ENTER

Economy Watch

Monitoring India's macro-fiscal performance

June 2022

Building a better working world

Contents

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Highlights

1. As per the NSO, India's real GDP growth moderated to 4.1% in 4QFY22 from 5.4% in 3QFY22 due to the adverse impact of the Omicron wave, increase in inflation and waning base effects.

2. In May 2022, PMI indicated a sustained recovery in manufacturing and a strong expansion in services with their respective levels at 54.6 and 58.9.

3. IIP growth increased to 7.1% in April 2022 from 2.2% in March 2022.

4. Due to mounting inflationary pressures, the RBI increased the repo rate by 50 basis points to 4.9% in its 8 June 2022 monetary policy review.

5. CPI inflation remained high at 7.0% in May 2022, although falling marginally from 7.8% in April 2022. WPI inflation surged to a record high of 15.9% in May 2022 led by higher inflation in primary articles and fuel and power.

6. Center's gross tax revenues (GTR) grew by 33.8% in FY22 after a subdued growth of 0.7% in FY21. While direct taxes grew by 49.6%, indirect taxes showed a growth of 20%.

7. In April 2022, the first month of FY23, Center's GTR showed a y-o-y growth of 36.5% with growth in direct taxes at 65.9% and indirect taxes at 10.1%.

8. During FY22, Center's total expenditure grew by 8.1% with growth in revenue expenditure at 3.7% and that in capital expenditure at 39.5%.

9. In April 2022, Center's total expenditure showed a growth of 21.2% with revenue expenditure growth at 9.1% and capital expenditure growth at 67.5%.

10. Center's fiscal and revenue deficits at 6.7% and 4.4% of GDP respectively in FY22 were lower than their corresponding RE.

11. Growth in the value of merchandise exports remained high at 20.6% in May 2022, although falling from 30.7% in April 2022. Imports growth doubled to 62.8% in May 2022 from 31.0% in April 2022.

12. Merchandise trade deficit widened to a record high of US$(-)24.3 billion in May 2022. Current account deficit relative to GDP eased to (-)1.5% in 4QFY22 as compared to (-)2.6% in 3QFY22.

13. Net FDI inflows increased to a three-month high of US$5.0 billion while FPIs registered outflows for the seventh successive month at US$(-)4.2 billion in April 2022.

14. In May 2022, global crude and coal prices remained elevated at US$110/bbl. and US$280/mt. respectively.

15. The World Bank has projected global growth at 2.9% in 2022 with India's FY23 growth projected at 7.5%. OECD's forecast for India's FY23 growth stands lower at 6.9%.

Foreword

India to lead global growth despite inflationary pressures and supply side challenges

Pushed by sustained inflationary pressures, the RBI, in two consecutive meetings held in May and June 2022, increased the repo rate by 40 and 50 basis points respectively. This has taken the repo rate to 4.9% from 4%, a level at which it was retained from May 2020 to April 2022. Alongside, the RBI also indicated gradual withdrawal of its accommodative stance and revised upwards, its FY23 CPI inflation forecast to 6.7% from 5.7% projected earlier. The RBI changed its base assumption regarding the average price of Indian crude basket in FY23 to US$105/bbl. from US$100/bbl. as assumed in April 2022 while acknowledging continuing supply side issues.

The CPI inflation rate in May 2022, however, signals a marginal reduction to 7.0% from 7.8% in April 2022. This reduction reflects marginal moderation in inflation in food, fuel and light and miscellaneous commodities and services besides some favourable base effect. However, the WPI inflation rate at a record high level (2011-12 series) of 15.9% in May 2022 signals continued upward pressure on CPI inflation in the next few months. This inordinately high WPI inflation is driven mainly by two commodity groups namely, a) primary articles which includes food items as well as crude and b) fuel and power which includes electricity and mineral oils.

With respect to the FY23 GDP growth, the RBI has retained its forecast at 7.2%, same as in April 2022. The April 2022 forecast was revised down from 7.8% estimated earlier in February 2022. Many multilateral agencies including the World Bank, the IMF and the OECD have also reduced India's growth prospects for FY23. The lowest amongst these is that by OECD at 6.9%. Even at this lower level, India's real GDP growth in FY23 is projected to lead global growth by a significant margin.

High frequency indicators for April and May 2022 point to continuing recovery in economic activities. Headline manufacturing PMI remained high at 54.6 in May 2022 as compared to 54.7 in April 2022. PMI services at 58.9 in May 2022 increased to its highest level in over eleven years. These numbers confirm a buoyant recovery in the industrial and services sectors. After a historic high of INR1.68 lakh crore in April 2022, gross GST collections in May 2022 remained high at INR1.41 lakh crore. Growth in power consumption surged to a 13-month high of 22.3% in May 2022 from 13.1% in April 2022. Retail sales of passenger vehicles showed a y-o-y growth of 204.3% in May 2022 led by a strong favourale base effect. When calculated over May 2019, growth in retail sales of passenger vehicles was high at 11.4% in May 2022. Merchandise exports growth remained high at 20.6% in May 2022 led by high growth in exports of petroleum products, organic and inorganic chemicals and engineering goods. IIP posted a strong growth of 7.1% in April 2022 as compared to 2.2% in March 2022. Bank credit grew by 11.1% in April 2022, its fastest pace since August 2019. This was due to higher growth in credit across all the key sectors of the economy.

NSO's provisional estimates for FY22 indicated a real GDP growth of 8.7% and a GVA growth of 8.1%. These numbers confirm that all GDP segments emerged higher than their pre-COVID magnitudes. This is also true for all GVA sectors except the trade, hotels, transport et. al. sector. In fact, in 4QFY22, all GDP and GVA segments surpassed their corresponding 4QFY20 levels indicating that the Indian economy is well past the COVID shock.

The weakest demand segment turned out to be government final consumption expenditure (GFCE) with a low growth of 2.6% in FY22. Contribution of net exports to real GDP growth was negative at (-)2.9% points. Private final consumption expenditure (PFCE) grew by 7.9% in FY22 over FY21 but its FY22 magnitude was only INR1.2 lakh crore higher than that in FY20. One bright spot was the recovery in investment demand as reflected by a strong growth of 15.8% in gross fixed capital formation (GFCF). On the output side, the weakest sector was financial, real estate and professional services with a growth of 4.2% in FY22.

One positive spinoff of the high inflationary trends is that the implicit price deflator (IPD)-based inflation turned out to be 10.0% in FY22, its highest level since FY11. Correspondingly, nominal GDP growth was at 19.5%. This, combined with a buoyancy of 1.7, yielded a growth of 33.8% in Center's GTR in FY22, enabling a marginal reduction in Center's fiscal deficit relative to GDP at 6.7% as compared to the revised estimate of 6.9%.

Going forward, in FY23, the IPD-based inflation may remain high given the current inflationary trends. With the expectation of nominal GDP growth in FY23 being significantly above the real GDP growth, the Center may garner tangibly higher tax revenues compared to the budget estimates. In the "In-focus" section of this issue, we have stated the assumptions under which this additional fiscal capacity may exceed INR5 lakh crore, which may be used to bolster both GFCE and government investment expenditure. This should facilitate minimization of the adverse growth effect of the high prices of global crude and primary commodities.

Major advanced economies are aggressively increasing their policy rates to contain the inflationary pressures. With CPI inflation in the US reaching a 40-year high of 8.6% in May 2022, the Federal Reserve, in its June 2022 monetary policy meeting, increased the benchmark Federal Funds rate by 75 basis points to a range of 1.5% to 1.75%, its largest rate hike in a single meeting since 1994. The Fed officials expect the year-end Federal Funds rate to rise to 3.4%, up from 1.9% as projected earlier in March 2022[1]. With the sustained uplifting of the US Fed interest rate, there would continue to be an outflow of foreign exchange from India and a reduction in the rate of foreign exchange inflows into India. This may put pressure on the exchange rate which would remain another important cost side pressure on inflation since there would be a continued increase in import cost. India's balance of payments situation would also deteriorate, adversely affecting both inflation and growth. The RBI may have to increase the repo rate in the next few MPC meetings. It is thus the fiscal policy which will have to play a strong growth-supporting role. In FY23, real GDP growth may turn out to be 7.2% or higher contingent upon a strong fiscal stimulus.

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[1] https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20220615.htm

1. Growth: real GDP grew by 8.7% in FY22 with 4Q growth at 4.1%

A. GDP and GVA growth: show moderation in 4QFY22

- According to the National Statistical Office (NSO)'s Provisional Estimates (PE) of national accounts for FY22 released on 31 May 2022[2], real GDP grew by 8.7% in FY22. Quarterly data showed that real GDP growth moderated to 4.1% in 4QFY22 from 5.4% in 3QFY22. This may be attributable to the adverse impact of the Omicron wave, a surge in inflation, and waning base effects.
- Among the domestic demand components, growth in GFCF and GFCE was at 5.1% and 4.8% respectively in 4QFY22, higher as compared to 2.1% and 3.0% respectively in 3QFY22.
- PFCE, the largest aggregate demand component, showed a low growth of 1.8% in 4QFY22 largely due to an unfavourable base effect **(Table 1)**.
- Contribution of net exports to GDP growth continued to be negative for the sixth successive quarter at (-)1.0% point in 4QFY22.
- On an annual basis, in FY22, on the demand side, GFCE showed the lowest growth at 2.6% while GFCF and PFCE showed a strong growth of 15.8% and 7.9% respectively. However, the contribution of net exports to growth was negative at (-)2.9% points.
- On the output side, real GVA growth moderated to 3.9% in 4QFY22 from 4.7% in 3QFY22. In FY22, real GVA growth was at 8.1%.
- Among the GVA sectors, owing to an unfavourable base effect, manufacturing contracted by (-)0.2% while construction posted a low growth of 2.0% in 4QFY22.
- Growth in public administration, defence et.al at 7.7% was the highest amongst all sectors in 4QFY22 followed by trade, hotel, transport et. al. at 5.3%.

