FIPI

Federation of Indian Petroleum Industry

POLICY & ECONOMIC REPORT

OIL & GAS MARKET

September

2019

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Policy & Economic report – Oil & Gas market

Economy in Focus

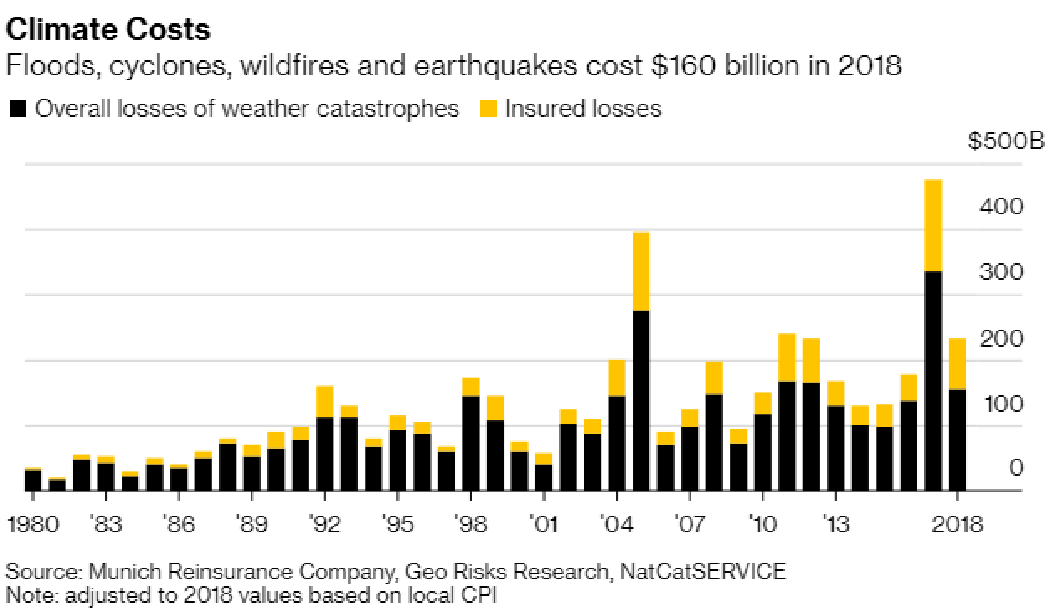
1. Taking account of an impending climate threat, Central Banks around the world assess risks

In September 2015, Mr. Mark Carney, Governor, Bank of England put investors and insurers on notice that they risked underestimating the huge threat climate change posed to global financial stability. He described a tragedy of the horizon where such dangers aren't within the normal field of view of businesses, politicians and technocrats.

Though Mr. Carney's warning shot that took time to echo in policy-making corridors but he did succeed in starting a conversation at the highest levels of financial services about global warming, as almost every major central bank began a dialogue with the institutions they work with.

Today, a global political movement against global warming is building momentum. Taking his message to an even wider audience, Mr. Carney is all set to speak at the United Nations climate summit at the end of this month. Most major central banks, with the exception of the U.S. Federal Reserve, are joining forces to promote sustainable growth, after realizing that climate change threatens economic output and could even sow the seeds of a financial crisis.

The drying of the Rhine River leading to transport bottlenecks and disrupting supply routes is an evident danger in Europe. Then there's the risk of economic shocks caused by effects of extreme weather, whether in the direct damage they cause or their impacts on production. Climate change also threatens increased migration prompted by rising sea levels, droughts and land degradation.

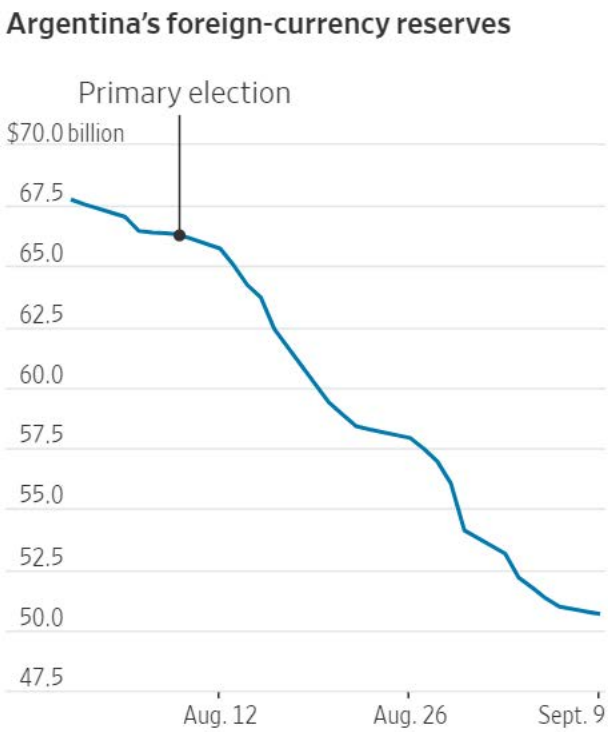


Mortgages for homes built on flood-prone lands, or bonds for companies reliant on fossil fuel-intensive business, could pose a threat if their riskiness isn't quantified and mitigated. Insurance, a crucial node of the finance system, might find its viability undermined by climate change.

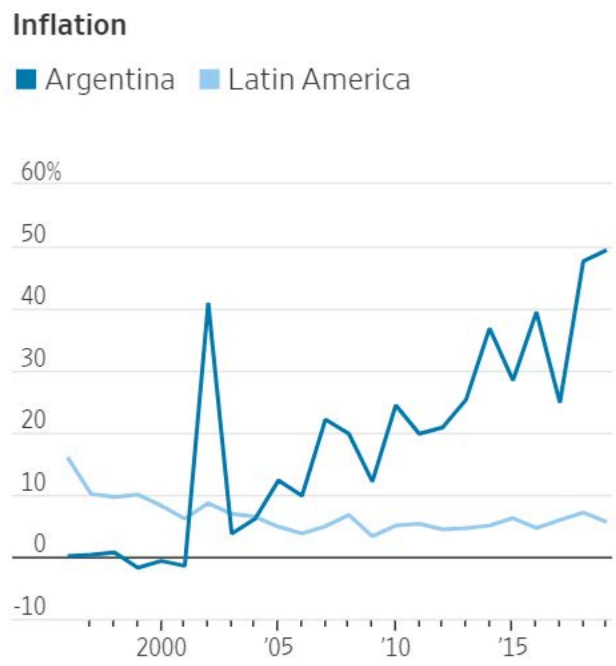
Banks around the world are also trying to forge policies to test banks' resilience to climate change and incentivize them to give out green loans. To pursue those goals, eight central banks and supervisors founded the Network for Greening the Financial System in 2017. Its membership now totals 42 institutions across five continents.

2. Over spending and protectionist policies lead Argentina to another economic crisis

Argentina, the third biggest economy in Latin America, is repeating a pattern that has dogged the country for over 70 years. Argentina is running out of hard currency while grappling with high inflation and economic contraction. It is heading toward possible default on about USD 115 billion on foreign-currency bonds just 18 years after its last major crisis, when it defaulted on USD 100 billion. The country also owes over USD 44 billion to the International Monetary Fund, which it is trying to restructure. The country has received close to 30 IMF aid packages over the past 60 years, most with strict austerity conditions that it has often breached.

