

Economy Watch

Monitoring India's
macro-fiscal performance

November 2018

The EY logo is positioned in the bottom right corner of the page. It consists of the letters 'EY' in a bold, white, sans-serif font. The background of the entire page is a blurred photograph of Indian currency, including several coins and banknotes, resting on a dark wooden surface. A yellow geometric shape is overlaid on the top left of the page, containing the title and subtitle text.

Building a better
working world

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Highlights

1. IIP growth decelerated to a four-month low of 4.5% in September 2018 from 4.7% in August 2018.
2. Both, manufacturing and services PMI, showed an accelerated growth in October 2018 with the respective index values at 53.1 and 52.2.
3. CPI inflation eased significantly to a 13-month low of 3.3% in October 2018 from 3.7% in September 2018, driven primarily by a contraction in food prices.
4. WPI inflation however, showed an upward trend rising to a four-month high, mainly due to an increase in fuel prices.
5. Center's indirect tax revenues grew only by 4.4% during 1HFY19 as compared to 23% in the corresponding period of FY18.
6. Center's proceeds from disinvestment by November 2018 stood at only 19% of the FY19 annual budgeted target.
7. Center's fiscal deficit during 1HFY19 was 95.3% of its FY19 annual budgeted target. During the corresponding period of FY18, it stood at 91.3%.
8. The IMF revised the global growth forecast down by 0.2% points to 3.7% in 2018 and 2019. However for India, the growth projections for 2018 and 2019 have been retained at 7.3% and 7.4% respectively.
9. Global crude prices started to fall after reaching a peak of more than US\$85/bbl. (Brent) in the first week of October 2018. By mid-November 2018, it fell close to US\$ 65/bbl.
10. The Indian Rupee which had depreciated to an all-time low of INR74.4/US\$ on 11 October 2018 had recovered slightly above INR72/ US\$ by mid-November 2018.
11. In October 2018, growth in merchandise exports returned to positive territory at 17.9%, from (-) 2.2% in September 2018.



Foreword

Fall in crude prices improves India's macro parameters

The October 2018 CPI numbers brought some cheer to the government's policy makers as it signaled an ongoing reduction in the overall CPI inflation rate from a level of 4.9% in May and June 2018. By October 2018, it had fallen to 3.3%. This was due mainly to falling food prices from a peak of 3.1% in May 2018 to a contraction of (-) 0.9% by October 2018. The moderation in CPI inflation has happened despite the rising global crude prices, which impact fuel and light and transport and communication components of the CPI basket. CPI fuel and light inflation has remained elevated at 8.5% in October 2018 while transport and communication inflation has peaked at 7.7% in this month.

News on industrial growth, on the other hand, has not been so positive with the IIP growth signaling a noticeable downward trend. It had peaked at 7% in June 2018 and since then it has shown a steady decline, falling to 4.5% in September 2018. These trends have largely been driven by primary goods whose growth had also peaked in June 2018 at 9.2%, falling subsequently to 2.6% in September 2018.

The RBI may draw comfort from the falling CPI inflation trend. It may consider reducing the policy rate in its next review scheduled to be held in December 2018 so as to arrest the falling trend in industrial growth. This however, would be in contrast with the clamor for increasing the repo rate in its last review. On balance therefore, the RBI might opt in favor of holding on to the present level of repo rate for some more time. The case for not changing the repo rate might also be strengthened by the WPI inflation, which shows an increase in October 2018 at 5.3% as against 5.1% in September 2018, thereby providing an opposite signal to the direction of change in CPI inflation.

On the fiscal side, available information indicates prospects of slippage in the fiscal deficit target for FY19 because of an anticipated shortfall in the budgeted proceeds for disinvestment and indirect taxes. While the budgeted growth in Center's indirect taxes for FY19 was 19.2%, the realized growth during 1HFY19 covering the period from April to September 2018 has shown a growth of only 4.4%. This also compares quite adversely with the growth in indirect tax revenues of 23% during the corresponding period in FY18. There is a likelihood of the central government exploring additional support from the RBI for the Budget so that any downward adjustment in the budgeted government expenditure may be avoided if the fiscal deficit targets are to be adhered to. Any reduction in budgeted expenditure particularly budgeted capital expenditure might adversely impact growth as private sector demand has not tangibly strengthened.

On the external front, some positive developments may work out in India's favor. First, the global crude prices have started to fall after reaching a peak of more than US\$85/bbl. (Brent) in the first week of October 2018. It had since fallen close to US\$ 65/bbl. by mid-November 2018. Alongside, the Indian Rupee which had depreciated to an all-time low of INR74.4/US\$ on 11 October 2018 has marginally recovered to a little more than INR72/ US\$ by mid-November 2018. On the growth front, India's growth prospects for 2018 have been retained by the IMF while for most other major economies as well as for the global growth, the IMF, in its October 2018 issue of World Economic Outlook has revised downwards its growth forecasts. The global growth prospects for 2018 and 2019 have now been revised downwards by a margin of 0.2% points to 3.7%. In India's case, for 2018, the growth projection of 7.3% has been retained while for 2019, a marginal downward revision of 0.1% points to 7.4% has been done as compared to the July 2018 forecasts.

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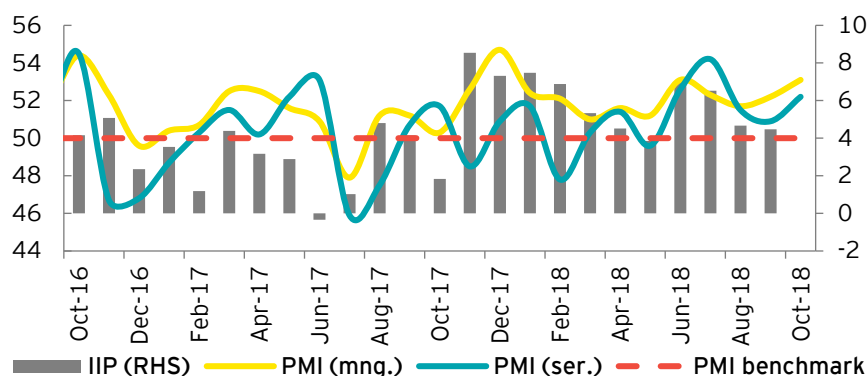


1. Growth: IIP growth slowed to a four-month low of 4.5% in September 2018

A. IIP growth: Slowed to a four-month low in September 2018 due to lower growth in the output of capital goods and consumer durables

- ▶ IIP growth decelerated to a four-month low of 4.5% (y-o-y) in September 2018 from 4.7% (revised) in August 2018 (Chart 1) due to a moderation in the growth of manufacturing sector output. However, during 1HFY19, IIP growth was at 5.2% as compared to 2.6% in 1HFY18.
- ▶ Growth in the manufacturing sector output (accounting for 77.6% of overall IIP) slowed to 4.6% in September from 5.1% (revised) in August 2018 while growth in the output of mining sector remained subdued at 0.2% in September 2018. However, growth in the output of electricity increased further to 8.2% in September 2018 from 7.6% in August 2018 (Table A1).
- ▶ Growth in the output of consumer durables marginally moderated to 5.2% in September 2018 from 5.3% in August 2018. Output growth of capital goods industry, reflective of the investment demand in the economy, grew at a relatively slower rate of 5.8% in September 2018 as compared to 9.3% (revised) in August 2018.
- ▶ Growth in the output of eight core infrastructure industries moderated for the second straight month to 4.3% (y-o-y) in September 2018 from 4.7% (revised) in August 2018. Growth in the output of petroleum refinery products (2.5%) and steel (3.2%) witnessed a sharp slowdown.

Chart 1: IIP and PMI



IIP growth dipped to a four-month low of 4.5% in September 2018 due to lower growth in the output of capital goods and consumer durables.

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

B. PMI: Signaled accelerated growth in both manufacturing and services in October 2018

- ▶ Headline manufacturing PMI (seasonally adjusted (sa)) strengthened to 53.1 in October 2018 from 52.2 in September, returning to its recent peak of June 2018. With this, the period of continuous expansion extended for 15 months (Chart 1).
- ▶ Headline services PMI (sa) also increased to 52.2 in October 2018 from 50.9 in September. Although PMI services remained above the threshold of 50 for the fifth consecutive month, it still remained lower than the peak of 54.2 in July 2018.
- ▶ The composite PMI Output Index (sa) increased to a four-month high of 53 in October 2018 from 51.6 in September, reflecting growth in both manufacturing and services sectors.

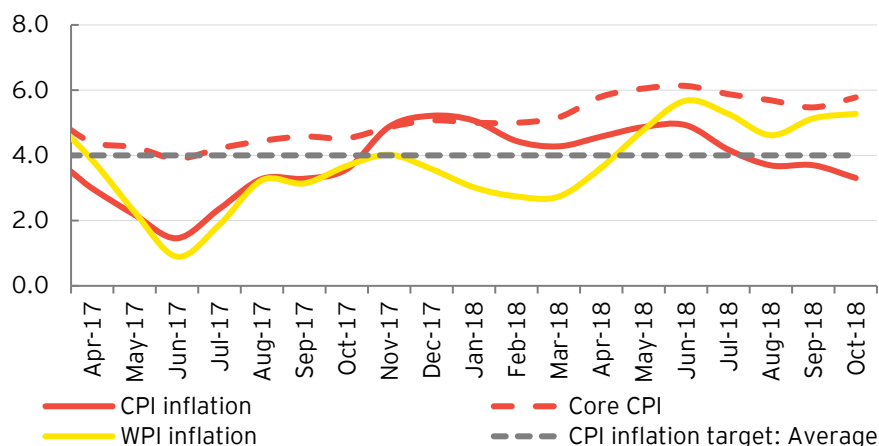
Both manufacturing and services PMI showed an accelerated growth in October 2018 with the respective index values at 53.1 and 52.2.

2. Inflation: CPI inflation eased further to 3.3% in October 2018

CPI inflation eased significantly to a 13-month low of 3.3% (y-o-y) in October 2018 from 3.7% in September 2018 (Chart 2) driven primarily by a contraction in food prices.