Chart 1: Real GDP growth (%, y-o-y)

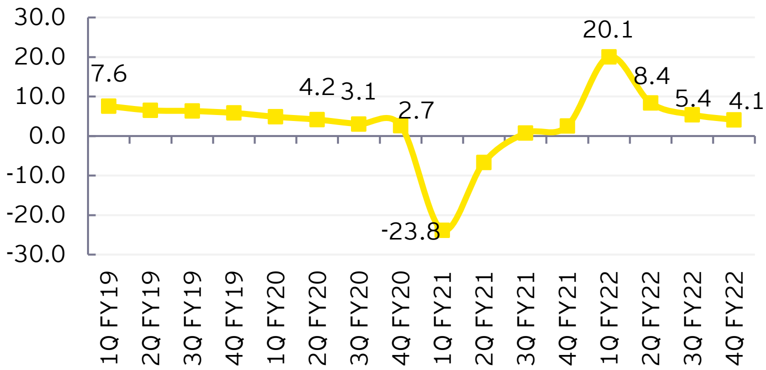


Table 1: Real GDP and GVA growth (%, y-o-y)

Agg. demand	3Q FY21	4Q FY21	1Q FY22	2Q FY22	3Q FY22	4Q FY22	FY21	FY22 (PE)
PFCE	0.6	6.5	14.4	10.5	7.4	1.8	*-6.0*	*7.9*
GFCE	-0.3	29.0	-4.8	8.9	3.0	4.8	*3.6*	*2.6*
GFCF	-0.6	10.1	62.5	14.6	2.1	5.1	*-10.4*	*15.8*
EXP	-8.6	3.7	40.8	20.7	23.1	16.9	*-9.2*	*24.3*
IMP	-5.2	11.7	61.1	41.0	33.6	18.0	*-13.8*	*35.5*
GDP	**0.7**	**2.5**	**20.1**	**8.4**	**5.4**	**4.1**	***-6.6***	***8.7***
Output side								
Agr.	4.1	2.8	2.2	3.2	2.5	4.1	*3.3*	*3.0*
Ming.	-5.3	-3.9	18.0	14.5	9.2	6.7	*-8.6*	*11.6*
Mfg.	8.4	15.2	49.0	5.6	0.3	-0.2	*-0.6*	*9.9*
Elec.	1.5	3.2	13.8	8.5	3.7	4.5	*-3.6*	*7.5*
Cons.	6.6	18.3	71.3	8.1	-2.8	2.0	*-7.3*	*11.5*
Trade.	-10.1	-3.4	34.3	9.6	6.3	5.3	*-20.2*	*11.1*
Fin.	10.3	8.8	2.3	6.1	4.2	4.3	*2.2*	*4.2*
Publ.	-2.9	1.7	6.2	19.4	16.7	7.7	*-5.5*	*12.6*
GVA	**2.1**	**5.7**	**18.1**	**8.3**	**4.7**	**3.9**	***-4.8***	***8.1***

Source: MoSPI, GoI

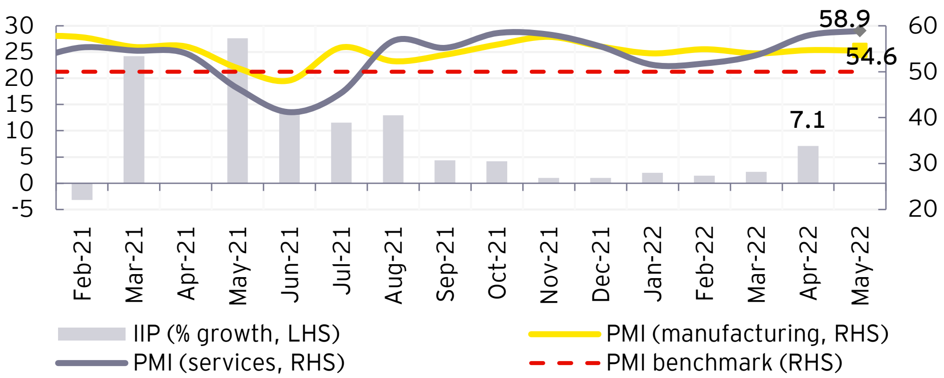
- When compared to its corresponding levels in 4QFY20, growth in trade, hotels et. al. sector turned positive in 4QFY22 at 1.7%. But in FY22, its magnitude remained below that in FY20 by INR(-)3.0 lakh crore.
- On an annual basis, in FY22, among the larger GVA sectors, the lowest growth was seen in financial, real estate et.al at 4.2%. Both construction and manufacturing showed strong growth of 11.5% and 9.9% respectively in FY22.
- Growth in agriculture and allied activities continued to remain low at 3.0% in FY22 with implications for rural demand.
- The FY22 nominal GDP growth is estimated at an 11-year high of 19.5% with an IPD-based inflation of 10.0% (Table A6).

[2] This release also contains the data for 4QFY22.

B. PMI: signaled sustained recovery in manufacturing and strong expansion in services with mounting cost pressures in May 2022

- Headline manufacturing PMI (seasonally adjusted (sa)) at 54.6 in May 2022, was little changed from 54.7 in April 2022. May 2022 marked the eleventh consecutive month for which the manufacturing PMI remained above the threshold of 50 indicating sustained recovery across the sector. Output charge inflation surged to its highest level in over eight and a half years as additional cost burdens were passed on to the consumers.
- PMI services at 58.9 in May 2022 increased to its highest level in over eleven years. Among the sub-segments, consumer services posted the strongest increase in both new business and output in May 2022. Alongside, both input costs and selling charges continued to remain high.
- Led by a strong expansion in services and a sustained recovery in manufacturing, the composite PMI Output Index (sa) increased to 58.3 in May 2022 from 57.6 in April 2022.

Chart 2: PMI and IIP growth



In May 2022, PMI indicated a sustained recovery in manufacturing and a strong expansion in services with their respective levels at 54.6 and 58.9.

Source: MoSPI and IHS Markit
Note: IIP growth for April 2021 is not shown in the chart as it was inordinately high at 133.5% due to a favourable base effect.

C. IIP: showed a strong growth of 7.1% in April 2022

- As per the quick estimates of IIP released by the MoSPI on 10 June 2022, IIP posted a strong growth of 7.1% in April 2022 as compared to 2.2% (revised) in March 2022 **(Chart 2)**. This was due to a broad-based improvement in the growth of all the key sectors that constitute the IIP.
- Among the sub industries, output of electricity showed the highest growth of 11.8% in April 2022 as compared to 6.1% in March 2022, followed by mining output with a growth of 7.8% in April 2022 as compared to 3.9% in March 2022.
- Output of manufacturing sector, constituting 77.6% of the overall IIP, grew by 6.3% in April 2022 as compared to 1.4% in March 2022.
- As per the use-based classification of industries, growth in the output of capital goods, which is usually volatile, was the highest at 14.7% in April 2022 as compared to 2.0% in March 2022.

IIP posted a strong growth of 7.1% in April 2022 as compared to 2.2% in March 2022.

- Growth in the output of both consumer durables and non-durables turned positive at 8.5% and 0.3% respectively in April 2022 as compared to a contraction of (-)2.6% and (-)4.6% respectively in March 2022. Growth in the output of infrastructure/construction moderated to 3.8% in April 2022 from 6.7% in March 2022.
- According to provisional estimates, growth in the output of eight core infrastructure industries (core IIP) accelerated to 8.4% in April 2022 from 4.9% in March 2022. This was due to a strong growth in three key sub sectors namely, coal (28.8%), electricity (10.7%) and petroleum refinery products (9.2%). However, ouput of crude oil ((-)0.9%) and steel ((-)0.7%) contracted in April 2022.

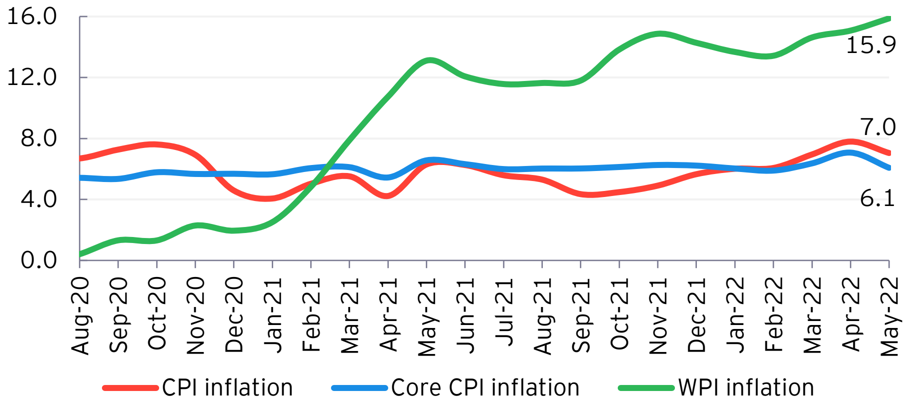
2. Inflation: CPI inflation remained elevated at 7.0% in May 2022

Home

CPI inflation remained high at 7.0% in May 2022, although falling marginally from 7.8% in April 2022 (Chart 3).

- Consumer food inflation eased marginally to 8.0% in May 2022 from a 17-month high of 8.3% in April 2022 led by a fall in inflation in edible oils and fats to 13.3%. Inflation in cereals and its products eased to 5.3% in May 2022 from 6.0% in April 2022. These were partly the result of the center's measures to a) reduce import duties on certain edible oils, b) curb exports of key commodities such as wheat, and c) favourable base effect to some extent.
- Fuel and light-based inflation moderated to 9.5% in May 2022 from 10.7% in April 2022. Within transportation and communication services subgroup, inflation in petrol and diesel used for conveyance eased to 16.8% and 11.6% respectively in May 2022 from 20.9% and 16.2% respectively in April 2022 partly reflecting the impact of the sharp reduction in excise duties on fuel.
- Inflation in miscellaneous goods and services which includes household goods and services and health services, softened to 6.8% in May 2022 from 8.0% in April 2022 due to a broad-based fall in inflation levels aided partly by favourable base effects.
- Core CPI inflation[3] eased to 6.1% in May 2022 from a nearly eight-year high of 7.1% in April 2022.
- Inflation in vegetables increased to a 19-month high of 18.3% in May 2022 owing to a sharp surge in tomato prices.

Chart 3: Inflation (y-o-y, in %)



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

In May 2022, CPI inflation at 7.0% remained at or above the RBI's 6% upper tolerance limit for the fifth successive month. WPI inflation at a record high of 15.9% signals continued upward pressure on CPI inflation in the next few months.

WPI inflation surged to a record high of 15.9% in May 2022 from 15.1% in April 2022, led by inflationary pressures stemming from primary articles and fuel and power.

- Fuel and power inflation rose to a six-month high of 40.6% in May 2022 as inflation in electricity accelerated to an all-time high (2011-12 series) of 16.2% partly due to base effect.
- Inflation in primary articles was at an all-time high (2011-12 series) of 19.7% in May 2022 led by higher inflation in vegetables (56.4%), minerals (33.9%) and crude (78.7%). Inflation in tomatoes reached 219.1% in May 2022, its highest level in 54 months.
- WPI food index-based inflation was at a 29-month high of 10.9% in May 2022 led by inflation in vegetables.
- Inflation in manufactured basic metals fell to 18.9% in May 2022 from 24.8% in April 2022 aided partly by a favourable base effect. Consequently, core WPI inflation eased to 10.4% in May 2022 from 11.1% in April 2022.