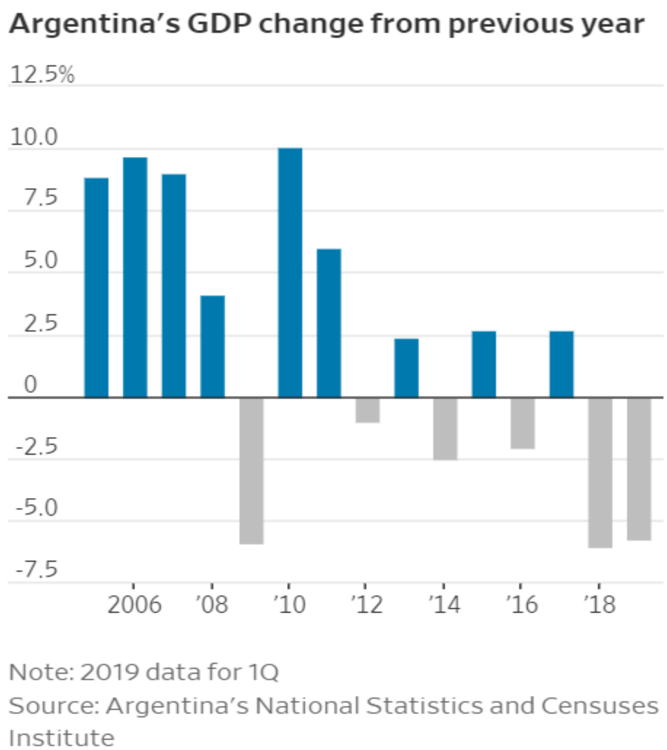


Source: Argentina's Central Bank



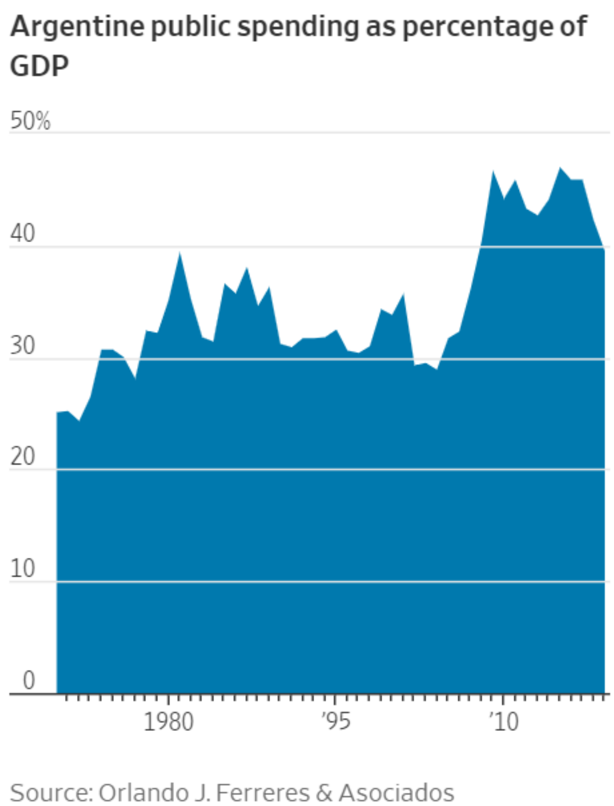
Source: Matías Carugati with data from IMF, INDEC, LatinFocus Consensus Forecast and provincial statistics

Argentina is today world's most volatile large emerging market and its economy has recorded the highest inflation levels at a median of 220 per cent annually since 1980s.



The underlying reason for this problem is the country's living beyond its means. The Government frequently spends more than its revenue. Argentina has run a big fiscal deficit since 1950s and under the present Government it has averaged about 5 per cent of its annual economic output. To balance the fiscal deficit, Argentina often prints money leading to higher inflation and borrowings abroad. Argentina, being a protectionist economy and closed to free trade, is riddled with inefficient companies, which struggle to pay dollar debts. As a result, creditors demand higher interest rates and debt payments grow unsustainable.

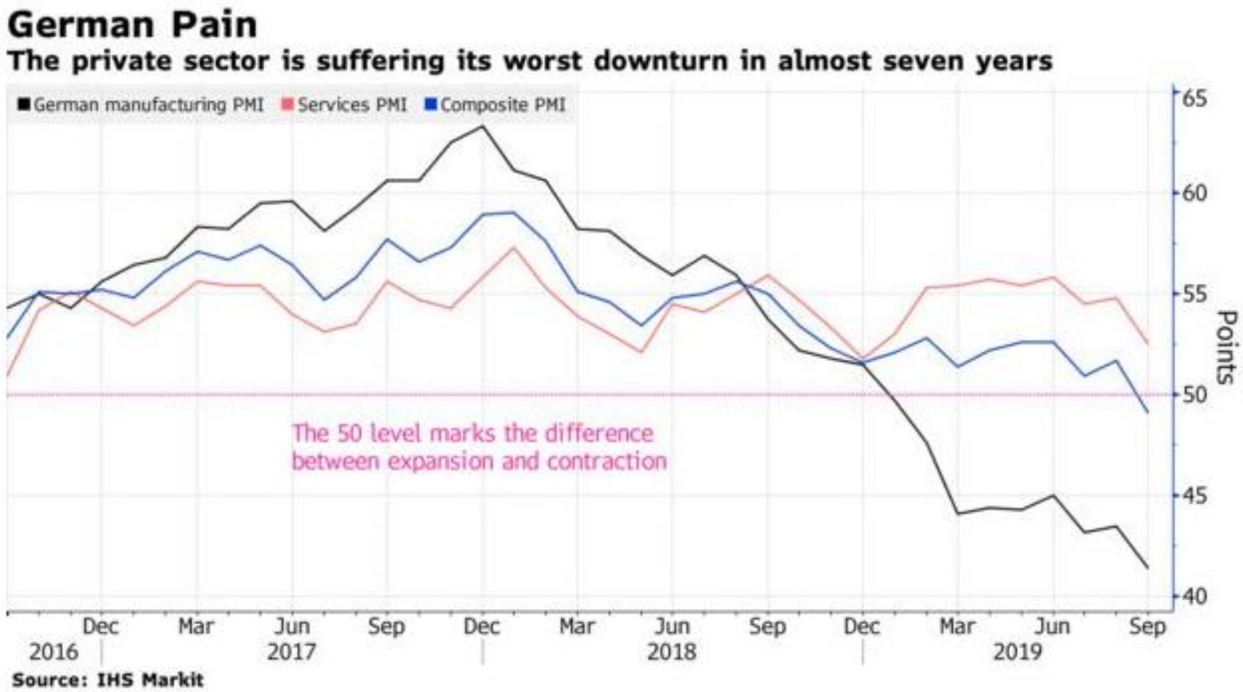
Against normal business practices, companies in Argentina maintain big inventories to survive in the market and to absorb all of these hits from inflation. Residents use the beleaguered peso for basic transactions but turn to U.S. dollars for savings, to set real-estate prices or to conduct property transactions. Economists estimate that the country has USD 70 – 150 billion stored in safe boxes and over USD 500 billion in assets abroad. The demand for pesos remains very low due to a credibility problem. Economists are of the opinion that the crisis in Argentina this time could be long lasting.



Economists are of the opinion that the crisis in Argentina this time could be long lasting. Trouble began in mid-August, when President Macri lost a primary vote to the opposition Peronists by a big margin. Prediction of a Peronist victory in presidential elections scheduled on 27 October, sparked a selloff in local equity and currency markets amid a deepening recession with interest rates hovering around 70 per cent.

3. Calls for fiscal support get louder, as Germany suffers worst slowdown in seven years

Germany's economy is suffering its worst downturn in almost seven years as a manufacturing slump deepens, raising pressure on the government to add fiscal stimulus. Factory activity shrank at the fastest pace in a decade in September and growth in services softened. The labor market in the country is also taking a hit. That could have an adverse impact on demand and set off a negative spiral for Europe's biggest economy. Adding to the worries, the nation's VDMA engineering industry group has said that there's no turnaround in sight. It predicts production will drop 2 per cent in 2020 after a similar decline this year.



The confluence of trade tensions, challenges for the auto industry and looming Brexit are threatening to push Germany into recession after the economy shrank in the second quarter. With the impact of the economic slump spilling into the rest of the economy, the job growth in the country has stalled after recording an uninterrupted growth for six years. The latest reports also showed weakness in France. For the euro area as a whole, manufacturing activity shrank for an eighth month, largely due to German weakness.

The slowdown of the German economy has prompted louder calls for the government to provide fiscal support. Though, the European Central Bank earlier this month rolled out a new stimulus package for the euro zone, Germany has not taken any such measures yet. Ms. Angela Merkel, the German Chancellor has promised to stick to a policy of zero deficits, even as her administration announced a 54 billion-euro package designed to place the climate targets back on track.

4. International trade tensions lead to slowdown in Japanese manufacturing sector

In September, activity in Japan's manufacturing sector contracted at the fastest in seven months as the US-China trade tensions continue to cloud global outlook. The Jibun Bank Purchasing Managers Index fell to 48.9 from 49.3 in August, matching the lowest reading since June 2016. A number below 50 indicates a contraction. Activity in Japan's manufacturing sector has now shrunk in seven months this year.

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Bank of Japan is looking closely at the impact of the slowdown on Japan's economy and the prices. Bank of Japan's call for a review of economic and price developments has only added to the speculations of a further easing in October.

Latest data shows that though Japan's service activity continues to expand, there are serious concerns over the weakening of the manufacturing sector. The question for the policy makers in the country is how long the service sector will be able to support the economy. Based on previous experiences, experts are of the opinion that the Japanese businesses and consumers will be faced with difficult times in the final few months of 2019.

5. Gun violence costs the US 1.4 per cent of the GDP: Report

House Democrats on the Joint Economic Committee presented a State by State analysis of the US's gun violence epidemic and presented a perspective on how the problem is unique to the United States and toll it is taking on the US economy. The objective of the report was to quantify the economic impact of guns, it included revelations about two demographic groups that are disproportionately affected by gun violence: young people and people living in rural areas.

The report found that Americans aged 15-24 are 50 times more likely to die from a gun in the United States than they are in other economically advanced countries. Further, it underlined that 9 out of 10 people under the age of 25 who are killed with a gun are killed in the United States. Gun violence against young people is far more likely to occur in the South and Midwest. Alabama, Arkansas, Louisiana, Mississippi, and Missouri are among the states with the highest youth death rates. The State of Alaska, which also has the highest suicide rate, tops the list. The report notes that a staggering 60 percent of U.S. firearm-related deaths are self-inflicted.

The report noted the highest death rates are largely found in the rural states that boast the highest gun-ownership numbers. Rural states also suffer the most economically from the gun violence epidemic. In order to calculate the economic impact the report takes into account lost income, employer costs, health care, and the cost expended by the police and the criminal justice system. In total, gun violence costs the United States USD 229 billion annually, or 1.4 percent of the GDP.

The largest cost of the gun violence epidemic is of course the lives it has taken. In 2017, close to 40,000 people were killed with a firearm in the United States. The report underlines that there is still very little understanding about the gun violence epidemic and that far more research still needs to be conducted.

