 23.3 | 82.7 | 79.7$ |
| Mar-22 | 33.8 | 55.7 | 43.5 | 49.6 | 20.0 | 99.7 | 94.9$ |
| Apr-22 | 36.5 | 75.2 | 59.6 | 65.9 | 10.1 | 4.5 | -0.1 |
| May-22 | 29.1 | 80.7 | 49.9 | 61.2 | 9.0 | 12.3 | 12.3 |
| Jun-22 | 22.4 | 30.0 | 40.7 | 35.4 | 11.0 | 21.2 | 20.7 |
| Jul-22 | 24.9 | 34.7 | 50.0 | 42.7 | 10.8 | 20.5 | 16.4 |
| Aug-22 | 18.7 | 23.6 | 33.2 | 28.8 | 11.2 | 32.6 | 32.4 |

Source: Monthly Accounts, Controller General of Accounts, Government of India, Union Budget documents
* Includes corporation tax and income tax
** Includes customs duty, excise duty, service tax, CGST, UTGST, IGST and GST compensation cess.
$as a proportion of revised estimate

| Fiscal year/month | CGST | UTGST | IGST | GST compensation cess | Total GST (GoI) |
|---|---|---|---|---|---|
| | INR crore | | | | |
| FY 2022 (RE) | 5,70,000 | - | - | 1,05,000 | 6,75,000 |
| FY 2023 (BE) | 6,60,000 | - | - | 1,20,000 | 7,80,000 |
| | Monthly tax collection (INR crore) | | | | |
| Jan-22 | 69,662 | 432 | -27,918 | 9,456 | 51,632 |
| Feb-22 | 48,169 | 159 | 7,903 | 10,100 | 66,331 |
| Mar-22 | 63,330 | 1,230 | -14,480 | 9,092 | 59,172 |
| Apr-22 | 64,093 | 162 | 11,345 | 10,435 | 86,035 |
| May-22 | 49,876 | 244 | 4,741 | 10,199 | 65,060 |
| Jun-22 | 65,423 | 259 | -16,396 | 10,749 | 60,035 |
| Jul-22 | 55,357 | 155 | 6,898 | 10,654 | 73,064 |
| Aug-22 | 51,911 | 149 | 8,938 | 9,889 | 70,887 |

Source: Monthly Accounts, Controller General of Accounts, Government of India, Union Budget documents
Note: IGST revenues are subject to final settlement.

### Table A4: Monetary and financial indicators (annual, quarterly, and monthly growth rates, y-o-y)

| Fiscal year/ month | Repo rate (end of period) | Fiscal year/ quarter/ month | Bank credit | Agg. deposits | Net FDI | Net FPI | Fiscal year/ quarter/ month | M1 | M3 | 10-year govt. bond yield | FX reserves |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | % | | % change y-o-y | | US$ billion | | | % change y-o-y | | % | US$ billion |
| Nov-21 | 4.00 | FY19 | 13.7 | 8.9 | 30.7 | -0.6 | FY19 | 13.6 | 10.5 | 7.69 | 411.9 |
| Dec-21 | 4.00 | FY20 | 9.5 | 9.9 | 43.0 | 1.4 | FY20 | 11.2 | 8.9 | 6.83 | 475.6 |
| Jan-22 | 4.00 | FY21 | 5.9 | 11.0 | 44.0 | 36.1 | FY21 | 16.2 | 12.2 | 6.05 | 579.3 |
| Feb-22 | 4.00 | FY22 | 7.0 | 9.7 | 38.6 | -16.8 | FY22 | 10.6 | 8.7 | 6.40 | 617.6 |
| Mar-22 | 4.00 | 2QFY22 | 6.1 | 9.5 | 8.7 | 3.9 | 3QFY22 | 11.5 | 9.3 | 6.38 | 633.6 |
| Apr-22 | 4.00 | 3QFY22 | 7.7 | 10.6 | 4.6 | -5.8 | 4QFY22 | 10.6 | 8.7 | 6.74 | 617.6 |
| Apr-22 | 4.00 | 4QFY22 | 8.6 | 8.6 | 13.8 | -15.2 | 1QFY23 | 8.7 | 7.8 | 7.34 | 593.3 |
| May-22 | 4.40 | 1QFY23 | 12.1 | 9.1 | 13.7 | -15.1 | 2QFY23 | 8.5 | 8.6 | 7.32 | 532.7 |
| Jun-22 | 4.90 | May-22 | 12.1 | 9.3 | 4.9 | -4.2 | Jun-22 | 8.7 | 7.8 | 7.53 | 593.3 |
| Jul-22 | 4.90 | Jun-22 | 13.2 | 8.3 | 3.8 | -6.7 | Jul-22 | 9.3 | 8.6 | 7.40 | 573.9 |
| Aug-22 | 5.40 | Jul-22 | 14.5 | 9.2 | 5.4 | 0.4 | Aug-22 | 10.0 | 8.9 | 7.28 | 561.0 |
| Sep-22 | 5.90 | Aug-22 | 14.3 | 9.5 | 0.3 | 7.4 | Sep-22 | 8.5 | 8.6 | 7.28 | 532.7 |