- ▶ Consumer food price based inflation turned negative for the first time in 15 months at (-) 0.9% in October from 0.5% in September 2018.
- ▶ Vegetables prices contracted sharply by (-) 8.1% in October 2018, the highest pace since July 2017, from (-) 4.2% in September 2018.
- ▶ Inflation in transportation and communication services picked up to a 61-month high of 7.7% in October from 6.5% in September 2018 due mainly to rising petrol and diesel prices.
- ▶ Fuel and light-based inflation remained elevated at 8.5% in October 2018 as compared to 8.6% in September 2018 driven by high liquefied petroleum gas (LPG) prices.
- ▶ Housing based inflation decelerated for the fourth successive month reaching a 13-month low of 6.6% in October 2018 from 7.1% in September 2018.
- ▶ Core CPI inflation¹ rose to 5.8% in October 2018 from a five-month low of 5.5% in September 2018. This was the first increase after three successive months of decline.

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



CPI and WPI based inflation exhibited opposite trends in October 2018 with CPI easing to 3.3% and WPI increasing to 5.1%, from 3.7% and 4.5% respectively in September 2018.

Source: MOSPI, Office of the Economic Advisor, Government of India (GoI)

WPI inflation increased to a four-month high of 5.3% (Chart 2) in October 2018 from 5.1% in September 2018 driven by pick up in prices of fuel and manufactured products.

- ▶ Fuel and power-based inflation rose to a 19-month high of 18.4% in October from 16.6% in September 2018 driven by rising inflation in mineral oils such as petrol and diesel.
- ▶ Inflation in manufactured products increased to 4.5% in October 2018 from 4.2% in September 2018 driven by higher inflation in manufacture of basic metals.
- ▶ Consumer food index based inflation turned negative at (-) 0.6% in October 2018 from 0.1% in September 2018 as the vegetable prices contracted further to (-) 18.7% in October 2018 from (-) 3.8% in September 2018. Inflation in fruits however turned positive at 0.9% in October after three successive months of contraction.
- ▶ WPI core inflation increased to 5.1% in October 2018, returning to its peak in August 2018, from 4.9% in September 2018.

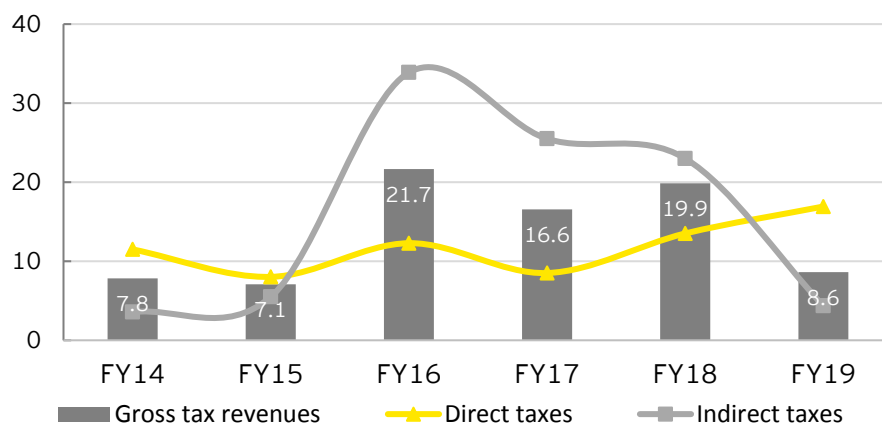
¹ Core CPI inflation is measured in different ways by different organizations/agencies. Here, it has been calculated by excluding food and fuel and light from the overall index.

3. Fiscal performance: Fiscal deficit during 1HFY19 stood at 95.3% of the annual budgeted target

A. Tax and non-tax revenues

- ▶ As per the Comptroller General of Accounts (CGA), gross central taxes grew by 8.6% during the first half of FY19 (1HFY19), lower than 19.9% during 1HFY18 (Chart 3).
- ▶ During April-September FY19, gross taxes stood at 39.9% of the FY19 annual budgeted target, lower than the three-year average (FY16 to FY18) at 41.6% during April-September as a percentage of annual actuals.
- ▶ Growth in direct tax revenues improved to 16.9% during 1HFY19 as compared to 13.5% in the corresponding period of FY18 due to a strong growth in both income and corporation tax revenues.
- ▶ Growth in corporate income taxes increased to 17.2% during 1HFY19 as compared to 11.3% in 1HFY18. Growth in personal income taxes was at 16.5% during 1HFY19, marginally up from 16.4% in 1HFY18.
- ▶ Growth in indirect taxes (comprising union excise duties, service tax, customs duty, CGST, UTGST, IGST* and GST compensation cess) remained subdued at 4.4% during April-September FY19 as compared to 23% in the corresponding period of FY18. This may reflect the impact of IGST transmission to states to the tune of INR39,903 crore by the center in July 2018.
- ▶ The center's GST collection (CGST, UTGST, IGST* and GST compensation cess) up till September FY19 stood at INR2,89,878 crore which was 39% of the FY19 budget estimate (BE).
- ▶ According to the Ministry of Finance, total GST collections (CGST, SGST, IGST and cess) at INR100,710 crore in October 2018 crossed the 1 lakh crore mark for the second time in FY19 after April 2018².

Chart 3: Growth in cumulated central tax revenues up to September 2018



As per the CGA, growth in center's gross taxes was 8.6% during 1HFY19 as compared to 19.9% during the corresponding period of FY18.

Source: Monthly Accounts, Controller General of Accounts, Government of India

Note: Direct taxes include personal income tax and corporation tax, and indirect taxes include union excise duties, service tax, customs duty, CGST, UTGST, IGST and GST compensation cess from July 2017 onwards; * IGST revenues are subject to final settlement.

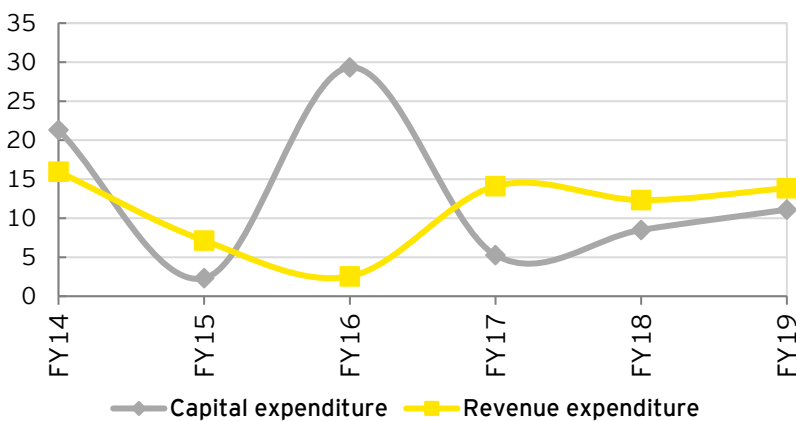
- ▶ The center's non-tax revenues grew by 34.8% during 1HFY19 as compared to a contraction of (-) 31.9% in the corresponding period of FY18. Non-tax revenues during 1HFY19 stood at 44.5% of the FY19 annual budgeted target as compared to three-year average (FY16 to FY18) at 47.5% during April-September as a percentage of annual actuals.
- ▶ According to the Department of Disinvestment, the disinvestment proceeds up to 8 November 2018 stood at INR15,247.11 crore which was only 19.05% of the FY19 annual budgeted target.

² <http://pib.nic.in/PressReleaseDetail.aspx?PRID=1551479>

B. Expenditures: Revenue and capital

- ▶ Center’s total expenditure during 1HFY19 grew by 13.5% as compared to 11.8% in the same period in FY18 (Chart 4). During April-September FY19, total expenditure stood at 53.4% of the FY19 annual budgeted target.
- ▶ Growth in revenue expenditure was at 13.8% during 1HFY19, higher than 12.3% in the corresponding period of FY18.
- ▶ Center’s capital expenditure grew by 11.1% during April-September FY19, higher than 8.5% in the corresponding period of FY18.

Chart 4: Growth in cumulated central government expenditure up to September 2018



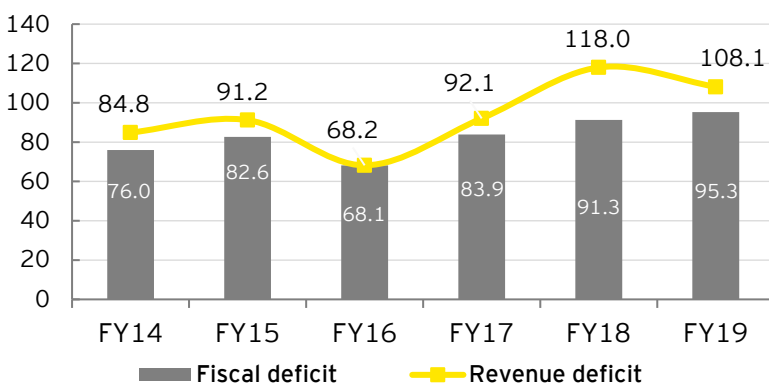
Growth in capital and revenue expenditure during 1HFY19 was higher at 11.1% and 13.8% respectively as compared to 8.5% and 12.3% respectively in 1HFY18.

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

C. Fiscal imbalance

- ▶ The center’s fiscal deficit during 1HFY19 stood at 95.3% of the FY19 annual budgeted target as compared to 91.3% in the corresponding period of FY18 (Chart 5). On the revenue side, lagging disinvestment receipts and subdued growth in Center’s indirect tax revenues could pose a challenge for meeting the fiscal deficit target of 3.3% for FY19.
- ▶ The center’s revenue deficit during April-September FY19 moderated to 108.1% of the FY19 annual budgeted target, down from 114% until August 2018. It was also lower than the corresponding number for 1HFY18 at 118%.

Chart 5: Cumulated fiscal and revenue deficit up to September 2018 as percentage of annual budgeted target



Center’s fiscal deficit during April-September FY19 was 95.3% of its FY19 annual budgeted target. The corresponding number for revenue deficit stood at 108.1%, showing an improvement as compared to last month.