6. Gig economy on the rise in the South-East Asian countries

Over the years, talents' demand for greater control over how they integrate career with personal lives has changed the entire concept of work. Freelancers, gig-workers, temporary employees, independent contractors or free agents are getting more and more relevant in the gig economy. Gig economy is defined as a prevalence of short-term contracts or freelance work as opposed to permanent jobs.

Freelancers are frequently finding temporary and flexible jobs such as web designers or freelance copywriting, to labor-driven services for companies such as Grab or Go-Jek. An increasing number of hiring managers are using freelancers in their departments to save cost, drive innovation and keep a competitive advantage. According to a 2018 report by KellyOCG, a talent outsourcing and consultancy group, 65 per cent of global hiring managers said the gig economy is rapidly becoming the new norm for how businesses organize workflow. The report reveals that in the Asia Pacific region 84 per cent of hiring managers outsource to freelancers. According to the report, 43 per cent of global organizations who engage these free agents have saved up to 20 per cent in labor costs. In a striking revelation, the report states that nearly one-third of global workers are freelancers or free agents, with 75 percent working by choice for positive reasons. Many of the freelancers step away from the standard 9 to 5 workplaces to have the liberty of how, when, and where they want to work.

By hiring freelancers, companies are gaining cost savings, and better access to niche skill sets. Without the restraints and bureaucracy of traditional employment, organizations can be more innovative and competitive. Start-up companies in the technology and app development industry use freelancers to lower their overhead cost and avoid breaking the bank. The KellyOCG study suggests that 81 per cent of talent managers hire freelancers who are within the millennial cohort. Freelancers are also among the most resilient as they are constantly re-skilling through self-funded training and on-the-job learning, in preparation for their next gig.

A recently published report by Payoneer, on 'The Global Gig-Economy Index, Q2 2019,' has ranked the Philippines sixth in the world for the number of its freelancers. The index found that Filipino freelancers grew 35 percent from the year before. At least two per cent of the Philippines' population is said to be freelancers, according to PayPal's 2018 Global Freelancer Insights Report. The freelancers in the country are also supported by government initiatives such as the DigitalJobsPH Technical Training which help people find work as digital entrepreneurs and freelancers in the Information Communications Technology (ICT) field.

In Malaysia, in 2017, the gig economy grew by 31 per cent based on figures by Employees' Provident Fund (EPF) Malaysia. Recently, a Memorandum of Understanding (MoU) was signed between SME International Trade Association (SMITA) Malaysia and Workana, an Argentine-based online platform company, to assist Malaysian companies expand their businesses through freelancers. Workana currently works with over one million freelancers worldwide to address organizational talent gaps for companies of all sizes, recruiting highly skilled professionals for diverse projects.

7. Possible Impacts of Saudi drone attacks on India and the world

The drone attacks that took place on 14 September at the world's largest crude-processing facility operated by Saudi Aramco in Saudi Arabia have cut the kingdom's crude output in half and sent prices soaring.

The attacks at Abqaiq and Khurais have cut output by 5.7 Mmbblpd (over 5 per cent of the world oil supply) and have raised serious questions about the country's ability to maintain oil exports. The attacks have also constrained Saudi Arabia's ability to use the more than 2.27 Mmbblpd of production capacity that the country holds for emergencies. Before the attacks, Organization of Oil Exporting Countries (OPEC) had a supply cushion of 3.21 Mmbblpd. Saudi Arabia enjoyed 2.27 Mmbblpd of this cushion capacity, leaving around 0.94 Mmbblpd of mostly held by Kuwait and the United Arab Emirates.

In India, the Hon'ble Minister of Petroleum and Natural Gas, Mr. Dharmendra Pradhan assured that "we are confident that there would not be any supply disruptions and the situation is being closely monitored". However, oil analysts state that a sustained high oil price could hurt the economic growth of India since the country is heavily dependent (83 per cent) on imported crude oil.

Impact on India

A USD 10 rise in Brent, due to the attacks or resulting tension, will lift India's annualized import bill by USD 15 billion. A 10 per cent rise in crude oil prices will widen India's current account deficit by 0.4 – 0.5 per cent of GDP. Rise in crude prices may hit hard as the Indian economy is already facing a slowdown and also trying to cover up for the losses resulting from loss of oil supply from Iran due to the US sanctions.

The Current Account Deficit (CAD)

Impact on current account deficit will widen as the Rupee weakens due to higher demand for US dollars. The subsidy bills and inflations, which affect interest rates, will also rise. All of these will squeeze the Government's ability to spend on social sector schemes and sops to revive the economy.

8. Amidst global slowdown, China and India to emerge as fastest growing economies: UNCTAD Report

In a recent report, the UN Trade Agency has projected India to grow at 6 per cent from last year's 7.4 per cent. The report further states that the country will still manage to emerge as the world's second fastest growing economy, lagging by just a tiny fraction behind China.

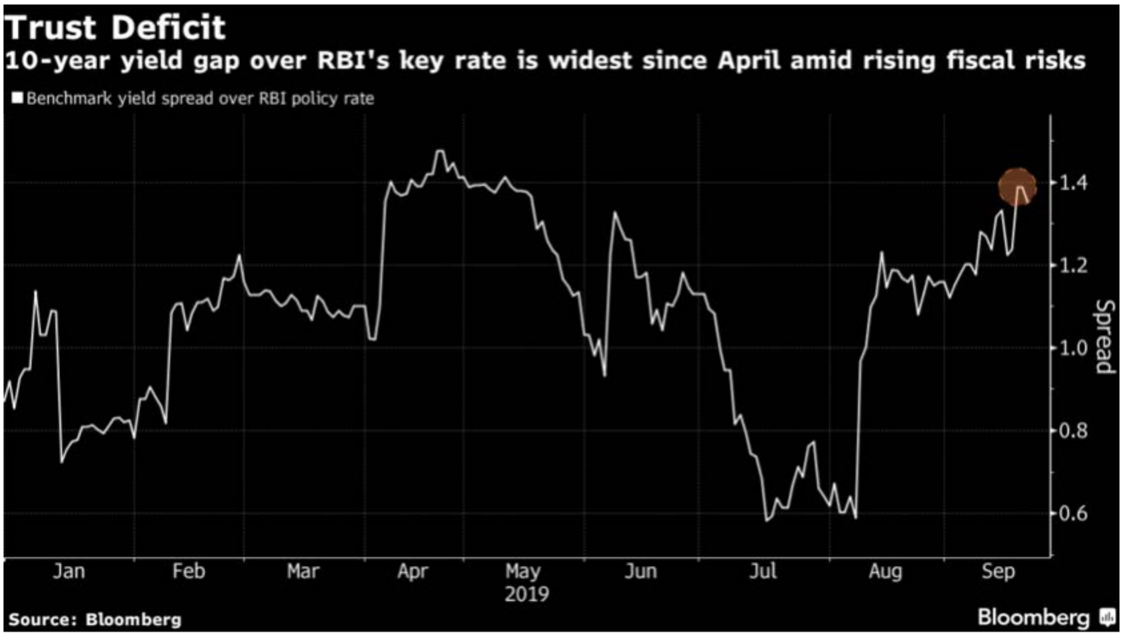
The Trade and Development Report 2019 released by the UN Conference on Trade and Development (UNCTAD) projects for a global slowdown with the world growth rate dropping from 3 per cent in 2018 to a projected 2.3 for this year. China will reclaim its position as the world's fastest growing economy by posting a growth rate of 6.1 per cent, 0.1 per cent ahead of India.

The UNCTAD report underlined that India continues a decelerating trend which began four years ago. The report noted that in Asia, the two economies that were among the fastest growing in the world, China and India are showing signs of a loss of growth momentum. Exports from India, which grew at 6.6 per cent in 2017, slowed down to 4.3 per cent last year. Together with a projected deceleration in the rate of growth in 2019 for India, where below-target collections from the recently introduced Goods and Services Tax have combined with fiscal consolidation efforts to limit public spending, will further slow growth in the Asian region as a whole. Further, the World Trade Organization has emerged as a major barrier to India's green energy ambitions and is bottlenecking the development of global solar industry. The report warns that if trade rules continue to trump environmental and development concerns, it will be difficult to realize the full potential for a Global Green New Deal.

9. The USD 20 Billion tax cut may lead to higher fiscal deficits for India

The USD 20 Billion tax cut boost provided by the Government of India may have an unintended effect of keeping borrowing costs high. After the Government of India announced the surprise stimulus on 20 September, the premium of 10-year yields over the central bank's policy rate widened to the most since April. Traders say the spread offers lenders little incentive to pass on past interest rate cuts to customers.

Though Central Bank has cut rates four times this year, banks are reluctant to fully pass on Asia's most aggressive easing amid a surge in bad loans. The widening spread reflects worries about the government adding to its record borrowing after the major booster. A high term premia, together with wider credit spreads, would mean that interest rates for end-borrowers will remain high despite steep rate cuts of 110 basis points announced this year



While the Hon'ble Finance Minister Ms. Nirmala Sitharaman said there were no plans to revise its borrowings of 7.1 trillion rupees for now, traders remain cautious. Standard Chartered Plc. is forecasting the need for as much as USD 800 Billion rupees of new debt.