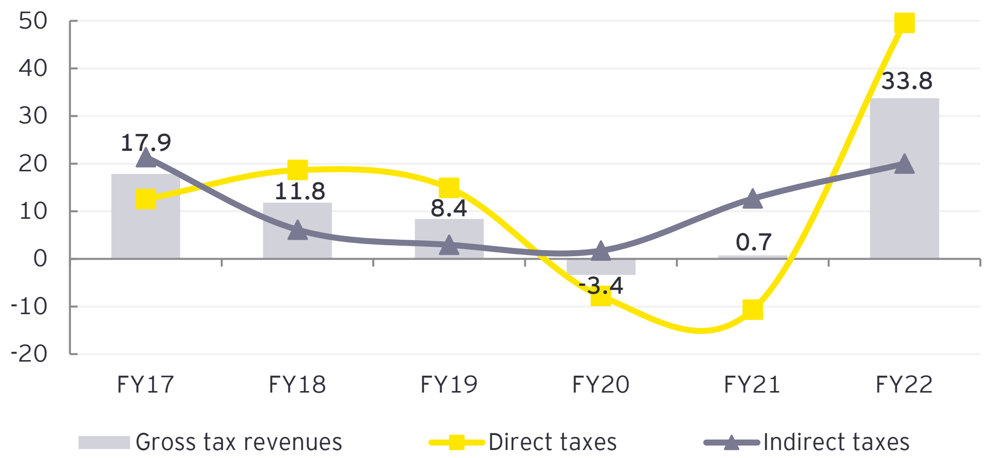
[3] Core CPI inflation is measured in different ways by different organizations/agencies. Here, it has been calculated by excluding food, and fuel and light from the overall index.

3. Fiscal performance: Center's fiscal deficit stood at 6.7% of GDP in FY22

A. Tax and non-tax revenues

- As per the Controller General of Accounts (CGA), Center's GTR[b] grew by 33.8% in FY22 as compared to a subdued growth of 0.7% in FY21 and a contraction of (-)3.4% in FY20 **(Chart 4)**. Collections for FY22 at INR27.08 lakh crore exceeded the RE by INR1.9 lakh crore.
- With a nominal GDP growth of 19.5%, the buoyancy of Center's GTR stood at 1.7 in FY22.
- Direct taxes[a] showed a growth of 49.6% in FY22 as compared to a contraction of (-)10.7% in FY21. Buoyancy of direct taxes in FY22 stood at 2.5.
- Corporate income tax (CIT) revenues grew by 55.7% in FY22 as compared to a contraction of (-)17.9% in FY21. Personal income tax (PIT) collections grew by 43.5% in FY22 as compared to a contraction of (-)2.3% in FY21.
- Indirect taxes[a] grew by 20% in FY22 as compared to 12.7% in FY21. Indirect tax buoyancy stood at 1.0 in FY22.
- Among indirect taxes, GST revenues[c] showed a growth of 27.3% in FY22 following a contraction of (-)8.4% in FY21. Customs duties grew by 47.8% in FY22, increasing from 23.4% in FY21.
- Union excise duties (UED) showed a subdued growth of 0.3% in FY22 as compared to a high growth of 62.6% in FY21 reflecting the impact of a reduction in UED rates on petroleum products in November 2021.
- In April 2022, the first month of FY23, Center's GTR showed a y-o-y growth of 36.5% with growth in direct taxes at 65.9% and indirect taxes at 10.1%.

Chart 4: Growth in central gross tax revenues (%, y-o-y)



Center's GTR grew by 33.8% in FY22 after a subdued growth of 0.7% in FY21. While direct taxes grew by 49.6%, indirect taxes showed a growth of 20%.

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 center's GTR along with direct and indirect taxes, (c) IGST revenues are subject to final settlement.

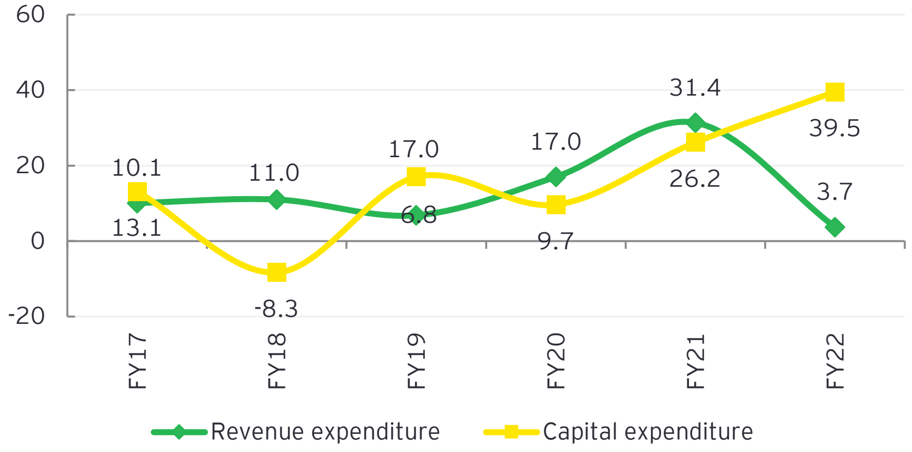
- Center's non-tax revenues showed a growth of 67.3% in FY22 as compared to a contraction of (-)36.2% in FY21. Non-tax revenues in FY22 exceeded the RE by INR34,253 crore.
- In April 2022, non-tax revenues contracted by (-)29%.
- Non-debt capital receipts of the Center showed a contraction of (-)32% in FY22 as compared to (-)16% in FY21. Non-debt capital receipts in FY22 fell short of the RE by INR60,767 crore largely on account of a shortfall in disinvestment receipts. According to the Department of Investment and Public Asset Management (DIPAM)[4], disinvestment receipts for FY22 stood at INR13,530.67 crores, falling short of the RE by INR64,469.3 crore.
- As per DIPAM, for FY23, disinvestment receipts up to 22 June 2022 stood at INR24,543.7 crore, that is 37.7% of the FY23 RE at INR65,000 crore.

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

B. Expenditures: revenue and capital

- Center's total expenditure grew by 8.1% in FY22 as compared to 30.7% in FY21 owing to a relatively low growth in revenue expenditure.
- Revenue expenditure in FY22 grew by 3.7% as compared to 31.4% in FY21 **(Chart 5)**.
- Capital expenditure showed a high growth of 39.5% in FY22, up from 26.2% in FY21. As a proportion of the RE, Center's capital expenditure stood at 98.4% as compared to the corresponding ratio of 96.7% in FY21.
- In April 2022, Center's total expenditure showed a growth of 21.2% with revenue expenditure growth at 9.1% and capital expenditure growth at 67.5%.

Chart 5: Growth in central expenditures: revenue and capital (%, y-o-y)



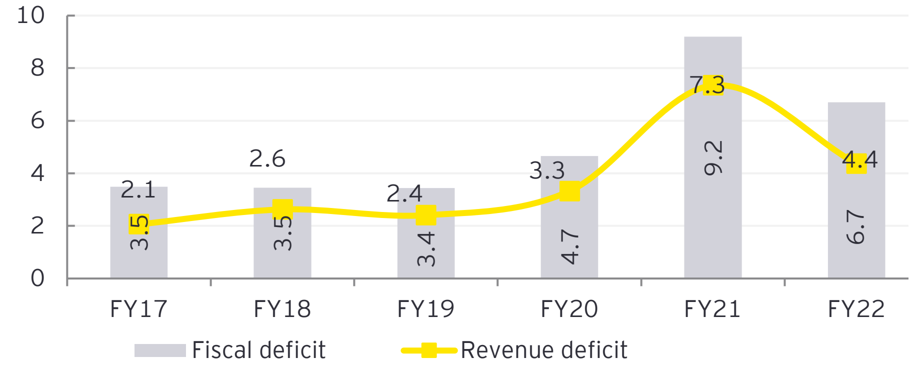
During FY22, Center's total expenditure grew by 8.1% with growth in revenue expenditure at 3.7% and that in capital expenditure at 39.5%.

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

C. Fiscal imbalance

- Center's fiscal deficit stood at 6.7% of GDP, down from 9.2% of GDP in FY21. Largely owing to a high nominal GDP, Center's FY22 fiscal deficit was lower than the RE of 6.9% of GDP (**Chart 6**).
- Center's revenue deficit stood at 4.4% of GDP in FY22, lower than the RE of 4.7%. It was also lower as compared to the historically high level of 7.3% of GDP in FY21.
- In April 2022, fiscal deficit stood at 4.5% of the FY23 BE. On the other hand, there was a surplus of INR591 crore on the revenue account in the first month of the fiscal year, equivalent to 0.1% of BE.

Chart 6: Fiscal and revenue deficit as percentage of GDP



Center's fiscal and revenue deficits at 6.7% and 4.4% of GDP respectively in FY22 were lower as compared to their corresponding RE.

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

4. Comparative global perspective: OECD projected India to grow by 6.9% with CPI inflation at 6.7% in FY23

Real GDP growth

- After recovering from the pandemic in 2021, global growth is projected to moderate to 3% in 2022, a downward revision of 1.5% points from the December 2021 projection. Apart from deep downturns in Russia and Ukraine, growth is expected to be considerably weaker than expected in most economies especially Europe.
- Global growth is expected to remain subdued at 2.8% in 2023 due to continuing downside risks.
- In the US, growth is expected to weaken to 2.5% in 2022 and further to 1.2% in 2023 due to supply shortages exacerbated by the ongoing geopolitical conflict, COVID-related lockdowns in China, higher oil prices and a faster monetary policy normalization. Similar reasons are expected to lead to a slowing of growth in the Euro area.
- In Japan, the Omicron wave, weak external demand, and increasing prices of key commodity imports is expected to keep growth low at 1.7% in 2022 and 1.8% in 2023.
- Among EMDEs, China's growth is expected to moderate to 4.4% in 2022 and improve only marginally to 4.9% in 2023. In Brazil, higher inflation is expected to adversely impact consumption growth and with additional monetary policy tightening, GDP growth is expected to slow sharply to 0.6% in 2022 before recovering to 1.2% in 2023. India's growth, although revised downwards to 6.9% in 2022 and 6.2% in 2023, is expected to be the highest among major economies of the world.