Source: Monthly Accounts, Controller General of Accounts, Government of India, Medium-term Fiscal Policy Statement, Union Budget FY19.

4. India in a comparative perspective: Status and prospects

GDP Growth

IMF revised down its global growth projections for 2018 and 2019 due to policy uncertainty.

- ▶ The IMF revised the global growth forecasts down to 3.7% for 2018 and 2019 due to trade tensions and tightening global financial conditions. Growth momentum is projected to broadly remain flat beyond 2019.
- ▶ Growth in AEs is expected to peak at 2.4% in 2018 largely due to an expected pick-up in the US growth. However, over the medium-term growth in AEs is projected to decline and reach 1.5% by 2022 as the working age population growth is expected to slow down.

Table 1: GDP growth

	2017	2018	2019	2020	2021	2022	2023
AEs	2.3	2.4	2.1	1.7	1.7	1.5	1.5
US	2.2	2.9	2.5	1.8	1.7	1.5	1.4
Euro area	2.4	2.0	1.9	1.7	1.6	1.5	1.4
Japan	1.7	1.1	0.9	0.3	0.7	0.5	0.5
EMDEs	4.7	4.7	4.7	4.9	4.9	4.8	4.8
Brazil	1.0	1.4	2.4	2.3	2.2	2.2	2.2
Russia	1.5	1.7	1.8	1.8	1.6	1.3	1.2
India*	6.7	7.3	7.4	7.7	7.7	7.7	7.7
China	6.9	6.6	6.2	6.2	6.0	5.8	5.6
World	3.7	3.7	3.7	3.7	3.6	3.6	3.6

Source (basic data): IMF World Economic Outlook, October 2018

Note: estimated for 2018 and forecasted for 2019 and beyond

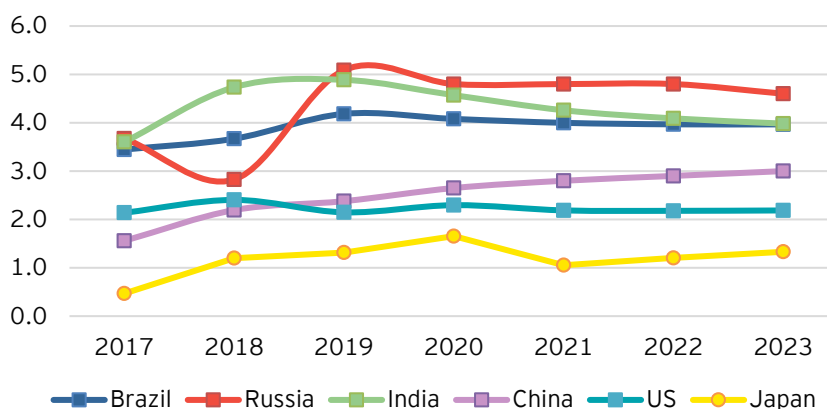
- ▶ Among EMDEs, growth prospects continue to be mixed in the medium-term. While growth in China is projected to decline during 2018 and 2019, India's growth during this period is projected to improve. These trends are expected to continue over the medium term with China's growth falling to 5.6% and India's growth increasing to 7.7% by 2023.
- ▶ The Brazilian economy is projected to grow by 1.4% in 2018 and 2.4% in 2019 driven by a recovery in private demand while growth in Russia is likely to increase to 1.7% and 1.8% in 2018 and 2019 respectively supported by higher oil prices and recovering domestic demand.

CPI based Inflation

Global CPI based inflation is projected to increase to 3.8% in 2018, highest since 2012.

- ▶ Global inflation is projected to increase from 3.2% in 2017 to 3.8% in 2018 and 2019.
- ▶ Among the selected AEs and EMDEs, barring Russia, all the other economies are likely to experience higher inflation rates in 2018 as compared to 2017.
- ▶ In the group of selected AEs, inflation in the US is projected to increase to 2.4% in 2018 from 2.1% in 2017.
- ▶ In Japan, inflation is expected to increase to 1.2% in 2018 from 0.5% in 2017 driven by higher global energy prices.

Chart 6: CPI inflation (selected countries)



Source (basic data): IMF World Economic Outlook, October 2018

Note: estimated for 2018 and forecasted for 2019 and beyond

- ▶ Inflation in China is projected to be higher at 2.2% in 2018 as compared to 1.6% in 2017 driven by higher food and energy prices. In India, CPI inflation is forecasted to increase to 4.7% in 2018 and to 4.9% in 2019 from 3.6% in 2017 due to accelerating demand and rising fuel prices.

5. In focus: Global oil markets: Role of shale

Introduction

Shale oil as a substitute for crude oil has recently emerged as a viable option as concerns of the receding global reserves of crude, and consequently limited growth in its supply, have mounted. It is more expensive to extract than conventional crude oil and hence becomes economically viable only at the margin, once global oil prices rise above a threshold level. Although the breakeven cost of shale oil remains higher than crude oil, it has come down significantly over the last few years owing to rapid advancement in technology in the US, where it is mainly produced. Technology has also enabled production of shale oil to be rapidly escalated within a short span of time when required. This, coupled with private ownership, has made shale supply highly sensitive to global oil prices. In the case of crude, supply is largely controlled by the Organization of Petroleum Exporting Countries (OPEC). Being a close competitor, the OPEC had earlier in 2014 pushed crude prices down in an attempt to drive shale supply out of the market.

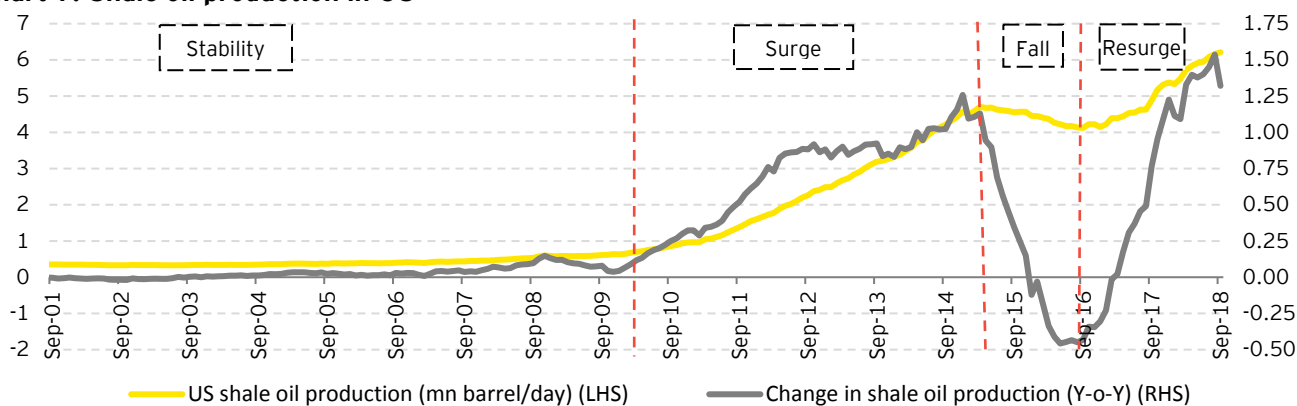
Shale oil production in the US: Recent Developments

In August 2018, year-on-year (y-o-y) incremental US shale oil output reached an all-time high of 1.54 million barrel/day (mb/d) contributing 73.1% to the 2.1 mb/d incremental total U.S. oil output. As a result the total US crude oil output (including shale oil) reached a record level of 11.3 mb/d making it the largest crude oil producer globally, as reported by the US Energy Information Administration (US EIA)³. Since January 2018, shale oil⁴ production in the US has climbed in each successive month reaching 6.21 mb/d in September 2018, approximately 54.2% of the total crude output in the US. Since March 2018 the y-o-y pace of increase has been higher than 1.3 mb/d which was the peak rate achieved in December 2014. According to Rystad Energy⁵, a prominent energy consultant, "this confirms the ability of new shale industry to grow even faster than it did during the first wave of growth prior to 2015."

Shale oil production: Historical trend and recent co-movement with crude price

Chart 7 shows the trend in shale oil production from 2001 onwards divided into four phases. During the first phase till December 2009, growth was almost non-existent. Although statistically production nearly doubled to 0.63 mb/d over the eight-year period, its level continued to remain insignificant. In phase 2 starting January 2010 till March 2015, production increased more than 7 times to 4.71 mb/d with yearly additions peaking at 1.3 mb/d in December 2014. Subsequently, in the third phase output fell by 0.6 mb/d to 4.12 mb/d in September 2016. Since then output has resurged, growing to 6.21 mb/d in September 2018⁶ with yearly additions reaching a record high of 1.5 mb/d in August 2018.