Experts are of the opinion that the tax cut, estimated to cost 1.45 trillion rupees in lost revenue, may push up the fiscal deficit to 3.9 per cent of gross domestic product for the year against a goal of 3.3 per cent.

10. India economy to show visible signs of recovery in the festive months of September and October: Report

A recent report suggests that the Indian economy is expected to start its recovery from the second half of FY'19. The recovery will be driven by the Reserve Bank for policy rate transmission and steps by the government to boost growth.

The report by D&B Economy Observer report predicts that a pick-up in the industrial production will only be gradual and rise will be evident in the festive months of September and October 2019. Experts are of the view that the magnitude of slowdown is not as deep as was witnessed during the global financial crisis in 2009 and the debt crisis in 2012, but there is still a need to be more cautious.

Some experts believe that the loss of momentum in investment demand is worrying. Low business optimisms and low return on investment by the corporate and increase in inefficiency in capital employed, have raised serious concerns over the pace of revival in investment.

The flurry of measures taken by the Central Government including reducing the corporate tax rates is expected to revive the investor’s mood and kick start new capex plans. However, as result of various global and domestic challenges, the slow-down is now expected to last longer than previously expected.

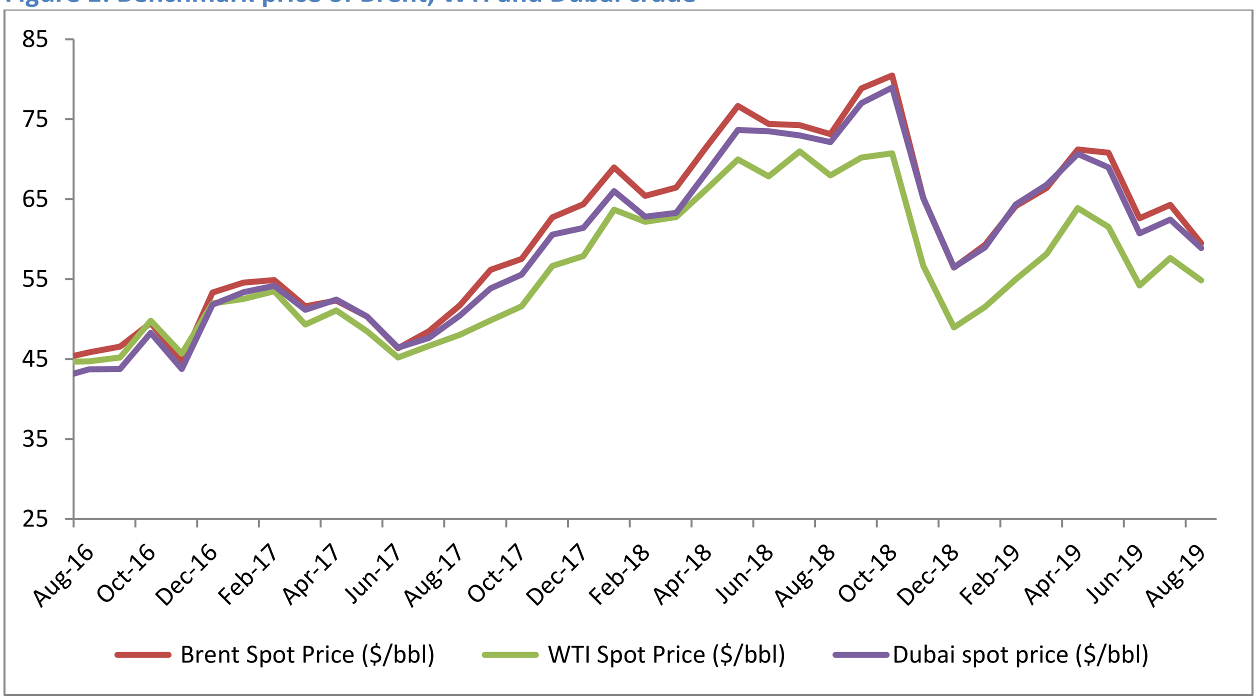
Oil & Gas Market

Crude oil price

Crude prices declined in the month of August due to economic worries across the globe, trade war between the US and China, increase in crude stock and the slightly reduced demand forecast. Though there were fluctuations in the mid-August, due to varying crude inventory levels, the prices went down.

Average Brent, WTI and Dubai basket crude prices went down by 7.47 %, 4.87 % and 5.70 % respectively from the prices in the month of July.

Figure 1: Benchmark price of Brent, WTI and Dubai crude



Source: WORLD BANK

- Brent crude price averaged $59.5 per bbl in August 2019, and was down 7.47 % and 18.6 % on a month on month (MoM) and year on year (YoY) basis, respectively.
- WTI crude price averaged $ 54.84 per bbl in August 2019, and was down 4.87 % and 19.34 % on a month on month (MoM) and year on year (YoY) basis, respectively.
- Dubai crude price averaged $58.88 per bbl in August 2019, and was down 5.70 % and 18.37% on a month on month (MoM) and year on year (YoY) basis, respectively.

Table 1: Crude oil price in August, 2019

Crude oil	Price ($/bbl) in August 2019	MoM (%) change	YoY (%) change
Brent	59.5	- 7.47 %	- 17.96%
WTI	54.84	- 4.87 %	- 19.34%
Dubai	58.88	- 5.70 %	- 18.37%

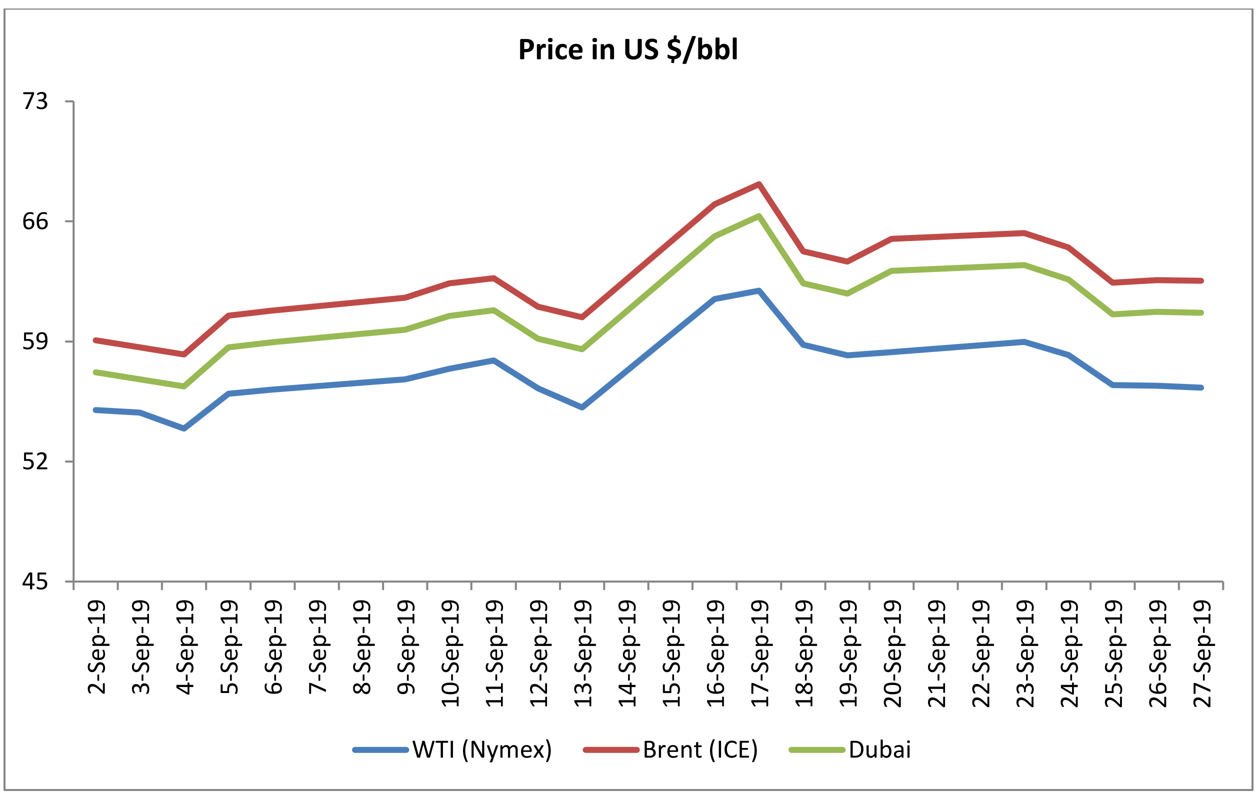
- *Source: WORLD BANK*

Crude oil price goes for a toss in September 2019

Crude prices look stabilized in the first two weeks of September. However, drone attacks on Saudi Arabia's production facility in the mid of September triggered the crude price to rise by around 11%. Disruption in crude supply by about 5% outweighed the demand and crude prices saw a record percentage increase in 2 days of time. With Saudi Arabia, recovering its production oil prices began to cool down and reduced on the lines of decline in forecasted demand.

Average Brent, WTI and Dubai basket crude prices went up by 5.11 %, 4.36 % and 3.04 % respectively from the prices in the month of August.