Source: Database on Indian Economy - RBI

### Table A5: External trade and global growth

| External trade indicators (annual, quarterly and monthly growth rates) | | | | | | | Global growth (annual) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Fiscal year/ quarter/ month | Exports | Imports | Trade balance | Ex. rate (avg.) | Crude prices (avg.) | Coal prices (avg.) | Calendar year | World GDP | Adv. econ. | Emer. econ. |
| | % change y-o-y | | US$ billion | INR/US$ | US$/bbl. | US$/mt | | % change y-o-y | | |
| FY19 | 8.7 | 10.4 | -182.3 | 69.9 | 67.3 | 100.4 | 2012 | 3.5 | 1.2 | 5.4 |
| FY20 | -5.1 | -7.7 | -161.4 | 70.9 | 58.5 | 70.4 | 2013 | 3.5 | 1.4 | 5.1 |
| FY21 | -6.9 | -16.9 | -102.6 | 74.2 | 43.8 | 67.2 | 2014 | 3.5 | 2.1 | 4.7 |
| FY22 | 43.8 | 55.1 | -192.2 | 74.5 | 78.4 | 163.0 | 2015 | 3.4 | 2.4 | 4.3 |
| 3QFY22 | 36.6 | 51.4 | -64.3 | 74.9 | 78.3 | 170.3 | 2016 | 3.3 | 1.8 | 4.5 |
| 4QFY22 | 23.1 | 27.7 | -56.8 | 75.2 | 96.6 | 224.5 | 2017 | 3.8 | 2.5 | 4.8 |
| 1QFY23 | 24.8 | 49.5 | -70.6 | 77.2 | 110.1 | 298.5 | 2018 | 3.5 | 2.2 | 4.5 |
| 2QFY23 | 2.9 | 28.3 | -83.7 | 79.8 | 96.4 | 323.2 | 2019 | 2.8 | 1.6 | 3.7 |
| Jun-22 | 23.5 | 57.5 | -26.2 | 78.1 | 116.8 | 313.5 | 2020 | -3.1 | -4.5 | -2.0 |
| Jul-22 | 2.1 | 43.6 | -30.0 | 79.6 | 105.1 | 329.8 | 2021 | 6.0 | 5.2 | 6.6 |
| Aug-22 | 1.6 | 37.3 | -28.0 | 79.6 | 96.0 | 318.3 | 2022 | 3.2 | 2.4 | 3.7 |
| Sep-22 | 4.9 | 8.7 | -25.7 | 80.2 | 88.2 | 321.5 | 2023 | 2.7 | 1.1 | 3.7 |

Source: Database on Indian Economy - RBI, Pink Sheet - World Bank and IMF World Economic Outlook October 2022