Chart 7: Shale oil production in US



Source: US EIA

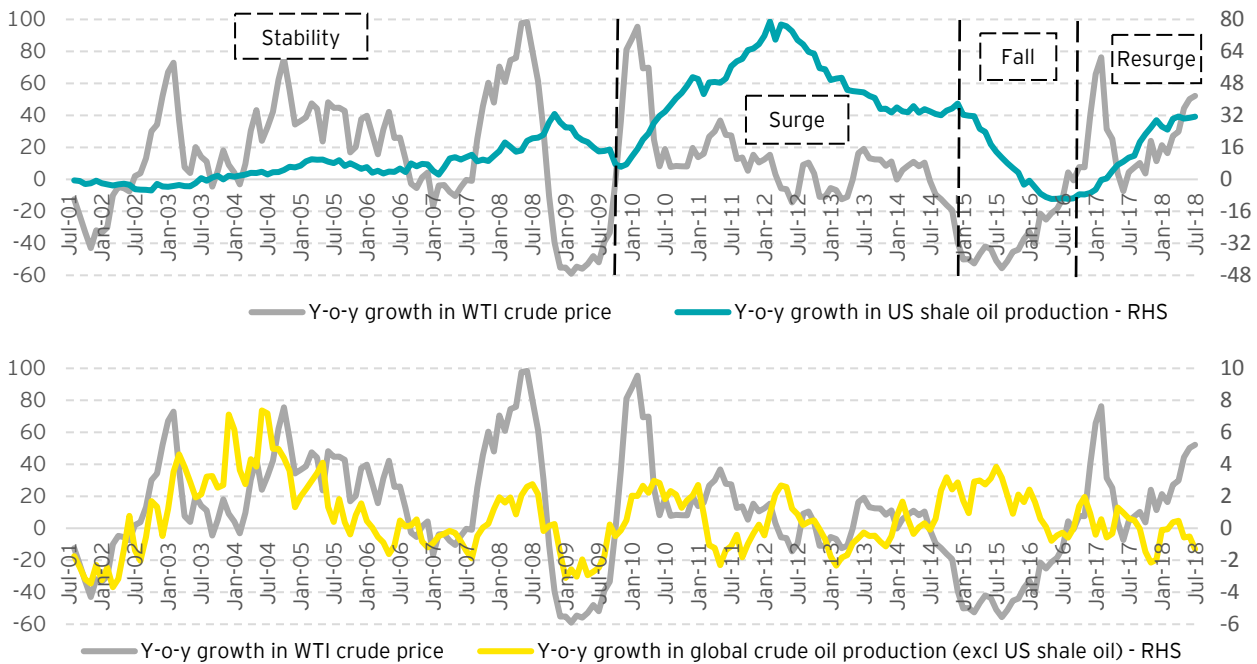
³ <https://www.eia.gov/todayinenergy/detail.php?id=37416>

⁴ The terms shale oil and tight oil have been used interchangeably although shale oil is a subset of tight oil as mentioned in the US EIA website: <https://www.eia.gov/tools/glossary/index.php>. Tight oil is defined as oil produced from petroleum-bearing formations with low permeability that must be hydraulically fractured to produce oil at commercial rates.

⁵ <https://www.rystadenergy.com/newsevents/news/newsletters/UsArchive/shale-newsletter-september-2018/>

⁶ US EIA: <https://www.eia.gov/petroleum/data.php#crude>

Chart 8: Growth (y-o-y) in crude price, US shale oil production and global crude oil production



Source: US EIA; Federal Reserve Bank of St. Louis
 Periods are named according to the trend in “change in shale oil production” as given in Chart 1

Chart 8 shows how changes in shale oil production closely follow changes in oil prices⁷ although with a lag. It can be seen that from period 2 onwards crude price increases⁸ have been followed by expansion in shale output and vice-versa. Growth in global crude oil production excluding US shale, on the other hand, moved in tandem with growth in crude price till January 2011 during which a positive correlation of 0.8 existed between the two series. Since then however, the relationship seems to have reversed.

Shale oil and gas: Breakeven dynamics

The supply of unconventional oil, especially shale oil, is related to its profitability which in turn depends on whether the oil price is higher or lower than its break-even cost. Break-even cost is the price of oil at which a new oil extraction project would become economical assuming oil prices and costs remained constant going forward. Chart 9 provides the average breakeven costs for different types of oil based on information as of December, 2015. It can be seen that the breakeven cost for North American (NAM) shale at US\$62 per barrel was more than double that of onshore oil extracted in the Middle East at US\$29 per barrel.

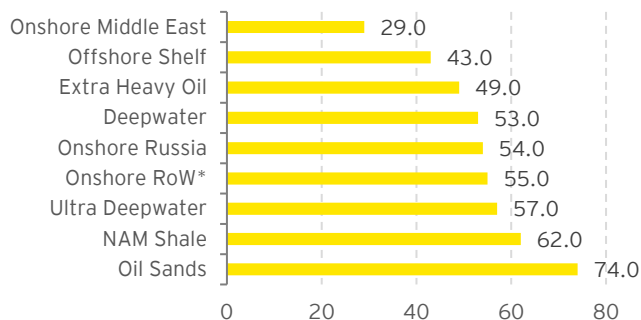
Since 2015 however, there have been technological improvements resulting in increased productivity which have in turn reduced the breakeven costs of certain types of oil particularly shale oil. The U.S. shale oil producers are reported to have enhanced completion techniques, transitioned to drilling longer laterals, and focused more activity in the core areas of the acreage.⁹ As a result, the average breakeven cost of shale oil during the 4-quarter period 2Q2017-1Q2018 dropped to US\$45 per barrel. Chart 10 shows the distribution of break-even cost for different wells producing shale oil in the US over this period. Approximately 35% of the shale wells are estimated to have a breakeven cost lower than US\$40 per barrel.

⁷ According to the IMF, shale oil production today is more responsive to prices than conventional oil. Further an IMF paper titled Oil prices and Energy (2017) suggested that an era of prolonged low oil prices and investment is likely to be followed by a period where oil prices overshoot their long-term upward trend.

⁸ Other than crude price, efficiency gains made due to shale extraction technology was also to a certain extent responsible for faster growth in shale output.

⁹ <https://www.rystadenergy.com/newsevents/news/newsletters/EandP/eandp-newsletter-september-2018/>

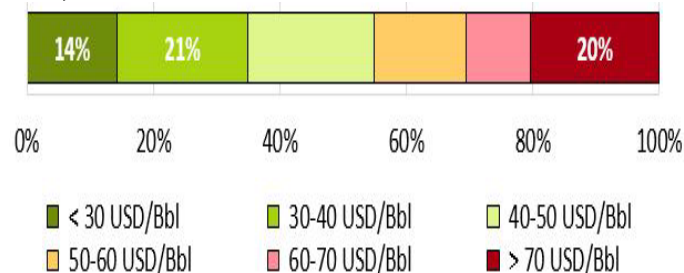
Chart 9: Average breakeven cost in US\$/barrel by type of oil well as of December, 2015



Source: Rystad Energy as referred in "Oil prices and global economy", IMF; <https://www.rystadenergy.com/newsevents/news/newsletters/EandP/eandp-newsletter-september-2018/>

* Rest of the World

Chart 10: Average distribution during 2Q2017-1Q2018 of breakeven prices for horizontal oil completions in the US



Distribution of global resources of shale oil and shale gas

Although the US singularly dominates the global shale oil supply, significant reserves have been found in other countries as well. Table 2 shows the region-wise distribution of global unproved technically recoverable reserves of shale oil and gas as given by the US EIA. North America has the highest share of shale oil and shale gas reserves at 23.0% and 23.9% respectively in 2015. Asia has the second largest reserves of shale gas with an 18.6% share, while with a 21.2% share Europe has the second largest reserves of shale oil. The reserves of shale gas in China are the largest for any country (14.7%) while the US is the single largest holder of shale oil reserves with a share of 18.7%.

Table 2: Global reserves of shale gas and shale oil: US EIA 2015 estimates

#	Region/Country	Unproved technically recoverable reserves		Share in global reserves	
		Shale gas	Shale oil	Shale gas	Shale oil
		Tcf	billion bbl	%	%
1	Africa	1,406	54	18.6	12.9
2	Asia of which:	1,406	62	18.6	14.8
2.1	China	1,115	32	14.7	7.7
2.2	India	96	4	1.3	0.9
3	Australia	429	16	5.7	3.7
4	Caspian	18	10	0.2	2.3
5	Europe	883	89	11.7	21.2
6	Middle East	260	29	3.4	6.9
7	North America of which:	1,741	100	23.0	23.9
7.1	US	623	78	8.2	18.7
8	South America	1,433	60	18.9	14.3
	Total	7,576	419	100	100

Source: US Energy Information Administration (EIA); <https://www.eia.gov/analysis/studies/worldshalegas/>

Perspectives on the oil market

Several studies have attempted to analyze the forces that have shaped the oil market so far and are likely to shape its future. Arezki, et al¹⁰ divides the perspectives on the oil market into four categories, two of which subscribe to a supply-driven market view and the other two to a demand-driven market view. The second and third perspectives have significant implications for the role of shale oil in satisfying future oil demand.

"Constrained supply view" states that the oil supply will remain constrained even as demand continues to grow leading to upward pressure on prices. Given the fast rate of depletion of conventional sources of oil which account for more than 80% of the global oil supply, new sources will have to be found to cater to the growing demand. Existing conventional oil supply is expected to shrink from 68.3 million bpd in 2015 to 44.6 million bpd

¹⁰ Arezki, R., Jakab, Z., Laxton, D., Matsumoto, A., Nurbekyan, A., Wang, H., & Yao, J. (2017, January). Oil Prices and the Global Economy. IMF.

by 2025, resulting in a shortfall of 23.7 mb/d which will need to be met in order to keep the level of oil production constant. This may prove to be difficult, and as a result oil prices are likely to rise.

“Elastic supply view” subscribes to the idea that higher prices eventually stimulate oil supply by encouraging investment in exploration. For instance, unconventional sources of oil supply such as shale oil have catered to the additional demand not filled in by conventional sources. Besides shale oil and gas, there are two other major types of unconventional oil supply: ultra-deep water oil and oil sands. However these require longer investment lead times and higher investment in infrastructure to ramp up production. Shale oil seems to have the highest potential to provide the required increase in supply over the next decade owing to rapidly declining costs of extraction and potential for discovering new fields¹.

“World business cycle view” attributes oil price movements to mainly demand factors. Strong growth in global output coupled with short-term inelastic supply could push oil prices upwards especially in the short run. This could persist if driven by cyclical growth factors such as during the period 2003-08. Since shale oil production is primarily driven by market prices as explained in subsequent sections, by implication its production would be propelled upwards.

The “substitution and conservation view” stipulates that the major driving force behind the oil market is the effort towards substitution and conservation. As the price of oil rises, the demand for oil decreases as consumers switch to substitutes such as biofuels or natural gas. The global consumption to GDP ratio for oil in terms of barrels/real GDP has dropped by more than half since 1971, partly owing to development of more efficient technologies.