Figure 2: Crude oil price in September 2019

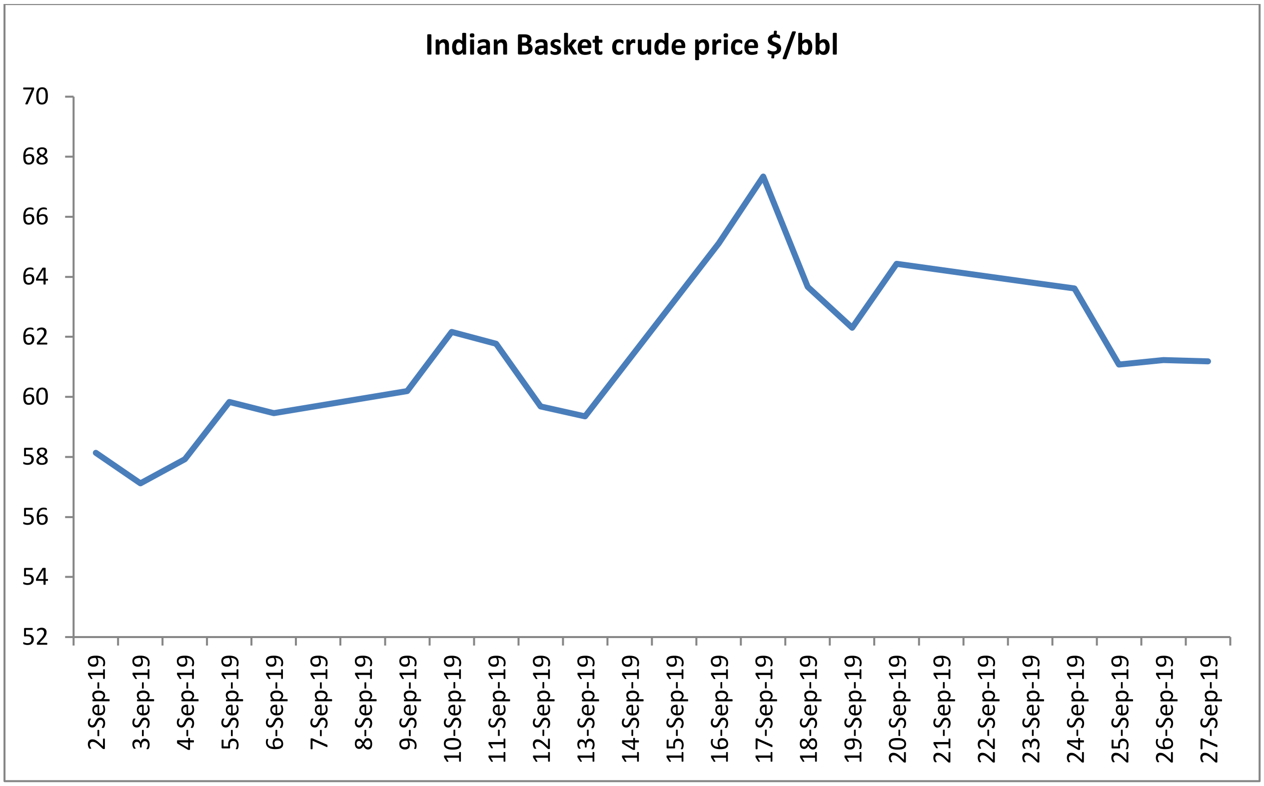


Source: EIA

Indian Basket Crude oil price

- The Indian basket of Crude Oil represents a derived basket comprising of Sour grade (Oman & Dubai average) and Sweet grade (Brent Dated) of Crude oil processed in Indian refineries in the ratio of 74.77:25.23 during 2017-18.

Figure 3: Indian crude oil basket price in $ per bbl



Source: Petroleum Planning & Analysis Cell

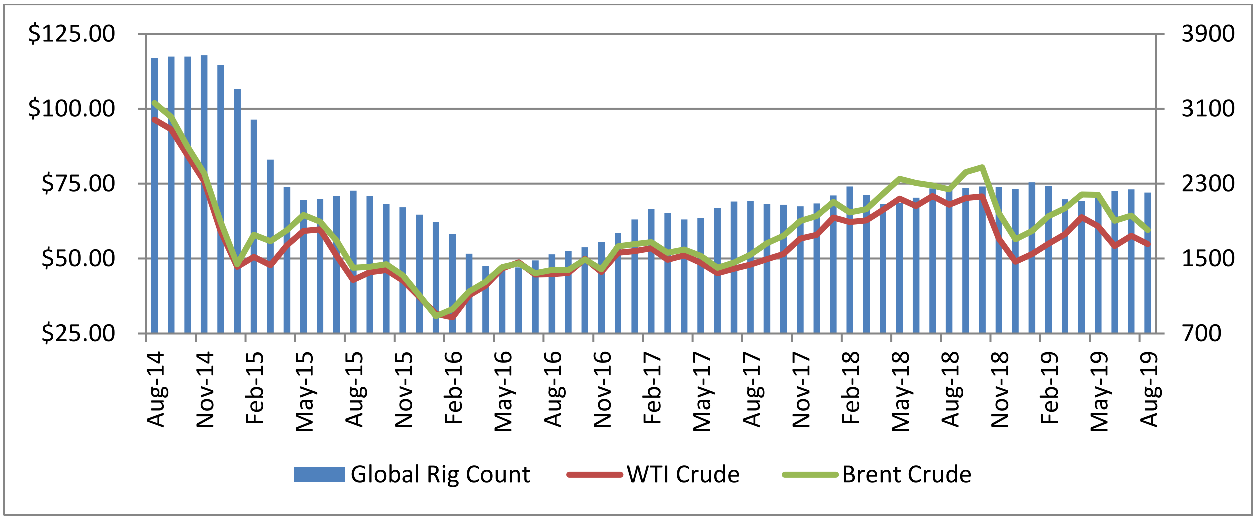
- Indian crude basket price averaged $ 61.47 per barrel in September, up by 4.29 % on Month on Month (M-o-M) basis and down 21 % on a year on year (Y-o-Y) basis, respectively.

Upstream activity & Rig count

Global rig count

Rig count represents the total number of active drilling rigs in the world. Demand for drilling rig is highly dependent on crude oil price. When the oil price increases, demand for exploration activity increases, resulting in the increase in rig count. A lower oil price could trim the exploration budget of the oil companies, thereby reducing the demand for drilling rig.

Figure 4 Global Rig Count vs. Crude Prices



Source: Baker Hughes

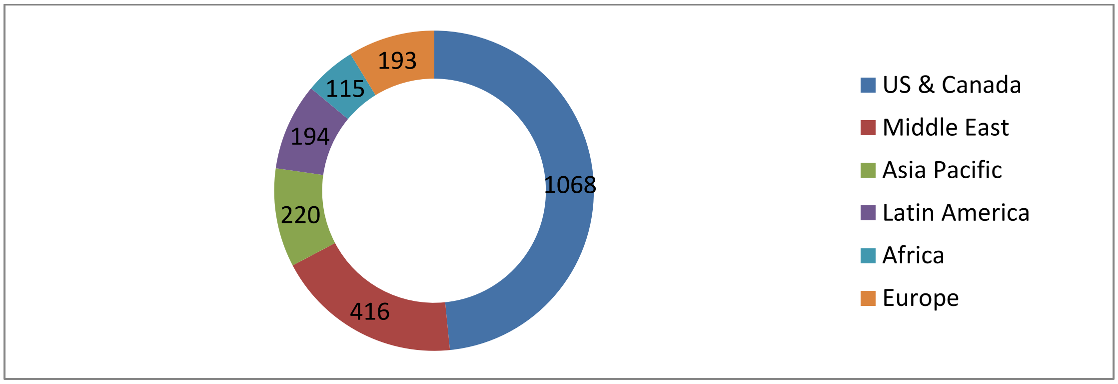
In August 2019, global drilling rig count stood at 2,206, 32 less than July. Onshore rig count declined by 9 and offshore rig count went down by 10. Rig count saw a marginal increase in Africa, while rig count declined in other areas. United States is the most active market for drilling industry with a rig count of 926. 900 were onshore rigs and 26 were offshore rigs. US & Canada and the Middle East count for about 2/3rd of the global rig count.

Table 2 : Global Drilling Rig Count

Rig Type	Count in August 2019	MoM (%) change	YoY (%) change
Land	1933	-1.13 %	-5.52 %
Offshore	273	- 3.53 %	17.67 %
Total	2206	-1.43 %	-3.16 %

Source: Baker Hughes

Figure 5 Geography-wise Rig count - August 2019



Source: Baker Hughes

Indian Drilling Rig Count

Indian rig count declined by 3 in the month of August 2019 to reach 108. On Y-O-Y basis, Indian rig count declined by 2.70 % in 2019 as compared to August 2018. 88 drilling rigs were deployed in oil fields and the rest 20 drillings rigs were deployed in gas fields.