Table 2: Real GDP growth (%): selected countries

Country	2020	2021	2022	2023
US	-3.4	5.7	2.5	1.2
UK	-9.3	7.4	3.6	0.0
Euro area	-6.5	5.3	2.6	1.6
Japan	-4.5	1.7	1.7	1.8
Brazil	-4.2	5.0	0.6	1.2
Russia	-2.6	4.7	-10.0	-4.1
India*	-6.6	8.7	6.9	6.2
China	2.2	8.1	4.4	4.9
South Africa	-6.4	4.9	1.8	1.3
World	-3.4	5.8	3.0	2.8

Source: OECD Economic Outlook Database, June 2022
Note: Actuals for 2020 and 2021 for forecasts for 2022 and 2023
*data pertains to fiscal year

CPI Inflation

- Due to supply side disruptions emanating from the ongoing geopolitical conflict, inflation in nearly all economies is projected to increase sharply in 2022.
- In advanced economies including the US, the UK, and the Euro area, CPI inflation is projected at unprecedented high levels ranging from 7% to 8.8% in 2022. In 2023, while inflation is expected to ease, it would remain significantly above the respective targets of these economies.
- In Japan, CPI inflation is projected at nearly 2% in 2022 and 2023 fueled by higher commodity prices.
- China's CPI inflation is projected at relatively low levels of 2% in 2022 and 3% in 2023 as large reserves are expected to contain upward price pressures coming from energy and food.
- In Brazil, CPI inflation is expected to pick up to 9.7% in 2022 due to higher commodity prices. It is expected to ease to 5.3% in 2023 as the impact of monetary policy tightening and currency appreciation sets in.
- India's FY23 CPI inflation is projected to increase to 6.7%, in line with the RBI's projection, due to high prices of energy, fertilizers, and edible oils. Although inflation is expected to ease to 6.5% in FY24, it would continue to remain above the RBI's upper tolerance limit of 6%.

Table 3: Average annual CPI inflation (%): selected countries

Country	2020	2021	2022	2023
US	1.2	4.7	7.0	3.5
UK	0.9	2.6	8.8	7.4
Euro area	0.3	2.6	7.0	4.6
Japan	0.0	-0.2	1.9	1.9
Brazil	3.2	8.3	9.7	5.3
Russia	3.4	6.7	16.2	13.3
India*	6.2	5.6	6.7	6.5
China	2.5	0.8	2.0	3.0
South Africa	3.3	4.6	6.0	5.8

Source: OECD Economic Outlook Database, June 2022
Note: Actuals for 2020 and 2021 for forecasts for 2022 and 2023
*data pertains to fiscal year

5. In focus: How far would the inflation storm rock India's growth boat?

1. Introduction

Going by the RBI's assessment, India's growth prospects remain firmly anchored at 7.2% showing limited response to the inflationary storm or the upward movement of interest rates even though the behavior of critical economic agents such as savers and investors are bound to be affected by the prevailing winds.

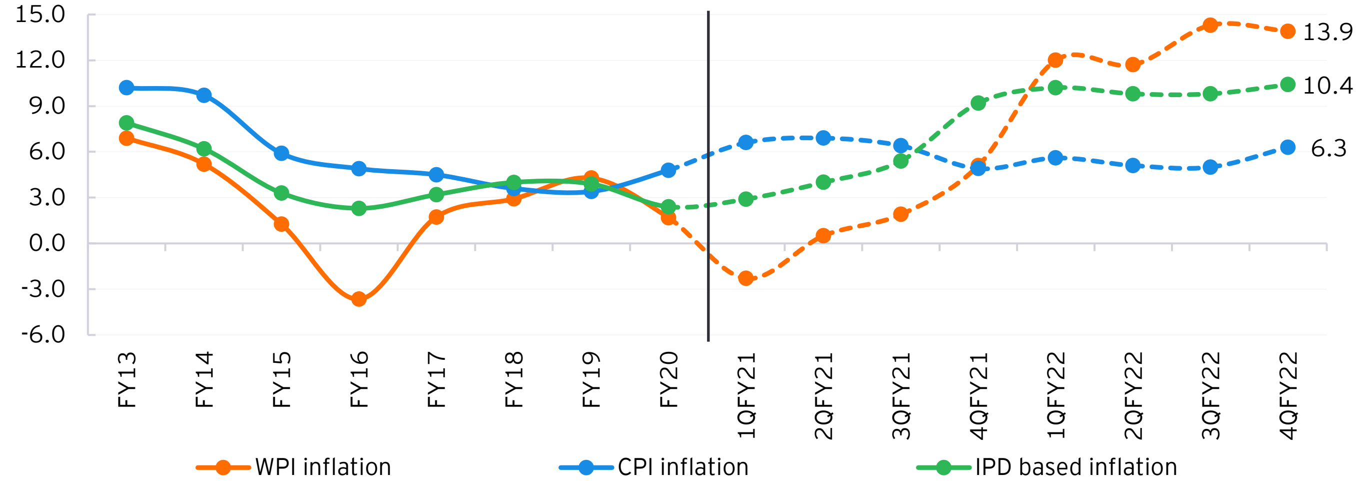
The ongoing inflationary pressures in India have external roots. These have emanated from the current geopolitical conflict, extensive supply constraints, and sustained upward pressure on prices of global crude, food and other primary commodities. These trends have transmitted into many administered or semi-administered prices in India including prices of petroleum products and electricity tariffs. This cost push inflation has affected the WPI inflation which has been slowly pushing up the CPI inflation. The RBI has been forced to increase the repo rate after retaining it at 4% for 24 months to 4.4% in May 2022 and further to 4.9% in June 2022. This upward revision may continue for some more time.

In the wake of the ongoing cost push and supply constraints and the likely upward movement of interest rates, RBI's real GDP growth forecast for FY23 at 7.2% may be realized only if a strong fiscal support is mounted.

2. Inflation trends: CPI, WPI and IPD

Chart 7 shows three notable patterns in recent quarters: (1) significant upward movement of the WPI inflation, (2) increase in the CPI inflation but with a lag and by a lower margin, and (3) IPD-based inflation tracing these trends, lying in the intermediate space closer to the WPI line.

Chart 7: Inflation trends: CPI, WPI and IPD



Source: MOSPI, Office of Economic Advisor

3. CPI, WPI and IPD: structure of weights and interlinkages

Table 4 provides a comparative view of the weight structure of the latest CPI and WPI series where the base year is 2012 for CPI and 2011-12 for WPI. The fuel and power group has slightly higher weight in the WPI as compared to the CPI. In the non-fuel category, food and beverages has a much higher weight in the CPI as compared to the WPI. A significant portion of the WPI includes items that are excluded in the CPI. These relate to industrial inputs including machinery and equipment. Together, their weight is nearly 45%. On the other hand, the CPI contains services which are not included in the WPI. This was one of the reasons why the WPI was eventually dropped and the CPI was preferred to provide guidance in the formulation of monetary policy.

Table 4: Comparison of Weight Structure: CPI (2012=100) vs WPI (2011-12=100)

#	Items	CPI	WPI	#	Items	CPI	WPI
Common Items		Weight		Non-fuel cont.		Weight	
1	**Fuel and Power**	**9.2**	**13.2**	c	Clothing and Footwear	6.5	1.5
a	Electricity	2.3	3.1	d	Textiles and made-ups	0.3	2.8
b	Fuel and Power excl. electricity	4.6	10.1	Non-Common Items			
c	Petrol and diesel used for transportation	2.3		1	CPI - Services	28.5	
2	Non-fuel	**55.1**	**33.6**	2	WPI - Inputs including machinery and equipment		44.8
a	Food and Beverages	45.9	28.1	Residual Items			
b	Pan and Intoxicants	2.4	1.2	1	Other goods (CPI/WPI)	**7.2**	**8.4**

Source: MOSPI, Office of Economic Advisor

The IPD of national income aggregates such as those pertaining to GDP and GVA where both goods and services are comprehensively covered, provide a more reasonable guidance regarding the movement of prices. However, IPD is not directly measured, but is derived from real and nominal GDP/GVA magnitudes at current and constant prices. A series for IPD is available on quarterly and annual basis only. Movements in IPD can be seen as a weighted sum of movements in the WPI and the CPI. The relative weights attached to the WPI and the CPI inflation in IPD-based inflation are also not explicitly stated. These may be derived through a regression equation. This is depicted in Table A1 (Technical appendix). This equation indicates that when the WPI inflation exceeds a certain limit (2.48%), the relative weight associated with the WPI inflation vis-à-vis the CPI inflation in determining the IPD-based inflation increases considerably. Prior to this limit, the weight attached to the CPI inflation is higher.

4. Relationship between global crude and food prices and India's inflation

Chart 8 shows the global crude price in terms of US$ per barrel and global food index. Chart 9 shows the inflation rates based on these. In both cases, there is a high degree of correlation in the sense that food prices move parallelly to crude prices, both in terms of levels and in terms of inflation rates. Food prices may be affected by the movement of crude prices because many costs factors that affect food prices relate to energy prices which are driven by the movement of global crude prices. In particular, transport and storage costs of food grains are highly energy intensive. Energy is also used intensively in irrigation and other agricultural operations.

Chart 8: Global crude price (US$/bbl.) and food index

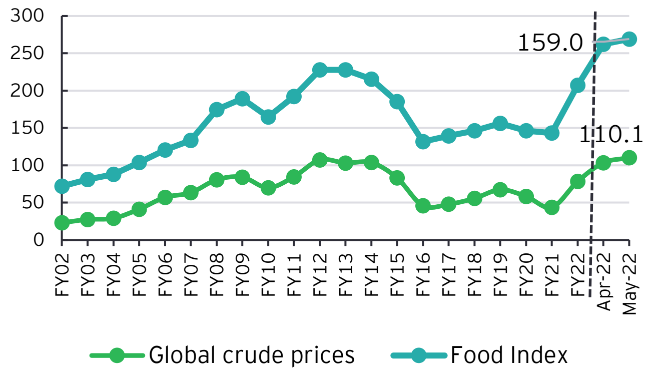
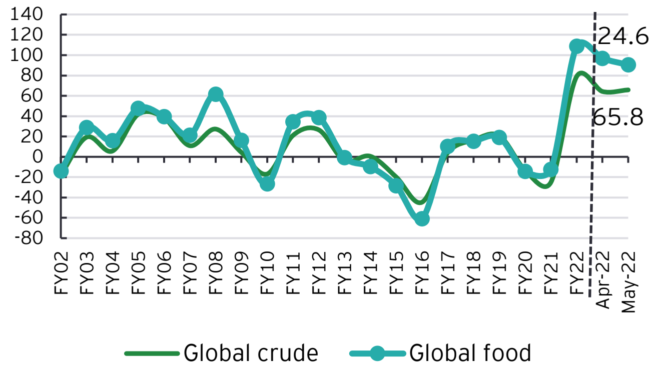


Chart 9: Inflation in global crude price and food index (%, y-o-y)



Source (basic data): World Bank

5. Inflation and Monetary Policy

Monetary policy in India has evolved from a multiple indicator approach and a focus on WPI inflation to a regime of flexible inflation targeting with a focus on CPI inflation. In February 2015, a Monetary Policy Framework (MPF) was agreed upon between the Government of India and the RBI. As per the framework, the RBI was mandated to target a CPI inflation rate below 6% by January 2016. CPI inflation target for FY17 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. 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 Central government 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. After completing the period of five years since its inception in February 2015, the MPF was reviewed in March 2021 wherein the RBI retained the average CPI inflation target at 4% with a range of +/-2% for the next five years.