Shale oil: Global prospects

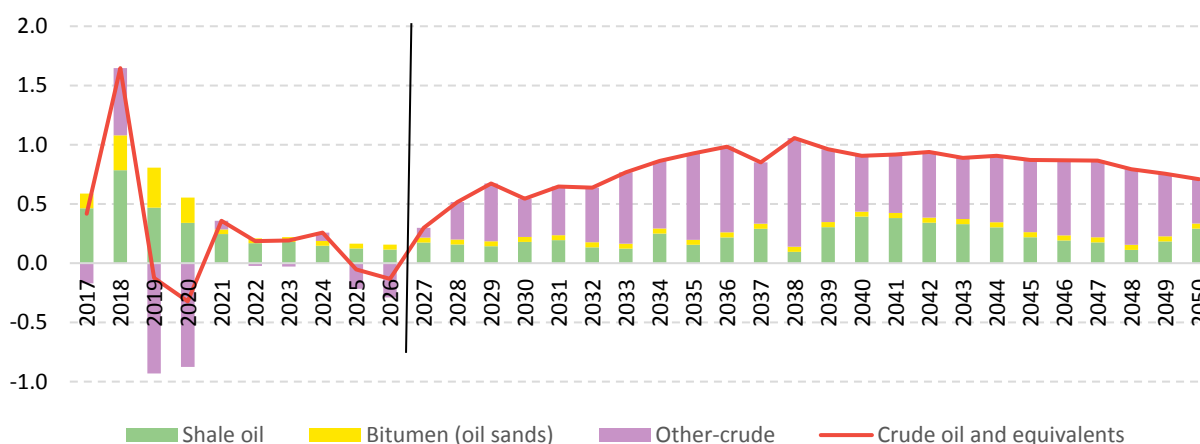
Shale oil is expected to remain a major contributor to global oil supply in the foreseeable future. Table 3 provides illustrative estimates of production potential of unconventional sources over the next decade as given in a paper by the IMF¹⁰. It can be seen that more than 80% of the forecasted 6 mb/d growth in world oil supply is projected to be coming from unconventional sources out of which shale oil is expected to contribute 50%.¹¹

Table 3: Projected world oil production (million barrels/day)

Item	2015	2025	Change from 2015
World oil supply of which:	94	100	+6
Shale/Tight oil (mainly US)	7	10	+3
Ultra-deep water (>1500 mtrs)	2	3	+1
Oil Sands (mainly Canada)	2	3	+1
Others (mainly conventional)	83	84	+1

Source: Oil prices and global economy (2017), IMF

Chart 11: Projected contribution to growth in production of crude oil and equivalents (in percentage points)



Source: Annual Energy Outlook, Energy Information Administration, US Government

¹¹ <https://www.rystadenergy.com/newsevents/news/newsletters/UsArchive/us-q1-2015>

US EIA data provides projections for crude oil and equivalents from different sources till 2050. Chart 6 depicts their contributions to growth in production of crude and equivalents over the projection period. It can be seen that annual growth in crude oil and equivalents is expected to peak at 1.6% in 2018, range between (-) 0.3% to 0.4% till 2026 and thereafter turn positive ranging between 0.3% to 1.1% till 2050. Till 2026 shale oil is expected to be the only major positive contributor to growth in production of crude and its equivalents. Post 2026, other types of crude are also expected to contribute positively to growth. However, shale oil is expected to retain its pivotal role during this period by accounting for nearly 30% of growth in overall production of crude and equivalents on average.

Shale oil: Prospects in China and India

As given in Table 2, China has 14.7% of global unproved technically recoverable shale gas reserves, the largest in the world and 1.8 times that of the US. Following the US shale gas boom, the Chinese government put in a lot of effort in development of shale through various investments, and research and development promoting measures including but not limited to tax concessions. In 2017 approximately 9 bcm shale gas is estimated to have been produced in China¹² as compared to 639 bcm in the US. Further this is expected to nearly double to 17 bcm by 2020, but nevertheless be far lower than the 30 bcm target set by the government. There are several challenges to faster escalation in production of shale gas in China. China's reserves are deeper and more scattered than those in the US requiring better technology. But western firms have been wary of selling existing fracking technology to China amidst intellectual property concerns. Few firms such as Sinopec, a major shale gas producing company in China, have successfully experimented with reengineering exploration drilling equipment¹³. This has led to a 40% drop in drilling costs from 2010 levels.

Total shale gas reserves for India have been estimated to be between 300-2100 tcf by the Director General of Hydrocarbons (DGH)¹⁴, while the US EIA estimates unproved technically recoverable reserves at a much lower level of 96.4 tcf equivalent to 1.3% of global reserves. In India the exploration and development of unconventional hydrocarbon resources including shale gas and shale oil is governed by the Directorate General of Hydrocarbons. Currently the two national oil companies, ONGC and OIL are jointly carrying out exploration of shale gas and shale oil in India. On 14 October 2013 the Government of India (GoI) announced the "Policy Guidelines for Exploration and Exploitation of Shale Gas and Oil". More recently on 01 August 2018, the GoI approved a policy framework that allows private and government players to explore and exploit unconventional hydrocarbons (including shale gas) in contract areas that were primarily allocated for extracting conventional hydrocarbons.

Most of the exploration for shale gas and oil has been concentrated in four regions, namely the Cambay basin in Gujarat, KG basin in Andhra Pradesh, Cauvery basin in Tamil Nadu and A&AA basin in Assam. Contrary to the estimates of US EIA, the DGH stated that most of the blocks explored are prospective for shale oil¹⁵ with limited prospects for shale gas, although more data would be required before arriving at a definite conclusion. Further on 30 July 2018, the petroleum minister confirmed that no commercial discovery of shale gas reserves had been made in India so far¹⁶. Several challenges to shale oil and gas extraction remain including but not limited to the requirement of huge quantity of water resources⁶, disposal of contaminated water¹⁷, investment in improved and locally suited technology and equipment, acquisition of large amount of land⁶, and environmental approval⁶.

Conclusion

Shale oil and gas have limited prospects for India far into the future. No commercially viable shale oil or gas fields have been discovered so far. Even if any were to be discovered, there are several operative constraints besides technology that may need to be dealt with. Focusing on renewables may provide India greater energy security.

¹² <https://www.reuters.com/article/us-china-shale-woodmac/china-shale-gas-output-to-nearly-double-over-three-years-consultancy-idUSKBN1HN34X>

¹³ <https://www.reuters.com/article/us-china-shale-analysis/stepping-on-the-gas-chinas-home-built-fracking-boom-idUSKBN1JH0M5>

¹⁴ *India's Hydrocarbon Outlook: 2016-17 (2017)*, DGH

¹⁵ Pg 117, *India's Hydrocarbon Outlook: 2016-17 (2017)*, Directorate General of Hydrocarbons, Ministry of Petroleum and Natural Gas, GoI

¹⁶ <https://www.bloomberqint.com/business/no-commercial-discovery-of-shale-gas-reserves-in-india-yet-says-pradhan#gs.OtnOj1U>

¹⁷ <https://www.thehindu.com/opinion/op-ed/the-shale-gas-challenge/article24822864.ece>

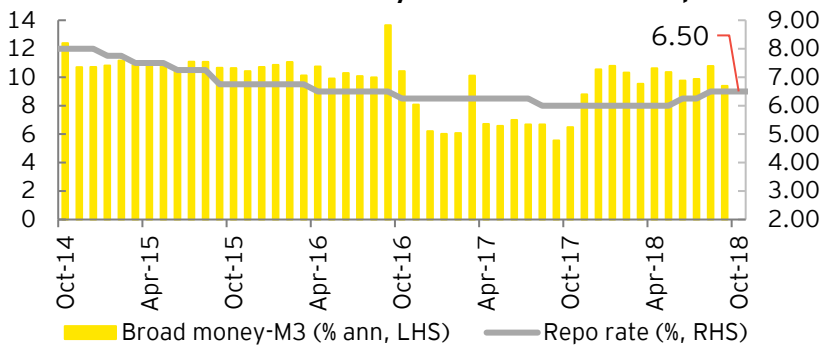
6. Money and finance: The RBI may retain the repo rate in its December 2018 review

A. Monetary sector

Monetary policy

- ▶ In its October 2018 monetary policy review, the RBI retained its policy rate at 6.5% as CPI inflation remained well below the RBI's mid-term target of 4%. However, it changed its stance from "neutral" to "calibrated tightening".
- ▶ In RBI's assessment, growth and inflation outlook may face significant challenges due to global headwinds in the form of escalating trade tensions, volatile and rising oil prices and tightening global financial conditions. Considering these factors, the RBI projected CPI inflation to average in the range of 3.9% to 4.5% during 2HFY19 and 4.8% in 1QFY20.

Chart 12: Growth in broad money and movements in repo rate



With CPI inflation easing in September and October 2018, it is expected that the RBI would maintain the repo rate at 6.5% during its upcoming policy review in December 2018.

Source: Database on Indian Economy, RBI.

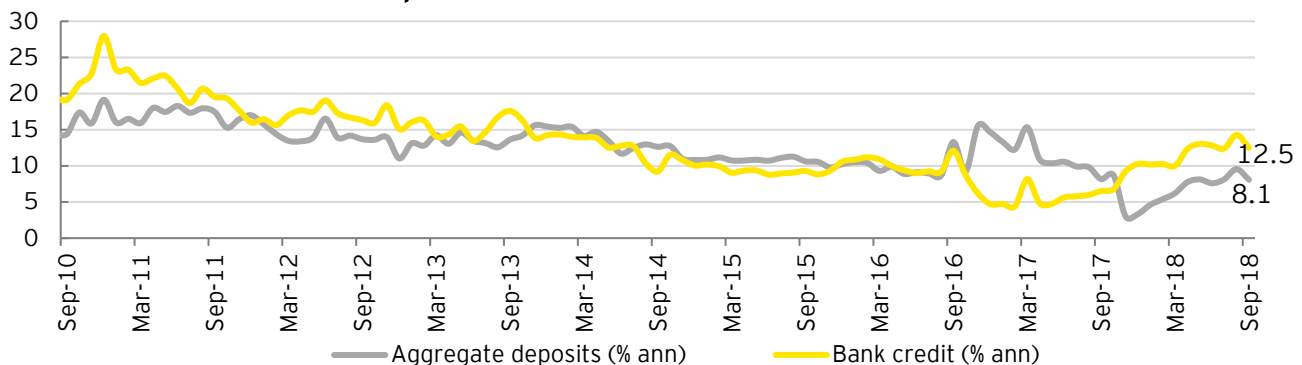
Money stock

- ▶ Broad money stock (M3) growth moderated to 9.4% (y-o-y) in September 2018 from a seven-month high of 10.8% in August 2018 (Chart 12). Time deposits, which account for over 76% of the broad money stock, grew at a slower rate of 8.0% in September 2018 as compared to 8.9% in August 2018.
- ▶ Growth in narrow money (M1) at 14.6% in September 2018 was at its lowest since November 2017 as compared to 17.8% in August 2018.