Figure 6 Indian Rig Count vs. Indian Basket Crude Price

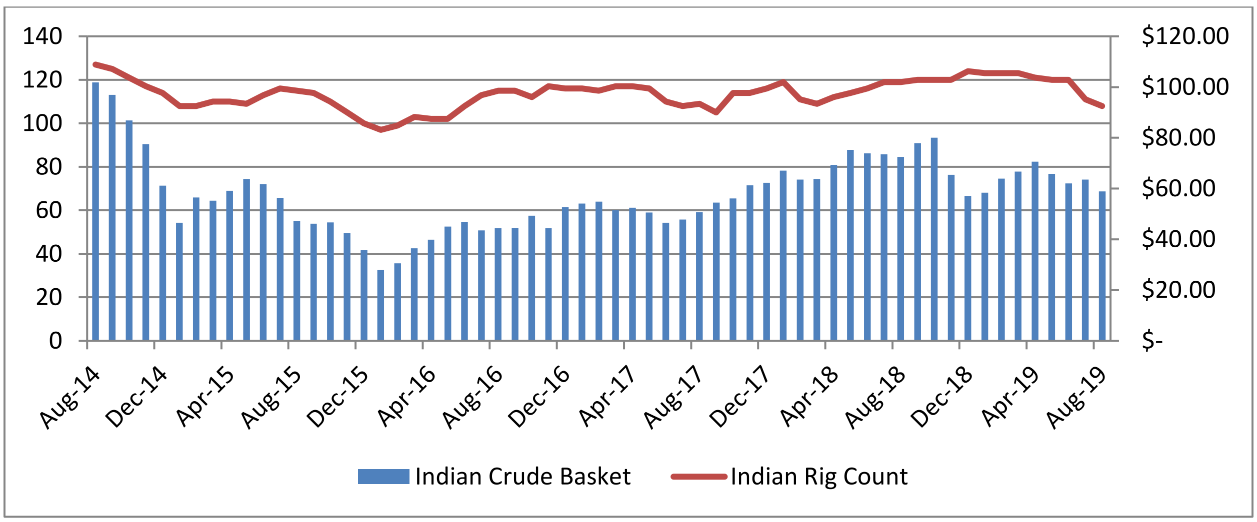


Table 3 : Indian Rig Count

Rig Type	Count in August 2019	MoM (%) change	YoY (%) change
Land	77	-2.53 %	-9.41 %
Offshore	31	-3.13 %	-8.82%
Total	108	-2.70 %	-9.24 %

Source: Baker Hughes

Oil demand & supply

Preliminary data indicates that global oil supply increased slightly by 0.83 mb/d m-o-m to average 99.21 mb/d in August 2019, compared with the previous month. An increase in non-OPEC supply (including OPEC NGLs) of 0.70 mb/d in to average 69.50 mb/d in August was mainly driven by incremental production in US, Canada, Malaysia, Brazil and Russia. Overall, there was a total increase in global oil output of 1.42 mb/d y-o-y. The share of OPEC crude oil in total global production declined by 0.1% to 30.0% in August 2019 compared with the previous month. Estimates are based on preliminary data from direct communication for non-OPEC supply, OPEC NGLs and non-conventional oil, while estimates for OPEC crude production are based on secondary sources.

For 2019, non-OPEC oil supply growth forecast for 2019 was revised up by 10 tb/d to reach 1.99 mb/d y-o-y, standing at 64.40 mb/d, primarily due to upward revision in oil production in Russia, Kazakhstan, Australia and Canada.

In 2019, world oil demand is anticipated to grow by 1.02 mb/d y-o-y, with total world consumption to reach 99.84 mb/d.

Table 4: World Oil demand in mbpd

	2018	1Q19	2Q19	3Q19	4Q19	2019	Growth	%
Total OECD	**47.93**	**47.65**	**47.51**	**48.50**	**48.41**	**48.03**	**0.10**	**0.21**
Dev. Countries	**32.62**	**32.97**	**32.93**	**33.37**	**33.07**	**33.09**	**0.47**	**1.43**
~ of which India	*4.73*	*5.03*	*4.79*	*4.57*	*5.14*	*4.88*	*0.15*	*3.21*
Other regions	**18.27**	**18.13**	**18.64**	**18.75**	**19.38**	**18.73**	**0.47**	**2.49**
~ of which China	12.71	12.63	13.19	12.98	13.43	13.06	0.35	2.73
Total world	**98.82**	**98.75**	**99.08**	**100.63**	**100.89**	**99.84**	**1.02**	**1.03**

Source: OPEC monthly report, September 2019

*Note: *2018 = Estimate and 2019 Forecast*

Global petroleum product prices

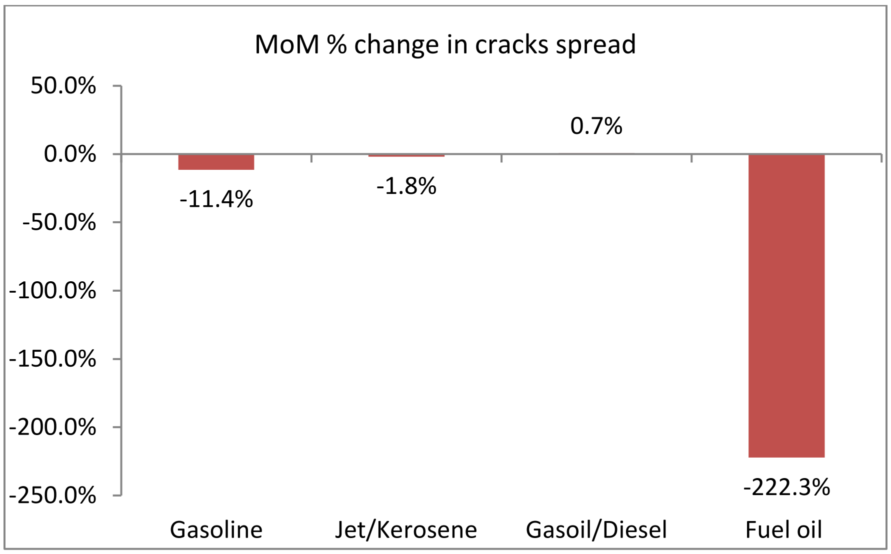
Prices in the Asian Gasoline-92 market saw a decrease in price by 6.4% over the previous month. Refinery margin in Asia declined from record high margin recorded in the month of July. As refineries returned from peak maintenance season, it led to increase in output. Refinery margins in August stood at $4.70/b, lower by $2.62 on m-o-m and by $3.28 on y-o-y basis.

Singapore Gasoline cracks averaged $7.67/b against Oman, down by 23 ȼ m-o-m and by minus $2.30 y-o-y. Refinery utilization rates rose in August averaging 89.32 % in selected Asian markets comprising of Japan, China, India and Singapore.

Jet/Kerosene prices declined by 4.9 % in August as the holiday season came to an end leading to decrease in demand for jet fuel. The Singapore jet/kerosene crack spread against Oman averaged $15.69/b, up by 47 ȼ m-o-m and 85 ȼ y-o-y.

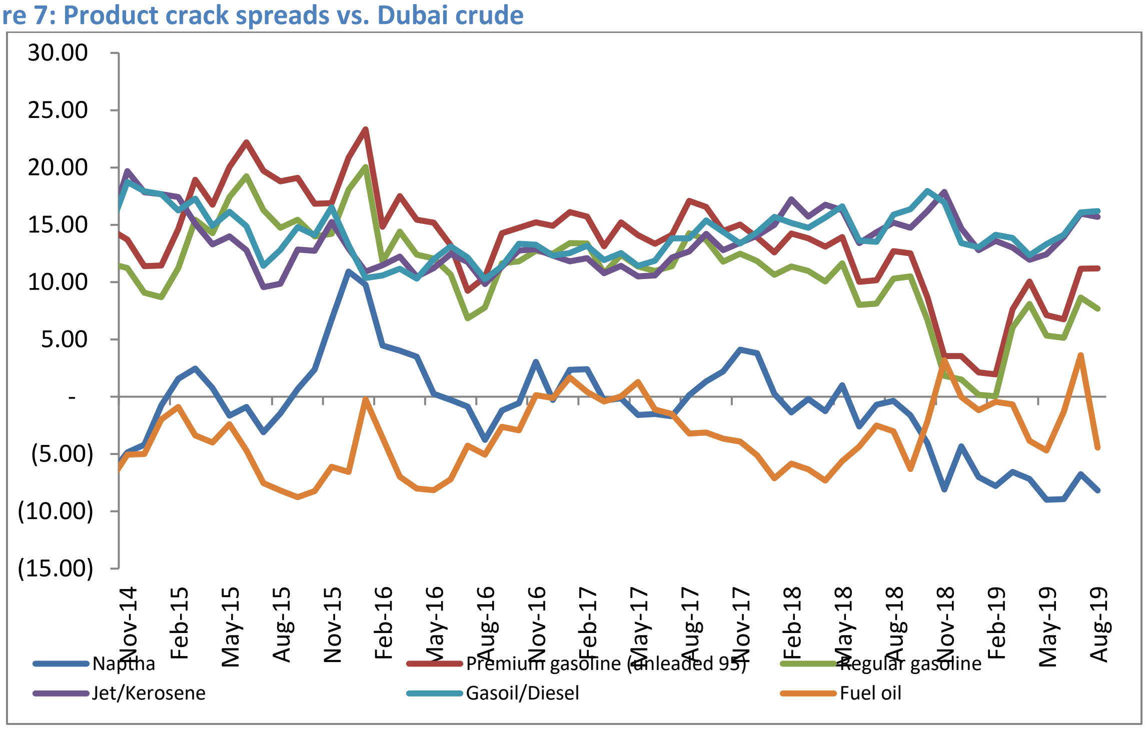
The Singapore gasoil crack spread moved slightly upwards in the month of August on the account of stronger exports to Africa, despite weaker pull from Middle East. In August, gasoil price decline by 4.4 %. Singapore gasoil crack spread against Oman averaged $16.12/b, up 88 ȼ m-o-m and by 66 ȼ y-o-y.