**Table A6: Macroeconomic aggregates (annual and quarterly real growth rates, % change y-o-y)**

| Fiscal year/quarter | Output: major sectors | | | | | | | | | IPD inflation |
|---|---|---|---|---|---|---|---|---|---|---|
| | GVA | Agr. | Ming. | Mfg. | Elec. | Cons. | Trans. | Fin. | Publ. | GVA |
| FY19 (3rd RE) | 5.8 | 2.1 | -0.8 | 5.4 | 7.9 | 6.5 | 7.2 | 7.0 | 7.5 | 4.7 |
| FY20 (2nd RE) $ | 3.8 | 5.5 | -1.5 | -2.9 | 2.2 | 1.2 | 5.9 | 6.7 | 6.3 | 2.9 |
| FY21(1st RE) $ | -4.8 | 3.3 | -8.6 | -0.6 | -3.6 | -7.3 | -20.2 | 2.2 | -5.5 | 3.3 |
| FY22(PE)* | 8.1 | 3.0 | 11.6 | 9.9 | 7.5 | 11.5 | 11.1 | 4.2 | 12.6 | 9.4 |
| 1QFY21 | -21.4 | 3.0 | -17.8 | -31.5 | -14.8 | -49.4 | -49.9 | -1.1 | -11.4 | 2.3 |
| 2QFY21 | -5.9 | 3.2 | -7.9 | 5.2 | -3.2 | -6.6 | -18.8 | -5.2 | -10.2 | 1.7 |
| 3QFY21 | 2.1 | 4.1 | -5.3 | 8.4 | 1.5 | 6.6 | -10.1 | 10.3 | -2.9 | 3.4 |
| 4QFY21 | 5.7 | 2.8 | -3.9 | 15.2 | 3.2 | 18.3 | -3.4 | 8.8 | 1.7 | 5.2 |
| 1QFY22 | 18.1 | 2.2 | 18.0 | 49.0 | 13.8 | 71.3 | 34.3 | 2.3 | 6.2 | 7.0 |
| 2QFY22 | 8.3 | 3.2 | 14.5 | 5.6 | 8.5 | 8.1 | 9.6 | 6.1 | 19.4 | 8.8 |
| 3QFY22 | 4.7 | 2.5 | 9.2 | 0.3 | 3.7 | -2.8 | 6.3 | 4.2 | 16.7 | 10.4 |
| 4QFY22 | 3.9 | 4.1 | 6.7 | -0.2 | 4.5 | 2.0 | 5.3 | 4.3 | 7.7 | 10.9 |
| 1QFY23 | 12.7 | 4.5 | 6.5 | 4.8 | 14.7 | 16.8 | 25.7 | 9.2 | 26.3 | 12.2 |

Source: National Accounts Statistics, MoSPI
$ Growth numbers for FY21 are based on the first revised estimates (RE) of NAS released by the MoSPI on 31 January 2022 over the second RE of NAS for FY20, *FY22 growth numbers are based on the Provisional Estimates (PE) of National Accounts released on 31 May 2022 over the first revised estimates for 2021 released on 31 January 2022.

| Fiscal year/quarter | Expenditure components | | | | | | IPD inflation |
|---|---|---|---|---|---|---|---|
| | GDP | PFCE | GFCE | GFCF | EX | IM | GDP |
| FY19 (3rd RE) | 6.5 | 7.1 | 6.7 | 11.2 | 11.9 | 8.8 | 3.9 |
| FY20 (2nd RE) $ | 3.7 | 5.2 | 3.4 | 1.6 | -3.4 | -0.8 | 2.4 |
| FY21(1st RE) $ | -6.6 | -6.0 | 3.6 | -10.4 | -9.2 | -13.8 | 5.6 |
| FY22(PE)* | 8.7 | 7.9 | 2.6 | 15.8 | 24.3 | 35.5 | 10.0 |
| 1QFY21 | -23.8 | -23.7 | 13.6 | -45.3 | -25.5 | -41.1 | 2.9 |
| 2QFY21 | -6.6 | -8.3 | -22.9 | -4.5 | -6.4 | -17.9 | 4.0 |
| 3QFY21 | 0.7 | 0.6 | -0.3 | -0.6 | -8.6 | -5.2 | 5.4 |
| 4QFY21 | 2.5 | 6.5 | 29.0 | 10.1 | 3.7 | 11.7 | 9.2 |
| 1QFY22 | 20.1 | 14.4 | -4.8 | 62.5 | 40.8 | 61.1 | 10.2 |
| 2QFY22 | 8.4 | 10.5 | 8.9 | 14.6 | 20.7 | 41.0 | 9.8 |
| 3QFY22 | 5.4 | 7.4 | 3.0 | 2.1 | 23.1 | 33.6 | 9.8 |
| 4QFY22 | 4.1 | 1.8 | 4.8 | 5.1 | 16.9 | 18.0 | 10.4 |
| 1QFY23 | 13.5 | 25.9 | 1.3 | 20.1 | 14.7 | 37.2 | 11.6 |

Source: National Accounts Statistics, MoSPI
$ Growth numbers for FY21 are based on the first revised estimates (RE) of NAS released by the MoSPI on 31 January 2022 over the second RE of NAS for FY20, *FY22 growth numbers are based on the Provisional Estimates (PE) of National Accounts released on 31 May 2022 over the first revised estimates for 2021 released on 31 January 2022.