Aggregate credit and deposits

- ▶ Bank credit growth moderated to 12.5% (y-o-y) in September 2018 from 14.3% in August 2018 (Chart 13). Growth in bank credit has averaged at 12.9% during 1H FY19 well above 5.6% during 1H FY18.

Chart 13: Growth in credit and deposits



Source: Database on Indian Economy, RBI.

- ▶ Growth in non-food credit was lower at 11.3% (y-o-y) in September 2018 as compared to 12.4% in August 2018.



- ▶ Although growth in credit to services continued to remain robust at 24.0% in September 2018, it was slightly lower than 26.7% observed in August 2018. Growth in credit to agricultural sector moderated to 5.8% in September 2018 from 6.6% in August 2018.
- ▶ Growth in housing sector credit was at a four-month low of 15.6% in September 2018 as compared to 17.0% in August 2018.
- ▶ Growth in aggregate bank deposits slowed to 8.1% in September 2018 as compared to 9.6% in August 2018. Deposit growth averaged 8.2% during 1HFY19, slightly lower than 10.0% during 1HFY18.

B. Financial sector

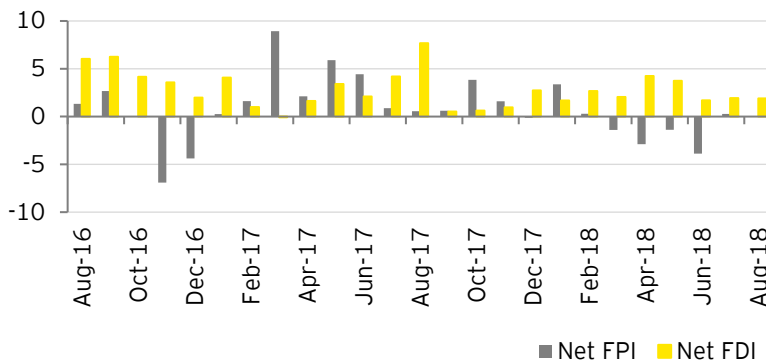
Interest rates

- ▶ As per the data released by the RBI, interest rates offered by banks on term deposits with a maturity of more than one year were retained at 6.75% (average) in October 2018.
- ▶ The MCLR was at its peak since January 2017 as it increased for the fifth successive month to average 8.22% in October 2018, as compared to 8.10% in September 2018.
- ▶ The average yield on 10-year government securities eased marginally to 7.93% in October 2018 from 8.02% in September 2018.

FDI and FPI

- ▶ As per the provisional data released by the RBI, the overall foreign investment inflows (FIIs) were lower at US\$1.8 (revised) billion in August 2018 as compared to US\$2.2 billion (revised) in July 2018. A slowdown in FIIs may have an adverse impact on the financing of the current account deficit thereby increasing the pressure on the rupee.

Chart 14: Net FDI and FPI inflows



Net FDI inflows were low but broadly stable around US\$1.8 billion (revised) in August 2018 while net FPI inflows were lower at US\$0.05 billion.

Source: Database on Indian Economy, RBI.

- ▶ Net FDI inflows continued to remain relatively low at US\$1.8 billion in August 2018, marginally lower than US\$1.9 billion in July 2018 (Chart 14). Gross FDI inflows were lower at US\$3.7 billion in August 2018 as compared to US\$4.4 billion in July 2018.
- ▶ Although net FPIs continued to remain positive for the second straight month in August 2018, these were significantly lower at US\$0.05 billion as compared to US\$0.3 billion (revised) in July 2018.

7. Trade and CAB: Growth in merchandise exports turned positive at 17.9% in October 2018

A. CAB: Current Account Deficit (CAD) increased to 2.4% of GDP in 1QFY19

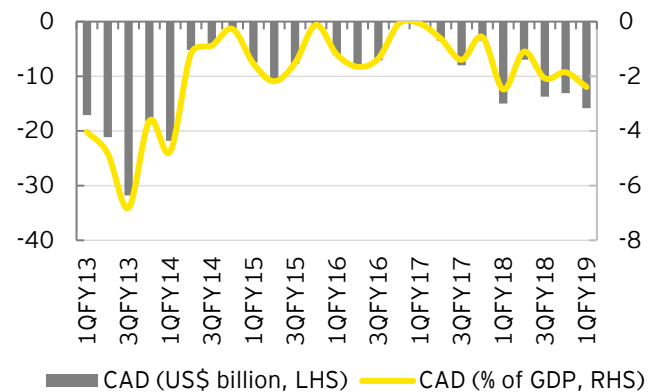
- CAD in 1QFY19 increased to a four-quarter high of 2.4% of GDP as compared to 1.9% of GDP in 4QFY18 (Table 4) driven by higher merchandise trade deficit which rose to a five-year high of US\$45.7 billion. Merchandise imports led by oil rose to 19.5% of GDP in 1QFY19 from 17.6% in 4QFY18. CAD in 2QFY19 is likely to be higher than in 1QFY19 on account of increasing goods and services deficit which reached a 5-year high of US\$30.1 billion in 2QFY19.

Table 4: Components of CAB in US\$ billion

	CAB (-deficit/+surplus)	CAB as a % of nominal GDP	Goods account net	Services account net
FY15	-26.8	-1.3	-144.9	76.6
FY16	-22.2	-1.0	-130.1	69.7
FY17	-15.3	-0.7	-112.4	67.5
FY18	-48.7	-1.9	-160.0	77.6
2QFY18	-7.0	-1.1	-32.5	18.4
3QFY18	-13.7	-2.1	-44.0	20.7
4QFY18	-13.1	-1.9	-41.6	20.2
1QFY19	-15.8	-2.4	-45.7	18.7

Source: Database on Indian Economy, RBI.

Chart 15: CAD



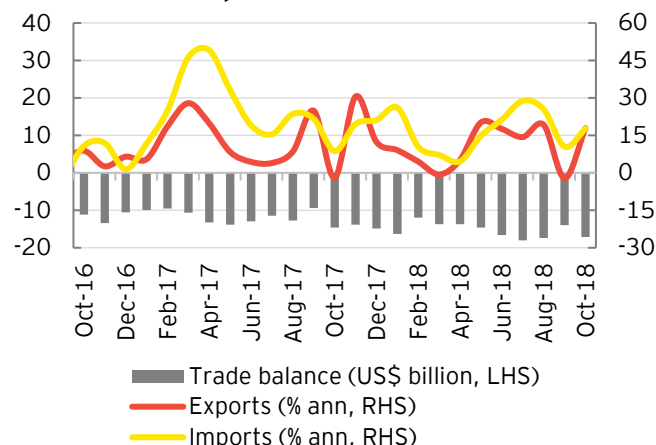
Source: Database on Indian Economy, RBI.

B. Merchandise trade and exchange rate

In October 2018, growth in merchandise exports returned to positive territory at 17.9%, from (-) 2.2% in September 2018. Growth in merchandise imports rose to 17.6% from 10.5% over the same period.

- Merchandise exports grew by 17.9% in October 2018, as compared to a contraction of (-) 2.2% in September 2018 (Chart 16) due to rising exports of petroleum goods, engineering goods, gems and jewelry and readymade garments.

Chart 16: Developments in merchandise trade



Source: Ministry of Commerce and Industry, GoI

2018.

- The Indian Rupee continued to depreciate, averaging INR73.6 per US\$ in October 2018 from INR72.2 per US\$ in September 2018 driven partly by the rising oil import bill and the resultant higher trade deficit.

- Growth in oil exports rose to 49.4% in October 2018, a four month-high, from 26.8% in September 2018.
- Growth in exports of gems and jewelry, engineering goods and readymade garments turned positive at 5.5%, 8.9% and 36.3% respectively in October 2018 from (-) 21.7%, (-) 4.1% and (-) 33.6% respectively in September 2018.
- Imports growth increased to 17.6% in October 2018, from 10.5% in September 2018 due to rising growth in imports of oil, pearls and electronic goods even as imports of gold fell on a y-o-y basis.
- Growth in oil imports increased to 52.6% in October 2018 from 33.6% in September 2018.
- Merchandise trade deficit widened to US\$17.1 billion in October 2018 from US\$14.0 billion in September

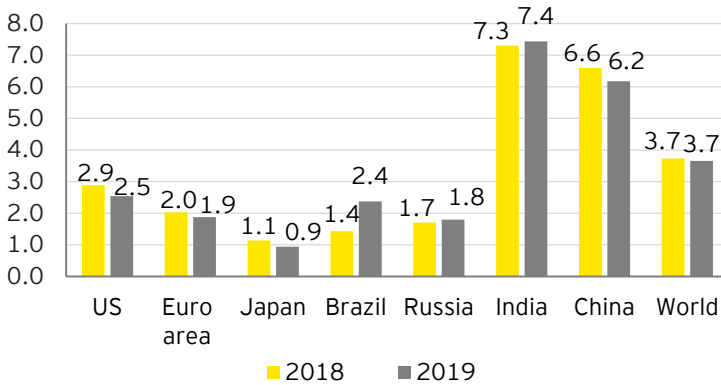
8. Global growth: IMF revised down the global growth forecast to 3.7% in 2018 and 2019

A. Global growth outlook

- ▶ The IMF [World Economic Outlook, October 2018] has revised the global growth forecast down by 0.2% points to 3.7% in 2018 and 2019 on account of trade tensions and policy uncertainty (Chart 17).
- ▶ Growth in advanced economies has been revised down to 2.4% in 2018 and 2.1% in 2019 largely contributed by downward revisions in the growth forecasts of the US, UK, and the Euro area.
- ▶ Emerging market and developing economies (EMDEs) as a group is projected to grow by 4.7% in 2018 and 2019. Growth forecasts have been revised down for both these years due to the expected negative impact of trade measures implemented since April 2018 on China and other Asian economies, weaker activity in Iran following the re-imposition of sanctions by the US, a sharp projected slowdown in Turkey and a more subdued outlook for large economies like Brazil and Argentina in Latin America.
- ▶ In the US, growth is projected to peak at 2.9% in 2018 supported by fiscal stimulus and loose financial conditions. Growth is expected to soften from 2019 onwards as the impact of the fiscal stimulus wanes.
- ▶ Growth in China is projected to moderate to 6.6% in 2018, falling to 6.2% in 2019 reflecting slowing external demand, rising financial risks and also the impact of recent tariff measures.
- ▶ India is projected to grow by 7.3% in 2018 and 7.4% in 2019 driven by robust private consumption and strengthening investment. However, the growth forecast for 2019 has been slightly revised downwards from the July 2018 update, given the recent increase in oil prices and tightening of global financial conditions.