It may be noted that the CPI inflation rate in 4QFY22 was at 6.3%. Considering this along with the RBI's assessment for inflation in 1Q and 2Q of FY23 at 7.5% and 7.4% respectively, the CPI inflation would be higher than the upper tolerance limit of 6% for three consecutive quarters.

6. Inflation and Fiscal Policy

Inflation and growth are two critical inputs in the formulation of both monetary and fiscal policies. In India, the MPF has guided the RBI to remain focused on controlling inflation while the Ministry of Finance at the Center has been left with the relatively broader responsibility for managing growth while keeping in mind the FRBM norms.

Inflation affects fiscal policy directly and indirectly. One direct channel of influence is through the effect of IPD-based inflation on nominal GDP growth. This impacts the tax bases for central and state taxes. A relatively high gap between nominal and real GDP growth has historically been accompanied by higher tax buoyancy and tax revenue growth for a given structure of taxes. This affects the availability of fiscal resources which may be either used for supporting growth or for containing inflation or both.

At the present juncture, developments of this nature are likely to cause a massive difference between budget estimates for tax revenues and realisations. Given the high levels of the CPI and WPI inflation, we consider that an IPD-based inflation of 10% or more may be feasible implying a nominal GDP growth of about 18%. Combined with a buoyancy of 1.2, Center's GTR may show a growth of close to 22%, exceeding the budgeted growth of 9.6% by a wide margin. Applying this growth of 22% on the actual collections for FY22 as per the CGA, the magnitude of Center's GTR in FY23 would exceed the corresponding budget estimates by nearly INR5.5 lakh crore, benefitting both central and state governments. This unanticipated fiscal windfall would open up a window for an aggressive expansion of infrastructure after taking into account inflation-linked increases in expenditures on items such as food and fertilizer subsidies. Some of this additional fiscal capacity may also be used for further reducing excise duty and VAT on petroleum products thereby applying a brake on the inflationary momentum.

7. Inflation and growth

Two categories of savers and investors namely, households and private corporate sector, are bound to be affected by real interest rate changes. Public sector's savings and investment performance may be relatively autonomous and less responsive to changes in real interest rates. Real interest rates in turn are the outcome of movements of nominal interest rates and prices. As long as the increase in inflation remains higher than the rate of upward movement of nominal interest rates, real interest rates may be expected to fall. In such a situation, private investment may increase but private savings may fall. The outcome would be opposite to this in a period when real interest rates increase. In Charts 10 and 11, a distinction is made between the relevant interest rates for investors vis-à-vis depositors (savers). Chart 10 shows the movement of real and nominal interest rates for savers where a sharp fall in the real interest rates in FY21 and FY22 is highlighted. For investors also, there is a noticeable fall as shown in Chart 11. But it is of a lesser degree than that for the savers. Thus, the high inflation rates would have an adverse impact on growth due to the large adverse impact on savings. A reduction in savings reduces investible resources and puts pressure on interest rates, thereby eventually adversely affecting private investment.

Chart 10: Interest rates for savers (real and nominal)

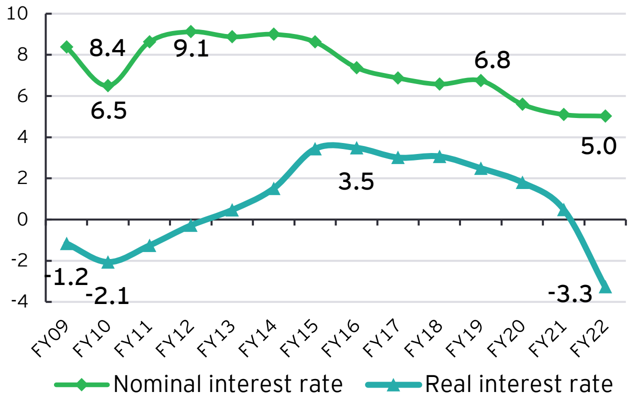
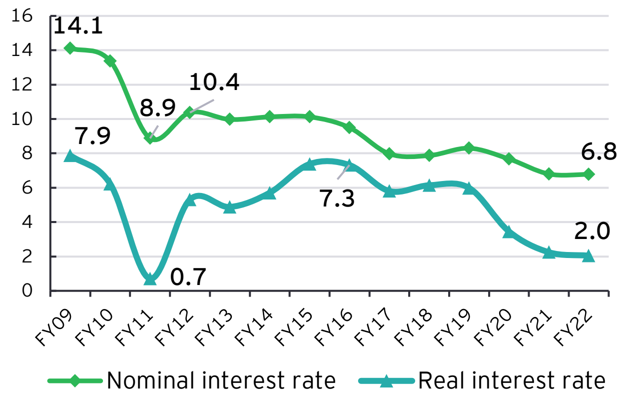


Chart 11: Interest rates for investors (real and nominal)



Source (basic data): RBI, MoSPI
Note: Real interest rate for savers is estimated by reducing from the average 1-3 year term-deposit rate the annual deflator based inflation of PFCE. Real interest rate for investors is estimated by reducing from the annual average lending rate the 5-year moving average of GCF deflator-based inflation.

Many multilateral agencies including the World Bank, the IMF and the OECD have reduced India's growth prospects for FY23. The lowest amongst these is that by the OECD at 6.9%. Even at this lower level, India's real GDP growth in FY23 is projected to lead global growth by a significant margin.

8. Concluding observations

India, like many other global economies, is currently experiencing serious inflationary pressures. This is reflected in all the three inter-dependent inflation measures namely, the CPI, WPI and IPD. The highest levels of inflation in recent months have been witnessed in the WPI index. As per the RBI, the CPI inflation is projected at 6.7% for FY23, remaining above the 6% upper tolerance limit of the MPF. High inflation rates would have an adverse impact on growth as it increases the cost of investment although differentially in real and nominal terms, and reduces availability of investible resources. However, this adverse growth influence can at least be partially neutralized by making use of the additional fiscal capacity which is expected to be largely an outcome of an increase in the nominal GDP growth well above the budget estimates for FY23. We estimate that the additional central GTR may exceed the budget estimates by more than INR5 lakh crore, benefitting both central and state governments. This can accommodate a significantly higher than budgeted stimulus after taking into account inflation-linked increases in expenditures on items such as food and fertilizer subsidies. The remaining additional fiscal capacity may be directed towards capital expenditure. It may also be partially used to mitigate the ongoing inflationary pressures to some extent, by further reducing the excise duty and VAT on petroleum products.

Major advanced economies are aggressively increasing their policy rates to contain the inflationary pressures. With the CPI inflation in the US reaching a 40-year high of 8.6% in May 2022, the Federal Reserve, in its June 2022 monetary policy meeting, increased the benchmark Federal Funds rate by 75 basis points to a range of 1.5% to 1.75%, its largest rate hike for a single meeting since 1994. The Fed officials expect the year-end Federal Funds rate to increase to 3.4% from 1.9% as projected earlier in March 2022[5]. India may have to follow suit and the RBI may have to increase the repo rate in the next few MPC meetings. It is thus the fiscal policy which may have to play a strong growth-supporting role. In FY23, real GDP growth may turn out to be 7.2% or higher contingent upon a strong fiscal stimulus.

[5] https://www.federalreserve.gov/monetarypolicy/fomcprojtabl20220615.htm

Technical appendix

Table A1: Threshold regression approach for determining GVA IPD-based inflation

Dependent Variable: DLIPD				
Sample: 2014Q1 2022Q4				
Included observations: 36				
Selection: Trimming 0.15, Max. thresholds 5, Sig. level 0.05				
Threshold variable: DLWPI				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
DLWPI < 0.02477827 -- 29 obs				
C	-0.001	0.004	-0.386	0.703
DLWPI	0.565	0.140	4.042	0.000
DLCPI	0.889	0.189	4.711	0.000
0.02477827 <= DLWPI -- 7 obs				
C	-0.034	0.017	-2.062	0.049
DLWPI	1.772	0.546	3.247	0.003
DLCPI	0.059	0.236	0.251	0.804
Non-Threshold Variables				
DLIPD(-1)	-0.337	0.088	-3.829	0.001
DLIPD(-2)	0.297	0.107	2.767	0.010
DD2015Q4	-0.023	0.010	-2.252	0.033
R-squared	**0.873**	**Mean dependent var**		**0.011**
Adjusted R-squared	**0.835**	**S.D. dependent var**		**0.022**
F-statistic	**23.193**	**Durbin-Watson stat**		**2.185**
Prob(F-statistic)	**0.000**			

Source (basic data): MoSPI, Office of Economic Advisor, GoI | Note: Regression equation is estimated using E-views (version 12).

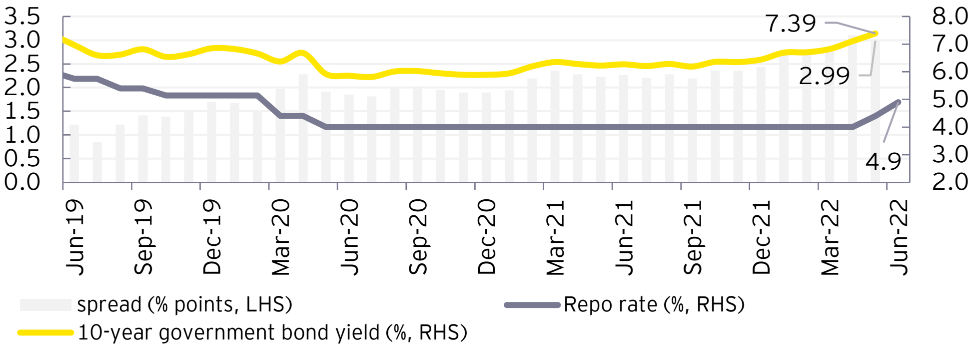
6. Money and finance: the RBI increased the repo rate by 50 basis points to 4.9% in June 2022

A. Monetary sector

Monetary policy

- The RBI, in its monetary policy review held on 8 June 2022, increased the repo rate by 50 basis points to 4.9% **(Chart 12)**. Thus, within a span of 35 days, the repo rate has been hiked by a cumulative 90 basis points. The Standing Deposit Facility and Marginal Standing Facility rates were also adjusted upwards to 4.65% and 5.15% respectively in June 2022, increasing from 4.15% and 4.65% respectively in May 2022. The MPC changed its stance to gradual withdrawal of accommodation.
- The MPC noted that the upside risks to inflation have intensified further and the inflationary pressures have become broad-based largely driven by adverse supply shocks. In addition, the pass-through of input costs to selling prices has also increased. The RBI has therefore projected the CPI inflation at 6.7% in FY23, well above the upper tolerance limit of 6%.

