



Oil Hedging Considerations for 2022

14th January 2022

Pandemic to Endemic

As we enter the third calendar year of the covid pandemic, discussion is starting to shift from battling the virus, to living with it. The virus continues to surprise us with new variants (though mutations are to be expected), but from what we are seeing with Omicron, the processes of natural selection operating on mutations, seems to be favouring transmissibility: those mutations that can overcome vaccines and natural immunity gained through infection, at the expense of severity. If this proves to be the case and the Omicron wave does not lead to significant mortality, the outlook for the last significantly affected sector of oil demand – air travel – is promising.



Source: Bloomberg



Jet fuel is the key to continued demand recovery

The tables below show trends in global oil demand as estimated by the International Energy Agency (IEA). They expect oil demand to recover to around 2019 levels over the course of this year. The tables below show how jet fuel demand has, unsurprisingly, lagged other sources of demand and that this is expected to continue this year.

Global demand trends (mb/d)

Commodity	2019	2020	2021	2022
Total	99.80	90.80	96.20	99.50
Jet Fuel	7.90	4.90	5.20	6.20
Oil ex-Jet Fuel	91.90	85.90	91.00	93.30

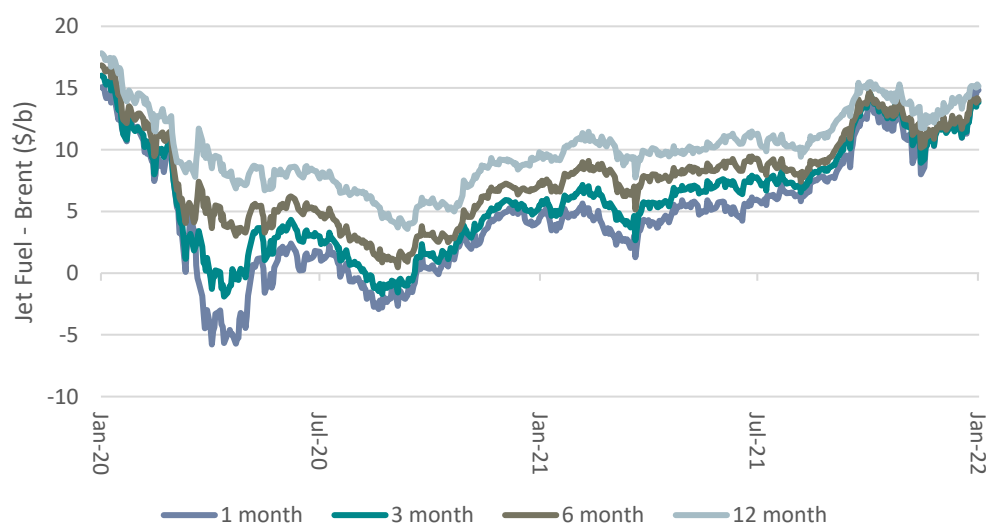
Changes from 2019 (mb/d)

Commodity	2020	2021	2022
Total	-9.00	-3.60	-0.30
Jet Fuel	-3.00	-2.70	-1.70
Oil ex-Jet Fuel	-6.00	-0.90	1.40

Source: IEA

The IEA estimates that average jet fuel demand for this year will still be 1.7 mb/d below 2019 level and that the difference in the overall number has been closed by increases in other sources of demand. Still, the jet fuel market is pointing to a stronger demand outlook for 2022. The premium in the price of jet fuel over Brent (the *crack spread*) has widened towards something more like pre-pandemic levels. The spread had a wobble into the end of the year, but is now taking a more optimistic view again, helped by airlines rebuilding their hedging programs (in which they buy jet forwards) in anticipation of stronger demand this summer.

European forward jet crack spreads



Source: Bloomberg



The challenge for jet demand though, is that while domestic and short haul flying are recovering long haul remains difficult, because of travel restrictions and long haul forms a disproportionately large component of jet demand (relative to passenger numbers) compared to short haul. The table below shows that RPKs (a measure of the number of passengers and the distance they have flown) for international flying were still very significantly disrupted as of last autumn, particularly in Asia.