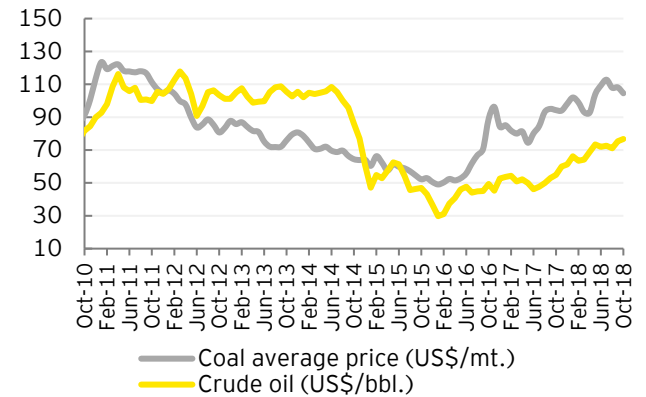
The IMF revised the global growth forecast down to 3.7% in 2018 and 2019. Major challenges to global growth relate to tighter financial conditions and rising trade tensions.

Chart 17: Global growth projections



Source: IMF World Economic Outlook, October 2018

Chart 18: Global crude and coal prices



Source (basic data): World Bank, Pink Sheet, November 2018

B. Global energy prices: World Bank forecasted crude prices to average US\$72/bbl. in 2018 and US\$74/bbl. in 2019

- ▶ At US\$76.7/bbl. in October 2018, average global crude prices¹⁸ increased to their highest level since November 2014 (Chart 18). Although the World Bank has projected crude prices to average US\$72/bbl. in 2018 and US\$74/bbl. in 2019, recently prices have started to fall. From a peak of more than US\$85/bbl. (Brent) in the first week of October 2018, it had fallen close to US\$ 65/bbl. by mid-November 2018.
- ▶ Average global coal price¹⁹ decreased to US\$104.5/mt. in October 2018 from US\$108.2/mt. in September 2018. As per the World Bank, prices are expected to moderate in 2019 as demand slows and supply rises.

¹⁸ Simple average of three spot prices namely, Dated Brent, West Texas Intermediate and Dubai Fateh

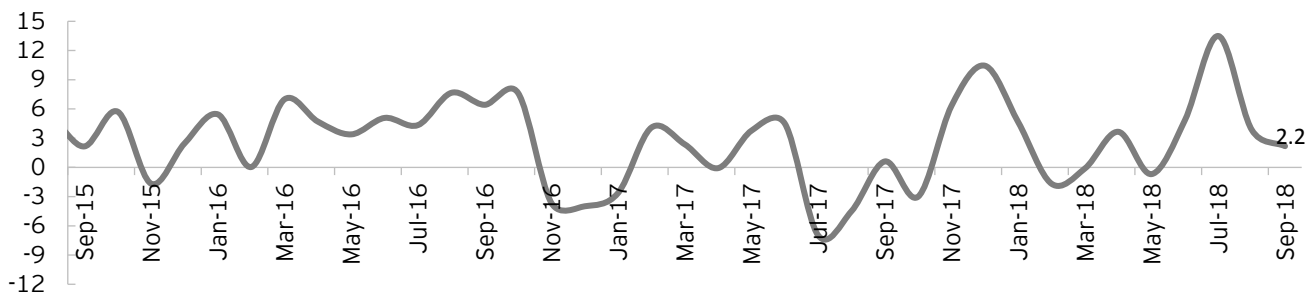
¹⁹ Simple average of Australian, Columbian and South African coal prices

9. Index of aggregate demand (IAD): Growth in IAD moderated due to unfavorable base effect

Despite improved demand conditions in industrial and services sector, growth in IAD slowed to 2.2% in September 2018

- ▶ An IAD has been developed to reflect the combined demand conditions in the agriculture, manufacturing and services sectors on a monthly basis. It takes into account movements in PMI for manufacturing and services, both measured in non-seasonally adjusted terms, tracing the demand conditions in these sectors. Demand conditions in the agricultural sector have been captured by movements in monthly agricultural credit off-take.
- ▶ The sectoral weights in constructing the IAD are based on their respective shares in nominal GVA in the base year (2011–12): Agriculture (**18.4**), industry (**33.1**) and services (**48.5**).
- ▶ The y-o-y growth in the index of aggregate demand fell for the second straight month to 2.2% (y-o-y) in September 2018 from 3.9% in August 2018 (Chart 19). This moderation in IAD was largely due to unfavorable base effect coupled with marginally deterioration in the demand conditions in agricultural sector (Table 5).

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



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

Table 5: IAD

Month	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18
IAD	121.7	119.0	124.1	125.2	122.2	128.9	125.6	121.8	125.6
Growth (% y-o-y)	4.6	-1.7	-0.1	3.7	-0.7	4.9	13.5	3.9	2.2
Growth in agr. credit	9.4	9.0	3.8	5.9	6.4	6.5	6.6	6.6	5.8
Mfg. PMI**	0.0	2.0	1.6	2.2	1.7	2.7	1.7	2.2	2.9
Ser. PMI**	1.4	-3.2	1.8	2.7	-0.1	5.8	3.0	-1.4	1.5

**Values here indicate deviation from benchmark value of 50. A positive value indicates expansion in demand while a negative value implies contraction in demand.

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

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							
FY 15	4.0	-1.3	3.8	14.8	4.9	FY15	52.2	51.7
FY 16	3.3	4.3	2.9	5.7	3.0	FY16	51.3	51.7
FY 17	4.6	5.3	4.3	5.8	4.8	FY17	51.6	51.0
FY 18	4.4	2.3	4.7	5.3	4.3	FY18	51.5	50.0
3QFY18	5.9	0.8	7.0	3.8	5.2	3QFY18	52.5	50.4
4QFY18	6.5	1.1	7.5	6.1	5.3	4QFY18	51.8	49.9
1QFY19	5.1	5.4	5.1	4.9	5.5	1QFY19	52.0	51.2
2QFY19	5.2	1.0	5.5	7.5	5.4	2QFY19	52.1	52.2
Jun-18	7.0	6.5	6.9	8.5	7.8	Jul-18	52.3	54.2
Jul-18	6.5	3.4	7.0	6.7	7.3	Aug-18	51.7	51.5
Aug-18	4.7	-0.5	5.1	7.6	4.7	Sep-18	52.2	50.9
Sep-18	4.5	0.2	4.6	8.2	4.3	Oct-18	53.1	52.2

Source: 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			
FY15	5.9	6.4	4.2	5.8	1.3	4.3	2.6	-6.1	2.7
FY16	4.9	4.9	5.3	4.9	-3.7	1.2	-1.8	-19.7	-1.8
FY17	4.5	4.2	3.3	4.9	1.7	5.9	1.3	-0.3	-0.1
FY18	3.6	1.8	6.2	4.6	2.9	1.9	2.7	8.2	3.0
3QFY18	4.6	3.7	7.5	4.8	3.8	3.5	2.7	9.1	3.1
4QFY18	4.6	3.6	6.8	5.1	2.8	0.6	3.1	4.7	3.8
1QFY19	4.8	2.9	6.1	6.0	4.7	1.2	3.8	12.3	4.4
2QFY19	3.9	0.7	8.4	5.7	5.0	-0.9	4.4	17.5	5.0
Jul-18	4.2	1.3	8.0	5.9	5.3	-0.8	4.5	18.1	5.1
Aug-18	3.7	0.3	8.6	5.7	4.6	-2.1	4.4	17.7	4.9
Sep-18	3.7	0.5	8.6	5.5	5.1	0.1	4.2	16.6	4.9
Oct-18	3.3	-0.9	8.5	5.8	5.3	-0.6	4.5	18.4	5.1

Source: Office of the Economic Adviser, Ministry of Commerce and Industry and MOSPI

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	Revenue deficit
						% of GDP	% of GDP
FY15	9.3	8.7	8.7	8.7	9.8	4.0	2.9
FY16	17.0	6.0	8.5	6.9	30.1	3.9	2.5
FY17	17.9	6.7	21.5	12.3	21.6	3.5	2.1
FY18 (RE# over budget actuals FY17)	13.4	16.3	21.0	18.3	8.6	3.5	2.6
Cumulated growth (% , y-o-y)						% of budgeted target	
Feb-18	15.8	19.7	17.7	18.8	13.0	120.3	119.5
Mar-18	11.8	17.8	19.9	18.6	6.0	99.5	101.1
Apr-18	58.7	24.0	2.5	5.9	130.3	24.3	25.5
May-18	29.9	-82.7	4.8	-13.7	59.3	55.3	68.0
Jun-18	22.1	-1.2	12.8	6.2	36.3	68.7	84.8
Jul-18	11.7	0.6	11.3	6.7	16.1	86.5	106.4
Aug-18	8.7	14.3	17.5	16.1	4.6	94.7	114.0
Sep-18	8.6	17.2	16.5	16.9	4.4	95.3	108.1

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.