Chart 12: Movements in the repo rate and 10-year government bond yield



Source: Database on Indian Economy, RBI

The RBI, in its monetary policy review held on 8 June 2022, increased the repo rate by 50 basis points to 4.9%.

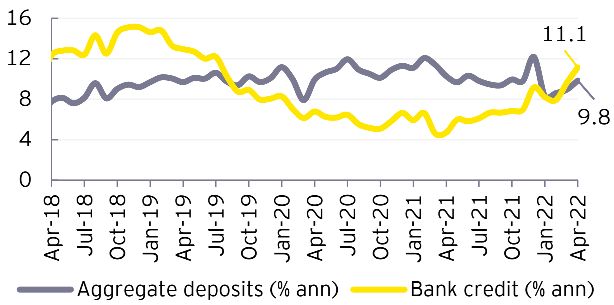
Money stock

- Growth in broad money stock (M3) fell to 8.8% in May 2022 from 10.2% in April 2022. This was due to a fall in both narrow money (M1) and time deposits.
- Growth in M1 moderated to 11.7% in May 2022 from 13.2% in April 2022 due to a slowdown in the growth of currency with the public and demand deposits. Growth in currency with the public moderated to 8.9% in May 2022 from 11.0% in April 2022 while growth in demand deposits was marginally lower at 16.1% in May 2022 as compared to 16.3% in April 2022.
- Time deposits, accounting for about 76% of M3 on average (last three years), also grew at a slower pace of 7.8% in May 2022 as compared to 9.2% in April 2022.

Aggregate credit and deposits

- Outstanding bank credit by scheduled commercial banks (SCBs) grew by 11.1% in April 2022, its fastest pace since August 2019 **(Chart 13)**. This was due to higher growth in credit across all the key sectors of the economy.
- Growth in non-food credit was higher at 11.3% in April 2022 as compared to 9.7% in March 2022.
- Sectoral bank credit data indicate that growth in credit to services improved to 11.1% in April 2022 as compared to 8.9% in March 2022 pointing to a recovery in services sector demand.

Chart 13: Growth in credit and deposits



Source: Database on Indian Economy, RBI

- Growth in outstanding credit to industries also increased to 8.1% in April 2022 from 7.1% in March 2022. Within the industrial sector, credit to drugs and pharmaceuticals showed the highest growth of 15.4% in April 2022 as compared to 13.4% in March 2022. Further, growth in credit to chemical and chemical products and infrastructure increased to 10.2% each in April 2022 from 9.3% and 8.7% respectively in March 2022.
- Personal loans, accounting for about 30% of total non-food credit, grew at a faster pace of 14.7% in April 2022 as compared to 12.4% in March 2022.
- Growth in credit to agricultural sector also improved to a four-month high of 10.6% in April 2022 from 9.9% in March 2022.
- Aggregate bank deposits showed a growth of 9.8% in April 2022, improving from 8.9% in March 2022.

B. Financial sector

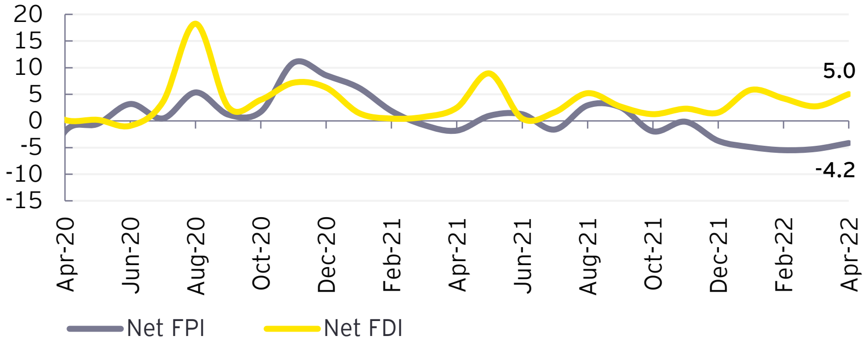
Interest rates

- As per the data released by the RBI on 10 June 2022, the average interest rate on term deposits with a maturity of more than one year was increased marginally to 5.32% in May 2022, with the actual rate ranging from 5.00% to 5.64%.
- The average MCLR was also increased marginally to 6.79% in May 2022 from 6.74% in April 2022. In May 2022, actual MCLR ranged between 6.58% and 7.00%.
- The average yield on 10-year government bonds increased by about 28 basis points to 7.39% in May 2022 from 7.11% in April 2022, its highest level since May 2019 **(Chart 12)**. Since the presentation of FY23 budget in February 2022, benchmark bond yields have increased by a cumulated 68 basis points. Given that repo rate was hiked by 40 basis points in May 2022, the spread between benchmark bond yield and repo rate narrowed marginally to 2.99% points in May 2022 from 3.10% points in April 2022.
- WALR on fresh rupee loans by SCBs fell by 11 basis points to 7.52% in April 2022 from 7.63% in March 2022.

FDI and FPI

- As per the provisional data released by the RBI on 16 June 2022, overall foreign investment[6] (FIs) inflows were at US$0.9 billion in April 2022 as compared to outflows of US$(-)2.5 billion in March 2022. This was largely due to higher net FDI inflows during the month.

Chart 14: Net FDI and FPI inflows (US$ billion)



Source: Database on Indian Economy, RBI

Net FDI inflows increased to a three-month high of US$5.0 billion while FPI's registered outflows for the seventh successive month at US$(-)4.2 billion in April 2022.

- Net FDI inflows surged to a three-month high of US$5.0 billion in April 2022 from US$2.7 billion in March 2022 **(Chart 14)**. Gross FDI inflows also increased to US$8.4 billion in April 2022 from US$6.7 billion in March 2022.
- FPIs registered outflows for the seventh consecutive month with net outflows at US$(-)4.2 billion in April 2022. With this, the cumulative net FPI outflows amounted to US$(-)25.7 billion during October 2021 to April 2022.

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

7. Trade and CAB: current account posted a deficit at (-)1.2% GDP in FY22

A. CAB: current account deficit eased to (-)1.5% of GDP in 4QFY22

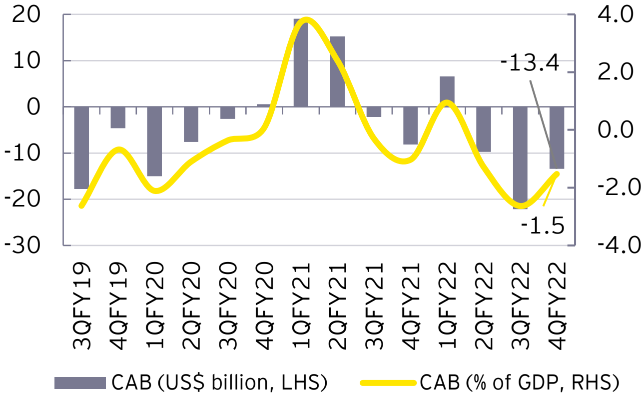
- Current account deficit narrowed to (-)1.5% of GDP in 4QFY22 from (-)2.6% of GDP in 3QFY22 **(Chart 15, Table 5)** reflecting an improvement in exports to 13.4% of GDP from 13.0% and a decline in imports to 19.6% of GDP from 20.1%.
- On an annual basis, current account posted a deficit of (-)1.2% relative to GDP in FY22 as compared to a surplus of 0.9% in FY21. Merchandise trade deficit increased to a three-year high of (-)6.0% of GDP in FY22 largely reflecting rising global crude and commodity prices. Net transfer receipts fell to a four-year low of 2.5% of GDP in FY22 although net service receipts surged to a seven-year high of 3.4% of GDP.

Table 5: 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
1QFY22	0.9	6.6	-30.7	37.3
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

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

Chart 15: CAB



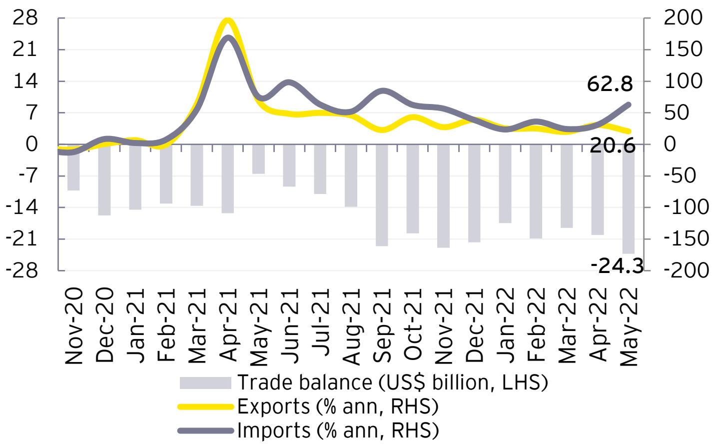
Source: Database on Indian Economy, RBI

B. Merchandise trade and exchange rate

Growth in the value of merchandise exports remained high at 20.6% in May 2022, although falling from 30.7% in April 2022. Imports growth doubled to 62.8% in May 2022 from 31.0% in April 2022.

- Relative to April 2022, merchandise exports growth moderated to 20.6% in May 2022 as growth in exports of petroleum products, engineering goods, and organic and inorganic chemicals eased to 60.9%, 12.7%, and 17.4% respectively in May 2022 from 127.7%, 22.0% and 32.3% in April 2022, aided partly by base effects.
- Merchandise imports growth increased to an eight-month high of 62.8% in May 2022 due to a surge in growth of gold imports (789.2%) and higher growth in imports of oil (102.7%), and coal and coke (172.1%). Growth in imports of transport equipment turned positive at 18.3% in May 2022 after contracting for seven successive months.
- Y-o-y growth in exports excluding oil, gold and jewelry fell to 13.3% in May 2022 from 19.9% in April 2022. Growth in imports of this segment eased only marginally to 33.3% in May 2022 from 34.7% in April 2022.
- Merchandise trade deficit widened to a record high of US$(-)24.3 billion in May 2022 from US$(-)20.1 billion in April 2022 **(Chart 16).**
- Services trade surplus fell to a five-month low of US$8.5 billion in April 2022.
- The rupee fell to an unprecedented low level of INR77.3 per US$ (average) in May 2022 from INR76.2 per US$ (average) in April 2022 on account of pressures arising from a) hike in interest rates by the Federal Reserve, b) higher FPI outflows, c) rising crude prices, and d) widening trade deficit.