The Singapore fuel oil crack spread reversed and declined from the record high witnessed in the month of August. Singapore fuel oil cracks against Oman averaged minus $ 4.44/b, up by $7.31 m-o-m and up by $1.09 y-o-y.



Source: OPEC monthly report

Figure 7: Product crack spreads vs. Dubai crude



Source: OPEC, FIPI

Table 5: Singapore FOB, refined product prices ($/bbl)

Products	Price ($/b) in August 2019	MoM (%) change	YoY (%) change
Naptha	50.70	-8.9%	-29.3%
Premium gasoline (unleaded 95)	70.08	-4.8%	-17.4%
Regular gasoline (unleaded 92)	66.55	-6.4%	-19.3%
Jet/Kerosene	74.57	-4.9%	-14.6%
Gasoil/Diesel (50 ppm)	75.08	-4.4%	-14.7%
Fuel oil (180 cst 2.0% S)	54.44	-17.6%	-21.2%
Fuel oil (380 cst 3.5% S)	53.70	-18.0%	-21.7%

Source: OPEC

Petroleum products consumption in India

- In August, LPG consumption increased by 8.1 % on M-o-M basis.
- Consumption of gasoline increased (9 % Y-o-Y) driven by higher demand from transport segment.
- Demand for diesel declined by 0.9 % on Y-o-Y basis in the month of August

Table 6: Petroleum products consumption in India, August 2019

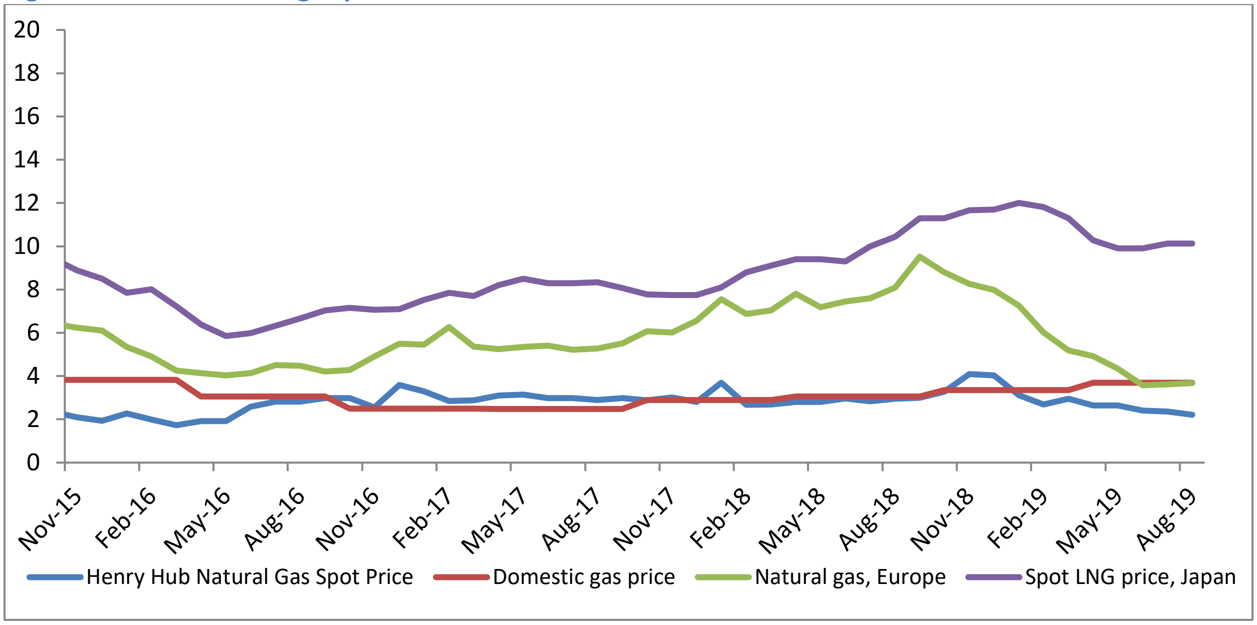
Petroleum products	Consumption in '000 MT August 2019	MoM (%) change	YoY (%) change
LPG	2,396	8.1%	13.7%
Naphtha	1,149	-12.3%	5.1%
MS	2,574	2.0%	9.0%
ATF	681	1.3%	1.6%
HSD	6,116	-10.6%	-0.9%
LDO	63	22.7%	35.9%
Lubricants & Greases	316	0.2%	-5.5%
FO & LSHS	497	-8.2%	-11.9%
Bitumen	260	-34.3%	3.3%
Petroleum coke	1,786	15.2%	-15.5%
Others	976	-9.5%	66.8%
TOTAL	17,044	-3.6%	2.7%

Source: PPAC

Natural Gas Price

In August, natural gas price at the Henry Hub declined by 5.9% to reach $2.22/MMBtu. Decline in demand for natural gas demand due to warmer days and higher inventory added during the same period across the United States.

Figure 8: Global natural gas price trends



Source: EIA, WORLD BANK

Table 7: Gas price

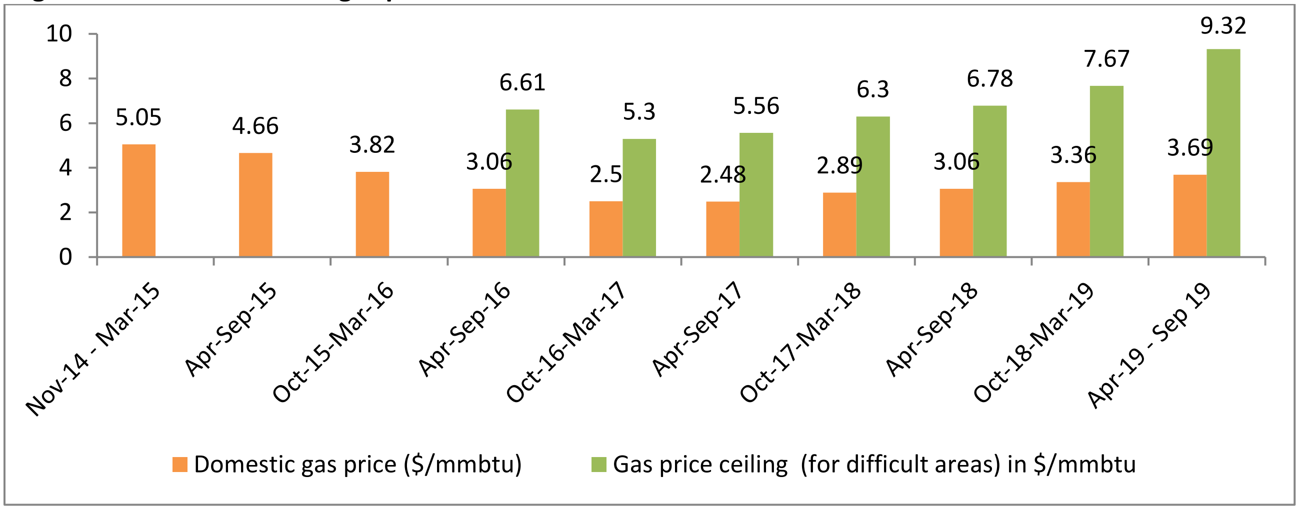
Natural Gas	Price ($/MMBTU) in August 2019	MoM (%) change	YoY (%) change
India, Domestic gas price	3.69	0.0 %	20.6%
India, Gas price ceiling – difficult areas	9.32	0.0 %	37.5%
Henry Hub	2.22	-5.9%	-25.0%
Natural Gas, Europe	3.68	1.7%	-54.5%
Liquefied Natural Gas, Japan	10.13	0.0%	-3.0%

Source: EIA, PPAC, World Bank

Domestic natural gas price which takes into account international benchmarks including Henry Hub, Alberta hub, Russia and UK National Balancing Point, has increased around 23% as compared to a year before, thus capturing the international gas price trends. Gas price for April to September 2019 is $3.69 per MMBTU

A notification was issued by MoP&NG on 21st March 2016, for marketing including pricing freedom for gas to be produced from discoveries in deep water, ultra-deep water, and high-pressure high temperature areas. For the April to September 2019 period, the price of gas from such areas has been notified at $9.32 per MMBTU.