# List of abbreviations

| Sr. no. | Abbreviations | Description |
|---|---|---|
| 1 | AD | aggregate demand |
| 2 | AEs | advanced economies |
| 3 | Agr. | agriculture, forestry and fishing |
| 4 | AY | assessment year |
| 5 | Bcm | billion cubic meters |
| 6 | bbl. | barrel |
| 7 | BE | budget estimate |
| 8 | CAB | current account balance |
| 9 | CGA | Comptroller General of Accounts |
| 10 | CGST | Central Goods and Services Tax |
| 11 | CIT | corporate income tax |
| 12 | Cons. | construction |
| 13 | CPI | Consumer Price Index |
| 14 | COVID-19 | Coronavirus disease 2019 |
| 15 | CPSE | central public-sector enterprise |
| 16 | CRAR | Credit to Risk- weighted Assets Ratio |
| 17 | CSO | Central Statistical Organization |
| 18 | Disc. | discrepancies |
| 19 | ECBs | external commercial borrowings |
| 20 | EIA | US Energy Information Administration |
| 21 | Elec. | electricity, gas, water supply and other utility services |
| 22 | EMDEs | Emerging Market and Developing Economies |
| 23 | EXP | exports |
| 24 | FAE | first advance estimates |
| 25 | FC | Finance Commission |
| 26 | FII | foreign investment inflows |
| 27 | Fin. | financial, real estate and professional services |
| 28 | FPI | foreign portfolio investment |
| 29 | FRBMA | Fiscal Responsibility and Budget Management Act |
| 30 | FRL | Fiscal Responsibility Legislation |
| 31 | FY | fiscal year (April–March) |
| 32 | GDP | Gross Domestic Product |
| 33 | GFCE | government final consumption expenditure |
| 34 | GFCF | gross fixed capital formation |
| 35 | GoI | Government of India |
| 36 | G-secs | government securities |
| 37 | GST | Goods and Services Tax |
| 38 | GVA | gross value added |
| 39 | IAD | Index of Aggregate Demand |

| Sr. no. | Abbreviations | Description |
|---|---|---|
| 40 | IBE | interim budget estimates |
| 41 | ICRIER | Indian Council for Research on International Economic Relations |
| 42 | IEA | International Energy Agency |
| 43 | IGST | Integrated Goods and Services Tax |
| 44 | IIP | Index of Industrial Production |
| 45 | IMF | International Monetary Fund |
| 46 | IMI | Index of Macro Imbalance |
| 47 | IMP | imports |
| 48 | INR | Indian Rupee |
| 49 | IPD | implicit price deflator |
| 50 | MCLR | marginal cost of funds-based lending rate |
| 51 | Ming. | mining and quarrying |
| 52 | Mfg. | manufacturing |
| 53 | m-o-m | month-on-month |
| 54 | Mt | metric ton |
| 55 | MoSPI | Ministry of Statistics and Programme Implementation |
| 56 | MPC | Monetary Policy Committee |
| 57 | MPF | Monetary Policy Framework |
| 58 | NEXP | net exports (exports minus imports of goods and services) |
| 59 | NSO | National Statistical Office |
| 60 | NPA | non-performing assets |
| 61 | OECD | Organization for Economic Co-operation and Development |
| 62 | OPEC | Organization of the Petroleum Exporting Countries |
| 63 | PFCE | private final consumption expenditure |
| 64 | PIT | personal income tax |
| 65 | PMI | Purchasing Managers' Index (reference value = 50) |
| 66 | PoL | petroleum oil and lubricants |
| 67 | PPP | Purchasing power parity |
| 68 | PSBR | public sector borrowing requirement |
| 69 | PSU/PSE | public sector undertaking/public sector enterprises |
| 70 | RE | revised estimates |
| 71 | RBI | Reserve Bank of India |
| 72 | SLR | Statutory Liquidity Ratio |
| 73 | Trans. | trade, hotels, transport, communication and services related to broadcasting |
| 74 | US$ | US Dollar |
| 75 | UTGST | Union Territory Goods and Services Tax |
| 76 | WALR | weighted average lending rate |
| 77 | WHO | World Health Organization |
| 78 | WPI | Wholesale Price Index |
| 79 | y-o-y | year-on-year |
| 80 | 1HFY20 | first half of fiscal year 2019-20, i.e., April 2019-September 2019 |

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