Chart 16: Developments in merchandise trade



Source: Ministry of Commerce and Industry, GoI

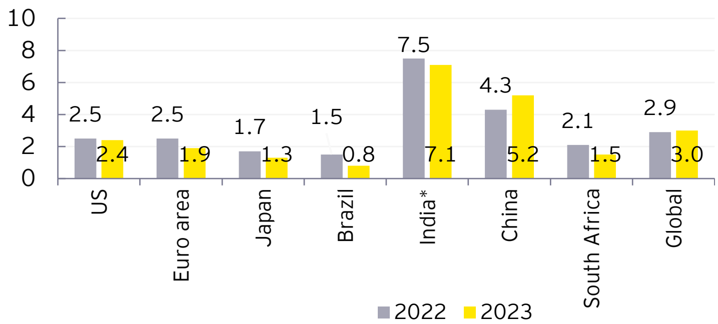
8. Global growth: World Bank projected global growth at 2.9% in 2022 and 3.0% in 2023

A. Global growth

The World Bank has projected global growth at 2.9% in 2022 with India's FY23 growth projected at 7.5%.

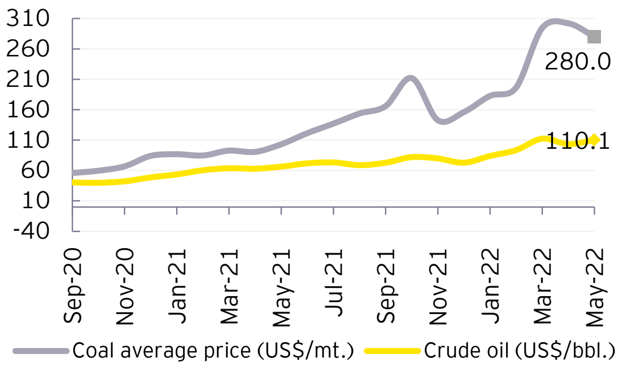
- As per the World Bank (Global Economic Prospects, June 2022), global growth is forecasted at 2.9% in 2022, a downward revision of 1.2% points from the January 2022 forecast (**Chart 17**). More acute inflationary pressures and consequently, a faster pace of monetary tightening than anticipated earlier due to the ongoing geopolitical conflict accounted for most of the downward revision. Global growth is expected to only marginally increase to 3% in 2023 as these challenges are expected to persist.
- Growth in AEs is projected at 2.6% in 2022, moderating to 2.2% in 2023. On the other hand, in EMDEs, growth is forecasted at 3.4% in 2022, improving to 4.4% in 2023.
- Growth in the US is projected at 2.5% in 2022, a downward revision of 1.2% points reflecting higher energy prices, tighter financial conditions and additional supply disruptions. Growth is expected to moderate to 2.4% in 2023 as continued withdrawal of fiscal support and monetary policy tightening is expected to weigh on activity.
- In the Euro area, growth is projected at 2.5% in 2022, a downward revision of 1.7% points on account of supply shocks due to the geopolitical conflict. Growth is projected to fall to 1.9% in 2023 as European Central Bank tightens monetary policy and the impact of the conflict continues.
- Growth in Japan is projected at 1.7% in 2022 and 1.3% in 2023 reflecting a larger than expected drag from COVID, deterioration in the terms of trade caused by the conflict and weaker exports.
- China's growth is projected at 4.3% in 2022, a downward revision of 0.8% points reflecting large damage from COVID-related lockdowns, and worsening terms of trade.
- India's growth forecast was revised down by 1.2% points to 7.5% in 2022 (FY23) with headwinds from rising inflation, supply chain disruptions, and geopolitical tensions offsetting buoyancy in the recovery of services consumption from the pandemic. The OECD's forecast for India's FY23 growth stands lower at 6.9%.

Chart 17: Global growth projections (%)



Source: World Bank Global Economic Prospects (June 2022)
*Data pertains to fiscal years FY23 and FY24 respectively.

Chart 18: Global crude and coal prices



Source (basic data): World Bank, Pink Sheet, June 2022

B. Global energy prices: Global crude price increased to US$110/bbl. in May 2022

- Following a mild fall to US$103.4/bbl. in April 2022, average global crude price[7] increased to US$110.1/bbl. in May 2022 **(Chart 18)**. The upward price movement in May 2022 was driven by prospects of tighter supply amid rising demand particularly by the US[8].
- Despite falling from a historic high of US$302.0/mt. in April 2022 to US$280.0/mt. in May 2022, average global coal price[9] remained significantly elevated relative to its long-term average largely owing to continued supply disruptions caused by China's ban on Australian coal.

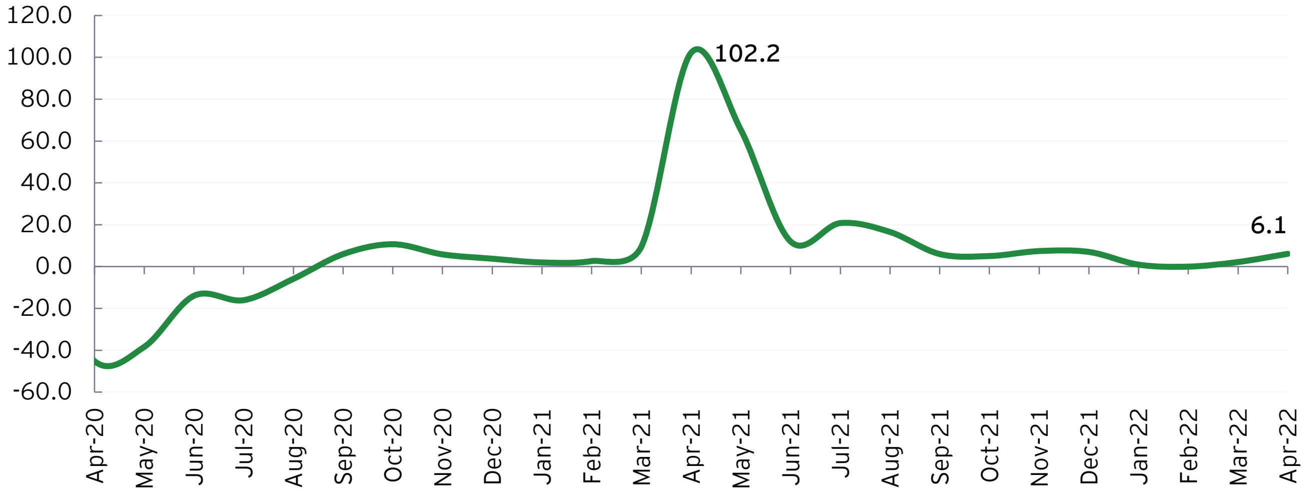
[7] Simple average of three spot prices, namely, Dated Brent, West Texas Intermediate and Dubai Fateh
[8] https://www.business-standard.com/article/international/oil-prices-climb-on-prospects-for-tighter-supply-as-demand-rises-122052500105_1.html
[9] Simple average of Australian and South African coal prices

9. Index of Aggregate Demand (IAD): pointed to a pickup in demand in April 2022

IAD showed a relatively high growth of 6.1% in April 2022 as compared to 2.2% in March 2022

- EY has developed an 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. Demand conditions in the agricultural sector (sa)[10] have been captured by movements in monthly agricultural credit off-take.
- Pointing to a broad-based recovery in demand conditions across all the three key sectors of the economy, growth in IAD increased to 6.1% in April 2022 from 2.2% in March 2022 **(Chart 19 and Table 6)**.
- Demand conditions in the services sector showed a considerable pickup while those in manufacturing appeared broadly stable with marginal improvement over March 2022.
- Demand conditions in the agricultural sector, as indicated by growth in credit off-take, also showed a marginal improvement during April 2022.

Chart 19: Growth in IAD (y-o-y)



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

Table 6: IAD

Month	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22
IAD	141.0	140.6	145.8	147.2	145.6	140.2	141.0	142.6	147.8
Growth (% y-o-y)	16.5	6.0	5.0	7.4	7.0	0.9	0.0	2.2	6.1
Growth in agr. credit	11.6	10.1	10.1	10.5	14.6	10.1	10.3	9.9	10.4
Mfg. PMI**	2.3	3.7	5.9	7.6	5.5	4.0	4.9	4.0	4.7
Ser. PMI**	6.7	5.2	8.4	8.1	5.5	1.5	1.8	3.6	7.9

**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

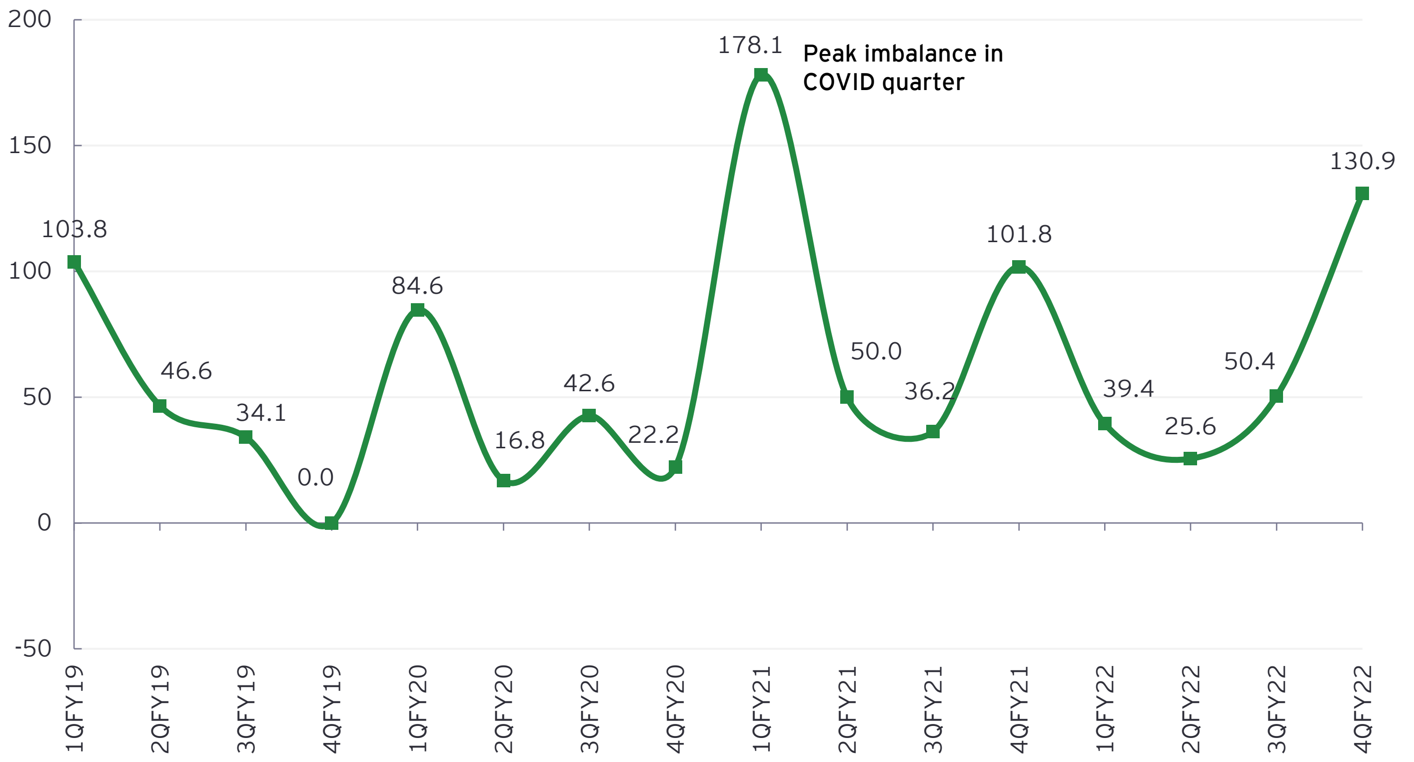
[10] We have constructed a seasonally adjusted series for agricultural credit using Census X-13 technique in E-views (version 12).