Figure 9: Domestic natural gas price

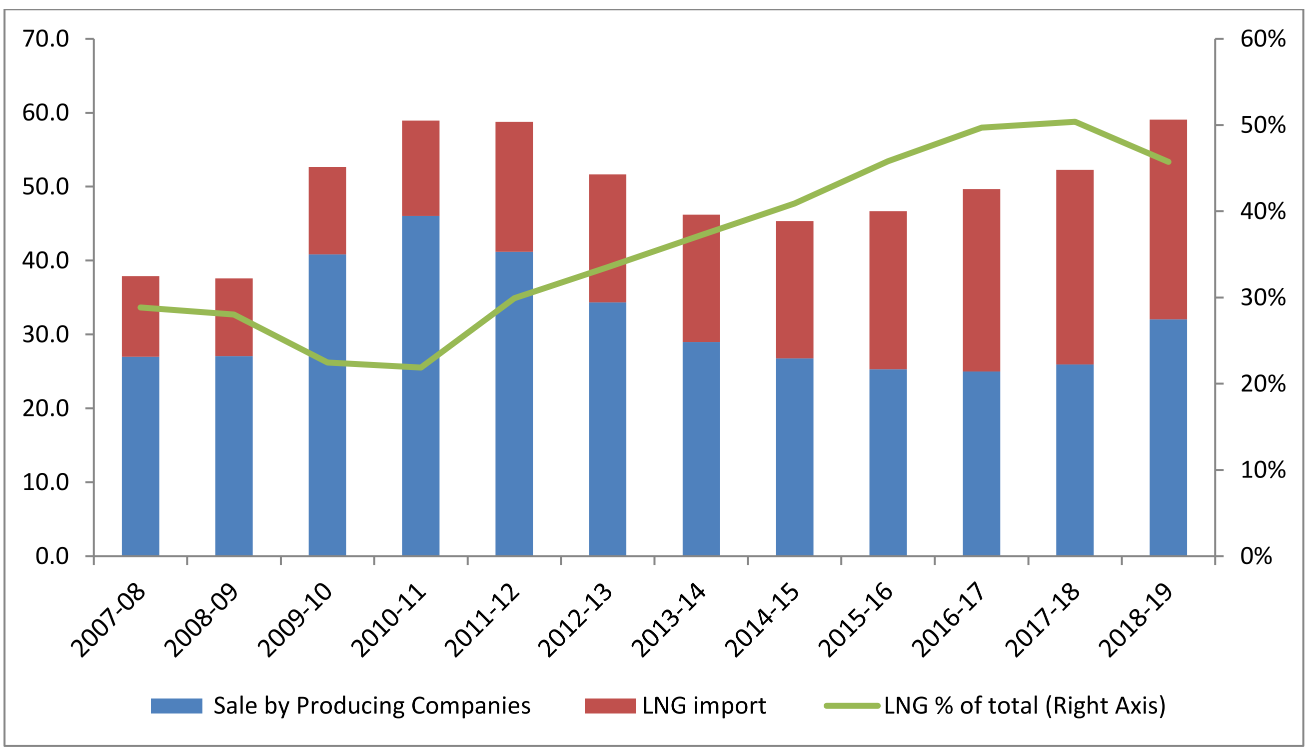


Source: PPAC

Natural gas production, consumption and import in India

- Natural gas constitutes for 6.2% of total energy primary mix of India
- Natural gas consumption in India has grown at a very slow pace in the past 3 – 4 years, with share of LNG imports increasing in the overall consumption mix

Figure 10: Domestic natural gas consumption, domestic production and LNG import in BCM



Source: PPAC

Sale by producing companies includes internal consumption

Key developments in Oil & Gas sector during September 2019

- **Monthly Production Report for August**

Crude oil production during August, 2019 was 2749.92 TMT which is 6.04% lower than target and 5.44% lower when compared with August 2018. Cumulative crude oil production during April-August, 2019 was 13725.52 TMT which is 4.01% and 6.06% lower than target for the period and production during corresponding period of last year respectively..

Natural gas production during August, 2019 was 2688.23 MMSCM which is 7.18% lower than the monthly target and 3.58% lower when compared with August, 2018. Cumulative natural gas production during April-August, 2019 was 13437.00 MMSCM which is 5.49% lower than target for the period and 0.98% lower than production during corresponding period of last year.

Refinery production during August, 2019 was 21952.67 TMT which is 0.14% higher than the target for the month and 2.40% higher when compared with August, 2018. Cumulative production during April-August, 2019 was 106313.27 TMT which is 0.72% lower than the target for the period and 1.39% lower than the production during corresponding period of last year.

- **Cabinet approves Mechanism revision of ethanol price for supply to Public Sector Oil Marketing Companies for procurement of ethanol w.e.f. December'19 for one year period**

On September 3rd, the Cabinet Committee on Economic Affairs, chaired by Prime Minister Shri Narendra Modi has given its approval for the following, including fixing higher ethanol price derived from different raw materials under the EBP Programme for the forthcoming sugar season 2019-20 during ethanol supply year from 1st December 2019 to 30th November 2020:

> (i) The price of ethanol from C heavy molasses route be increased from Rs.43.46 per lit to Rs.43.75 per litre,
>
> (ii)The price of ethanol from B heavy molasses route be increased from Rs.52.43 per lit to Rs.54.27 per litre,
>
> (iii) The price of ethanol from sugarcane juice/sugar/sugar syrup route be fixed at Rs.59.48 per litre,
>
> (iv)Additionally, GST and transportation charges will also be payable. OMCs have been advised to fix realistic transportation charges so that long distance transportation of ethanol is not disincentivised,
>
> (v) OMCs are advised to continue according priority of ethanol from 1) sugarcane juice/sugar/sugar syrup, 2) B heavy molasses 3) C heavy molasses and 4) Damaged Food grains/other sources, in that order,

All distilleries will be able to take benefit of the scheme and large number of them is expected to supply ethanol for the EBP programme. Remunerative price to ethanol suppliers will help in reduction of cane farmer's arrears, in the process contributing to minimizing difficulty of sugarcane farmers.

Ethanol availability for EBP Programme is expected to increase significantly due to higher price being offered for procurement of ethanol from all the sugarcane based routes, subsuming "partial sugarcane juice route" and "100% sugarcane juice route" under "sugarcane juice route" and for the first time allowing sugar and sugar syrup for ethanol production. Increased ethanol blending in petrol has many benefits including reduction in import dependency, support to agricultural sector, more environmental friendly fuel, lesser pollution and additional income to farmers.

- **Joint Statement on Cooperation between India and Russia in Hydrocarbon Sector for 2019-2024**

"On the eve of the meeting of the President of the Russian Federation V. Putin and Prime Minister of the Republic of India N. Modi in Vladivostok, a meeting of the Minister of Energy of the Russian Federation A. Novak and the Minister of Petroleum and Natural Gas, Minister of Steel of the Republic of India D. Pradhan (hereinafter referred to as the Sides) was held on August 29, 2019 in Moscow. India-Russia hydrocarbon cooperation is a major pillar of India-Russia strategic partnership and has grown over the last two decades. Notably, the last 5 years have witnessed a major boost in cooperation in this area.

The two Sides share a common understanding that energy is crucial for the development of their people and economy. Both Sides recognize the importance of global energy markets that are stable, predictable and balanced giving due regard to the interests of producer and consumer countries. Both Sides affirmed their determination to deepen cooperation in the hydrocarbon sector, bilaterally and in third country projects.

Natural Gas Sector:

Both sides recognize the significance of Liquefied Natural Gas (LNG) supplied from Russia to India and agree to strengthen LNG imports to India to promote India's bid to transform itself into a gas based economy. Russia will encourage its public and private sector companies to participate in gas projects in India, particularly in the development of gas pipeline networks and city gas distribution infrastructure in India. India's private and public companies will explore the possibility of collaborating in LNG projects, including in the Arctic. In regards to cooperation in the Arctic, Indian companies will examine the possibility of development of closer cooperation with Russian companies, including the LNG Arctic projects of JSC NOVATEK. Both Sides welcome the interest of JSC NOVATEK to enhance LNG supplies to India and joint development of gas market in India including but not limited to LNG infrastructure projects in collaboration with Indian companies.

Upstream Sector:

Both Sides welcome successful cooperation in the upstream sector of Russia, India and third countries between the leading oil & gas companies of Russia and India. Both sides express satisfaction at the good progress in Indian investments in oil and gas assets in Russia. India will look for further investment opportunities in producing oil and gas fields in Russia. The two Sides will continue to encourage further enhancement of cooperation in the upstream sector and continued dialogue between the leading companies in this regard.

Downstream Sector:

The Russian investment in Indian refining sector has been a welcome step. The Indian side would invite further investment from Russian public and private sector entities into Indian refining, petrochemical and associated sectors. The two Sides will work for identification of new projects of cooperation in this sector. The two Sides will strive to reach agreements as regards to the establishment of mutually beneficial channels for the supply of crude and fuel oil to Indian refineries.

Training, Technology, Third Country Cooperation:

Both Sides will strengthen and diversify existing training exchange program and create new ways of enhancing knowledge exchange, joint research in energy sector, including those in emerging technologies. Both Sides agree to explore possibility of undertaking joint projects in third countries in the energy sector.

Research, analysis & compilation by:

Praveen Rai, Deputy Director (Economic Policy & Planning)

Email: prai@fipi.org.in

Kaushiki Sinha Ray, Senior Assistant Director (Economic Policy & Planning)

Email: Kaushiki@fipi.org.in

FIPI

Federation of Indian Petroleum Industry (FIPI)

PHD House, 3rd Floor, 4/2, Siri Institutional Area, August Kranti Marg, New Delhi - 110016

Website: www.fipi.org.in