#Revised estimates

From January 2018 to March 2018, the fiscal deficit and revenue deficit values are estimated as percentage of revised estimates.

Fiscal year/month	CGST	UTGST	IGST	GST compensation cess	Total GST (Center)
	INR crore				
FY18 (RE)	2,21,400	-	1,61,900	61,331	4,44,631
FY19 (BE)	6,03,900	-	50,000	90,000	7,43,900
Monthly tax collection (INR crore)					
Feb-18	43,091	89	-19,725	8,197	31,652
Mar-18	27,399	973	13,651	7,569	49,592
Apr-18	32,089	90	19,996	8,503	60,678
May-18	28,119	54	16,932	7,201	52,306
Jun-18	30,936	62	10,212	8,016	49,226
Jul-18	57,893	163	-39,903	7,963	26,116
Aug-18	36,047	327	5,199	7,405	48,978
Sep-18	29,862	109	14,753	7,850	52,574

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	M1	M3	Bank credit	Agg. deposits	10 yr. Govt. bond yield	Net FDI	Net FPI	Fiscal year/quarter/month	FX reserves
	%		% change y-o-y				%	US\$ billion			US\$ billion
Nov-17	6.00	FY15	11.3	10.9	11.0	12.1	8.3	31.3	42.2	FY15	341.6
Dec-17	6.00	FY16	13.5	10.1	9.7	10.5	7.7	36.0	-4.1	FY16	355.6
Jan-18	6.00	FY17	3.1	10.1	7.9	11.6	7.0	35.6	7.6	FY17	370.0
Feb-18	6.00	FY18	22.1	9.5	7.5	7.5	7.0	30.3	22.1	FY18	424.4
Mar-18	6.00	3QFY18	45.8	10.6	8.8	4.9	7.1	4.3	5.3	3QFY18	409.4
Apr-18	6.00	4QFY18	22.1	9.5	10.1	5.4	7.5	6.4	2.3	4QFY18	424.4
May-18	6.00	1QFY19	18.1	9.8	12.7	7.8	7.8	9.7	-8.1	1QFY19	406.1
Jun-18	6.25	2QFY19	14.6	9.4	13.1	8.6	7.9	3.7	0.3	2QFY19	400.5
Jul-18	6.25	Jun-18	18.1	9.8	12.8	7.6	7.9	1.7	-3.9	Jul-18	404.2
Aug-18	6.50	Jul-18	17.4	9.9	12.4	8.1	7.8	1.9	0.3	Aug-18	400.1
Sep-18	6.50	Aug-18	17.8	10.8	14.3	9.6	7.8	1.8	0.0	Sep-18	400.5
Oct-18	6.50	Sep-18	14.6	9.4	12.5	8.1	8.0	--	--	Oct-18	392.1

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\$/b bl.	US\$/m t		% change y-o-y		
FY15	-1.3	-0.5	-137.7	61.1	83.2	66.6	2012	3.5	1.2	5.3
FY16	-15.6	-15.2	-117.7	65.5	46.0	54.7	2013	3.3	1.2	5.0
FY17	5.1	0.9	-108.2	67.1	47.9	73.0	2014	3.4	1.9	4.6
FY18	9.8	20.2	-158.9	64.5	55.7	90.8	2015	3.4	2.1	4.3
3QFY18	12.8	16.5	-43.3	64.7	58.7	95.5	2016	3.2	1.7	4.4
4QFY18	3.9	13.9	-42.0	64.3	64.6	98.0	2017	3.8	2.3	4.7
1QFY19	14.2	13.5	-44.9	67.0	71.4	102.0	2018*	3.7	2.4	4.7
2QFY19	9.5	21.2	-49.4	70.2	73.0	109.6	2019*	3.7	2.1	4.7
Jul-18	14.3	28.8	-18.0	68.7	72.7	112.8	2020*	3.7	1.7	4.9
Aug-18	19.2	25.4	-17.4	69.5	71.1	107.9	2021*	3.6	1.7	4.9
Sep-18	-2.2	10.5	-14.0	72.2	75.4	108.2	2022*	3.6	1.5	4.8
Oct-18	17.9	17.6	-17.1	73.6	76.7	104.5	2023*	3.6	2.3	4.7

Source: Database on Indian Economy - RBI, Pink Sheet - World Bank and IMF World Economic Outlook Update, October 2018; *indicates projections as per October 2018 database

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

Fiscal year/quarter	Output: Major sectors									IPD inflation
Fiscal year/quarter	GVA	Agr.	Ming.	Mfg.	Elec.	Cons.	Trans.	Fin.	Publ.	GVA
FY15	7.2	-0.2	9.7	7.9	7.2	4.3	9.4	11.0	8.3	3.6
FY16	8.1	0.6	13.8	12.8	4.7	3.7	10.3	10.9	6.1	1.0
FY17 (1st RE)	7.1	6.3	13.0	7.9	9.2	1.3	7.2	6.0	10.7	2.9
FY18 (PE)	6.5	3.4	2.9	5.7	7.2	5.7	8.0	6.6	10.0	3.0
1QFY17	8.3	4.3	10.5	9.9	12.4	3.0	8.9	10.5	7.7	1.2
2QFY17	7.2	5.5	9.1	7.7	7.1	3.8	7.2	8.3	8.0	2.3
3QFY17	6.9	7.5	12.1	8.1	9.5	2.8	7.5	2.8	10.6	2.8
4QFY17	6.0	7.1	18.8	6.1	8.1	-3.9	5.5	1.0	16.4	5.1
1QFY18	5.6	3.0	1.7	-1.8	7.1	1.8	8.4	8.4	13.5	2.3
2QFY18	6.1	2.6	6.9	7.1	7.7	3.1	8.5	6.1	6.1	2.9
3QFY18	6.6	3.1	1.4	8.5	6.1	6.6	8.5	6.9	7.7	3.8
4QFY18	7.6	4.5	2.7	9.1	7.7	11.5	6.8	5.0	13.3	2.9
1QFY19	8.0	5.3	0.1	13.5	7.3	8.7	6.7	6.5	9.9	4.6

	Expenditure components						IPD inflation
Fiscal year/quarter	GDP	PFCE	GFCE	GFCF	EX	IM	GDP
FY15	7.4	6.4	7.6	2.6	1.8	0.9	3.3
FY16	8.2	7.4	6.8	5.2	-5.6	-5.9	2.1
FY17 (1st RE)	7.1	7.3	12.2	10.1	5.0	4.0	3.5
FY18 (PE)	6.7	6.1	10.9	7.6	4.4	9.9	3.0
1QFY17	8.1	8.3	8.3	15.9	3.6	0.1	2.7
2QFY17	7.6	7.5	8.2	10.5	2.4	-0.4	2.9
3QFY17	6.8	9.3	12.3	8.7	6.7	10.1	3.8
4QFY17	6.1	3.4	23.6	4.2	6.6	6.6	4.5
1QFY18	5.6	6.9	17.6	0.8	5.9	18.5	2.6
2QFY18	6.3	6.8	3.8	6.1	6.8	10.0	3.0
3QFY18	7.0	5.9	6.8	9.1	6.2	10.5	3.8
4QFY18	7.7	6.7	16.8	14.4	3.6	10.9	2.9
1QFY19	8.2	8.6	7.6	10.0	12.7	12.5	5.1

Source: National Accounts Statistics, MOSPI

List of abbreviations

Sr. no.	Abbreviations	Description
1	AD	Aggregate demand
2	AEs	Advanced Economies
3	Agr.	Agriculture, forestry and fishing
4	bcm	Billion cubic meters
5	bbl.	Barrel
6	BE	Budget estimate
7	CAB	Current account balance
8	CGA	Comptroller General of Accounts
9	CGST	Central Goods and Services Tax
10	CIT	Corporate Income Tax
11	Cons.	Construction
12	CPI	Consumer Price Index
13	CSO	Central Statistical Organization
14	DGA	Director General of Hydrocarbons
15	Disc.	Discrepancies
16	dmtu	Dry metric ton unit
17	ECBs	External Commercial Borrowings
18	EIA	US Energy Information Administration
19	Elec.	Electricity, gas, water supply and other utility services
20	EMDEs	Emerging Market and Developing Economies
21	EXP	Exports
22	FII	Foreign investment inflows
23	Fin.	Financial, real estate and professional services
24	FPI	Foreign portfolio investment
25	FY	Fiscal year (April–March)
26	GDP	Gross Domestic Product
27	GFCE	Government final consumption expenditure
28	GFCF	Gross fixed capital formation
29	GoI	Government of India
30	GST	Goods and Services Tax
31	GVA	Gross value added
32	IAD	Index of Aggregate Demand
33	IEA	International Energy Agency
34	IGST	Integrated Goods and Services Tax
35	IIP	Index of Industrial Production

36	IMF	International Monetary Fund
37	IMI	Index of Macro Imbalance
38	IMP	Imports
39	INR	Indian Rupee
40	IPD	Implicit price deflator
41	MCLR	Marginal cost of funds based lending rate
42	Ming.	Mining and quarrying
43	Mfg.	Manufacturing
44	m-o-m	Month-on-month
45	mt	Metric ton
46	MOSPI	Ministry of Statistics and Programme Implementation
47	MPC	Monetary Policy Committee
48	NEXP	Net exports (exports minus imports of goods and services)
49	OIL	Oil India Limited
50	ONGC	Oil and Natural Gas Corporation Limited
51	OPEC	Organization of the Petroleum Exporting Countries
52	PFCE	Private final consumption expenditure
53	PIT	Personal Income Tax
54	PMI	Purchasing Managers' Index (reference value = 50)
55	RE	Revised estimate
56	RBI	Reserve Bank of India
57	Tcf	Trillion cubic feet
58	Trans.	Trade, hotels, transport, communication and services related to broadcasting
59	US\$	US dollar
60	UTGST	Union territory goods and services tax
61	WPI	Wholesale Price Index
62	y-o-y	Year on year

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