10. Index of Macro Imbalance (IMI): showed a further deterioration in the macro imbalance in 4QFY22

IMI increased to 130.9 in 4QFY22 from 50.4 in 3QFY22

- The IMI is obtained by adding the percentage deviation of inflation rate (based on new CPI 2012 = 100), fiscal deficit (as a percentage of GDP) and current account deficit (as a percentage of GDP) from their respective benchmarks of 4%, 3% of GDP and (-)1.3%[11] of GDP. All three components of IMI have been given equal weightage (33.33%). The state of balance is judged by a value of 0.
- An index value greater than zero indicates the presence of an imbalance in the economy. While considering the percentage deviation of each of the indicators from its selected norm, only the positive deviations are taken. Negative deviations are equated to zero to ensure that the negative and positive deviations across indices are not canceled out.
- IMI pointed to a sharp deterioration in macro balance in 4QFY22 with the index value increasing to 130.9 from 50.4 in 3QFY22 **(Chart 20)** largely due to a higher fiscal deficit to GDP ratio and rising CPI inflation.
- Center's fiscal deficit increased sharply to 12.5% of GDP in 4QFY22 from 3.7% of GDP in 3QFY22. Its contribution to the IMI was the highest in 4QFY22 followed by that of CPI inflation.
- CPI inflation at 6.3% in 4QFY22 was at its highest level since 3QFY20 and was also above the RBI's upper tolerance limit of 6%.
- Current account deficit narrowed to (-)1.5% of GDP in 4QFY22 from (-)2.6% of GDP in 3QFY22. CAD as % of GDP was only marginally higher than its benchmark value of 1.3% and therefore, its contribution to the IMI was significantly lower in 4QFY22.

Chart 20: IMI (quarterly)



Source (Basic data): RBI, MoSPI and EY estimates

[11] Rangarajan, C (2016): "Can India grow at 8 to 9 per cent?" The Hindu, http://www.thehindu.com/opinion/lead/can-india-grow-at-8-to-9-per-cent/article8596824.ece, Accessed on 17 May 2016.

11. 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	11.8	8.0	10.4	FY22	54.0	52.3
1QFY22	44.4	27.5	53.0	16.8	26.0	1QFY22	51.5	47.2
2QFY22	9.5	17.1	8.6	9.3	9.2	2QFY22	53.8	52.4
3QFY22	2.1	6.1	1.4	2.7	5.3	3QFY22	56.3	57.3
4QFY22	1.9	3.8	1.3	3.9	4.9	4QFY22	54.3	52.3
Jan-22	2.0	3.0	1.9	0.9	4.0	Feb-22	54.9	51.8
Feb-22	1.5	4.5	0.5	4.5	6.0	Mar-22	54.0	53.6
Mar-22	2.2	3.9	1.4	6.1	4.9	Apr-22	54.7	57.9
Apr-22	7.1	7.8	6.3	11.8	8.4	May-22	54.6	58.9

Source: MoSPI, Office of the Economic Adviser, Ministry of Commerce and Industry and IHS Markit Economics

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	6.7	11.0	32.9	10.9
1QFY22	5.6	4.0	10.8	6.1	12.0	7.5	10.5	28.8	9.9
2QFY22	5.1	2.6	13.0	6.0	11.7	3.6	11.5	28.2	11.3
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	9.0	10.2	33.2	10.4
Feb-22	6.1	5.9	8.7	5.9	13.4	8.7	10.2	30.8	10.4
Mar-22	7.0	7.7	7.5	6.4	14.6	9.3	11.3	31.8	11.4
Apr-22	7.8	8.3	10.7	7.1	15.1	8.9	10.9	38.7	11.1
May-22	7.0	8.0	9.5	6.1	15.9	10.9	10.1	40.6	10.4

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	
Sep-21	64.2	105.1	64.7	83.9	48.1	35.0	27.7
Oct-21	55.8	91.6	53.3	70.9	44.0	36.3	27.5
Nov-21	50.3	90.4	47.2	66.3	38.6	46.2	38.8
Dec-21	44.2	66.5	50.5	58.7	31.5	47.7	36.4$
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

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 (Center)
	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)					
Sep-21	47,379	222	-634	8,489	55,456
Oct-21	48,546	140	8,970	8,221	65,877
Nov-21	49,238	118	7,238	9,442	66,036
Dec-21	46,227	254	14,635	9,141	70,257
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

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
Aug-21	4.00	FY19	13.7	8.9	30.7	-0.6	FY19	13.6	10.5	7.69	411.9
Sep-21	4.00	FY20	9.5	9.9	43.0	1.4	FY20	11.2	8.9	6.83	475.6
Oct-21	4.00	FY21	5.9	11.0	44.0	36.1	FY21	16.2	12.2	6.05	579.3
Nov-21	4.00	FY22	7.2	9.7	39.3	-17.2	FY22	10.6	8.7	6.40	617.6
Dec-21	4.00	1QFY22	5.5	10.1	11.8	0.4	1QFY22	15.4	10.7	6.26	609.0
Jan-22	4.00	2QFY22	6.5	9.5	9.6	3.9	2QFY22	11.4	9.3	6.23	638.6
Feb-22	4.00	3QFY22	7.7	10.6	5.1	-5.8	3QFY22	11.5	9.3	6.38	633.6
Mar-22	4.00	4QFY22	8.6	8.6	12.8	-15.7	4QFY22	10.6	8.7	6.74	617.6
Apr-22	4.00	Jan-22	8.2	8.3	5.8	-4.9	Feb-22	11.6	8.7	6.71	631.5
Apr-22	4.00	Feb-22	7.9	8.6	4.2	-5.5	Mar-22	10.6	8.7	6.82	617.6
May-22	4.40	Mar-22	9.6	8.9	2.7	-5.3	Apr-22	13.2	10.2	7.11	597.7
Jun-22	4.90	Apr-22	11.1	9.8	5.0	-4.2	May-22	11.7	8.8	7.39	601.4

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
1QFY22	86.2	109.7	-31.2	73.8	67.1	105.1	2016	3.3	1.8	4.5
2QFY22	38.5	66.5	-47.4	74.1	71.7	152.3	2017	3.8	2.5	4.8
3QFY22	36.6	51.4	-64.3	74.9	78.3	170.3	2018	3.5	2.2	4.5
4QFY22	23.1	27.7	-56.8	75.2	96.6	224.5	2019	2.8	1.6	3.7
Feb-22	25.1	36.1	-20.9	75.0	93.5	196.4	2020	-3.1	-4.5	-2.0
Mar-22	19.8	24.2	-18.5	76.2	112.4	294.4	2021	6.1	5.2	6.8
Apr-22	30.7	31.0	-20.1	76.2	103.4	302.0	2022	3.6	3.3	3.8
May-22	20.6	62.8	-24.3	77.3	110.1	280.0	2023	3.6	2.4	4.4

Source: Database on Indian Economy - RBI, Pink Sheet - World Bank and IMF World Economic Outlook April 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
4QFY20	3.3	7.5	-1.3	-4.6	2.7	1.8	5.1	4.2	7.6	3.0
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

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
4QFY20	2.7	1.2	8.0	0.6	-9.1	-2.4	4.3
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

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	NPA	non-performing assets
60	NCLT	National Company Law Tribunal
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	PSBR	public sector borrowing requirement
68	RE	revised estimates
69	PSU/PSE	public sector undertaking/public sector enterprises
70	RBI	Reserve Bank of India
71	SLR	Statutory Liquidity Ratio
72	Trans.	trade, hotels, transport, communication and services related to broadcasting
73	US$	US Dollar
74	UTGST	Union Territory Goods and Services Tax
75	WALR	weighted average lending rate
76	WHO	World Health Organization
77	WPI	Wholesale Price Index
78	y-o-y	year-on-year
79	1HFY20	first half of fiscal year 2019-20, i.e., April 2019-September 2019

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Divyasree Chambers
11, Langford Gardens
Bengaluru - 560 025
Tel: + 91 80 6727 5000

Chandigarh
Elante offices,
Unit No. B-613 & 614
6th Floor, Plot No- 178-178A,
Industrial & Business Park, Phase-I,
Chandigarh - 160002
Tel: + 91 172 671 7800

Chennai
Tidel Park, 6th & 7th Floor
A Block, No.4, Rajiv Gandhi Salai
Taramani, Chennai - 600 113
Tel: + 91 44 6654 8100

Delhi NCR
Golf View Corporate Tower B
Sector 42, Sector Road
Gurgaon - 122 002
Tel: + 91 124 443 4000

3rd & 6th Floor, Worldmark-1
IGI Airport Hospitality District
Aerocity, New Delhi - 110 037
Tel: + 91 11 4731 8000

4th & 5th Floor, Plot No 2B
Tower 2, Sector 126
NOIDA - 201 304
Gautam Budh Nagar, U.P.
Tel: + 91 120 671 7000

Hyderabad
THE SKYVIEW 10
18th Floor, "SOUTH LOBBY"
Survey No 83/1, Raidurgam
Hyderabad - 500 032
Tel: + 91 40 6736 2000

Jamshedpur
1st Floor, Shantiniketan Building
Holding No. 1, SB Shop Area
Bistupur, Jamshedpur – 831 001
Tel: + 91 657 663 1000

Kochi
9th Floor, ABAD Nucleus
NH-49, Maradu PO
Kochi - 682 304
Tel: + 91 484 433 4000

Kolkata
22 Camac Street
3rd Floor, Block 'C'
Kolkata - 700 016
Tel: + 91 33 6615 3400

Mumbai
14th Floor, The Ruby
29 Senapati Bapat Marg
Dadar (W), Mumbai - 400 028
Tel: + 91 22 6192 0000

5th Floor, Block B-2
Nirlon Knowledge Park
Off. Western Express Highway
Goregaon (E)
Mumbai - 400 063
Tel: + 91 22 6192 0000

Pune
C-401, 4th floor
Panchshil Tech Park
Yerwada
(Near Don Bosco School)
Pune - 411 006
Tel: + 91 20 4912 6000

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