Oct 2021 v Oct 2019 International RPK

Commodity	International RPK
Global	-66%
Europe	-51%
Latin America	-55%
North America	-57%
Africa	-60%
Middle East	-60%
Asia Pacific	-93%

Source: IATA¹

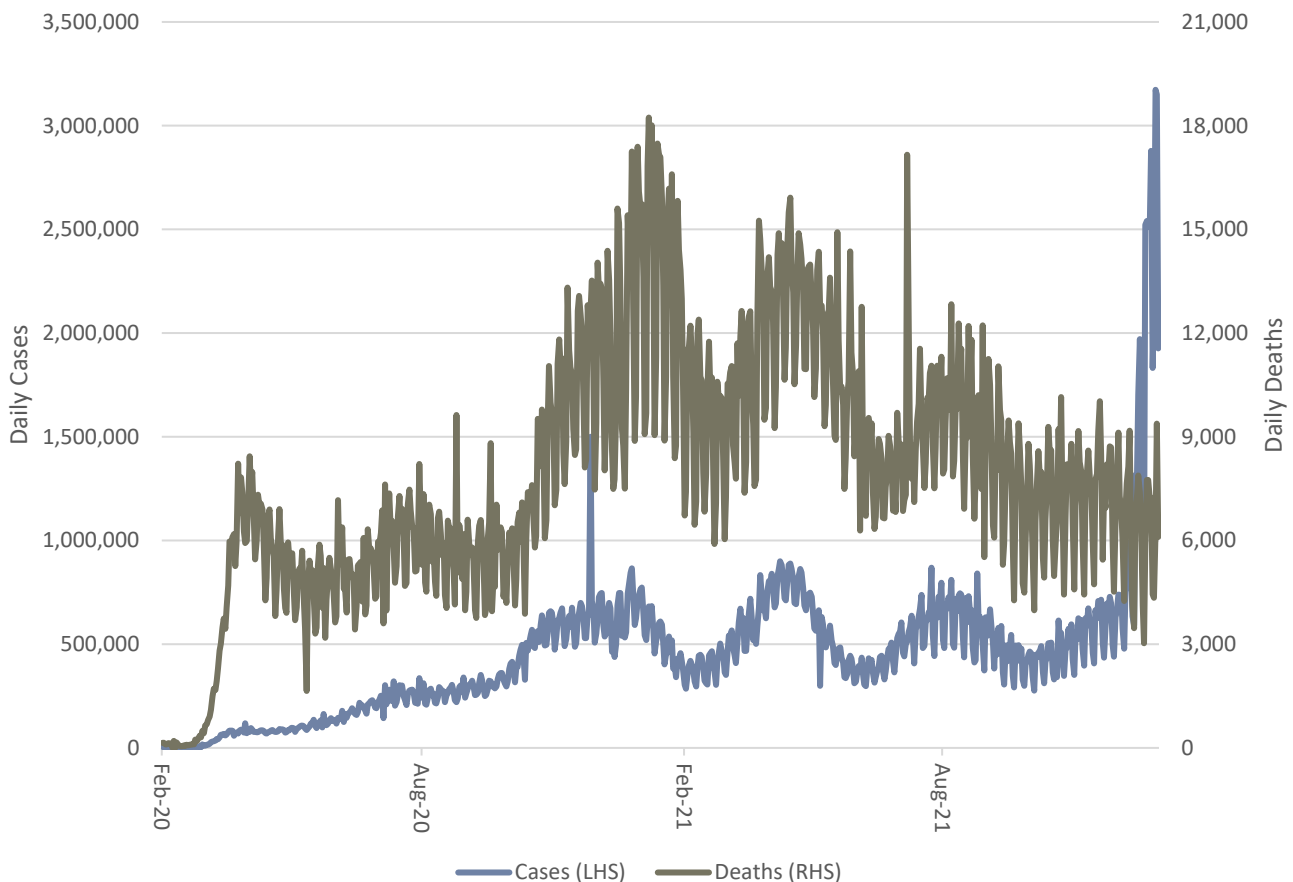
Predicting the path of the recovery in long haul flying and hence jet demand in 2022, is exceptionally difficult because of the need to predict the spread of Omicron, work out how it will affect a particular population with a particular demographic make-up, vaccination level and vaccine mix, second guess policy responses and work out how that will interact with the policies of other countries. Plus there is the possibility of future variants.

Looking at the global numbers, the chart below suggests a highly disturbing explosion of daily cases – way above any previous wave. However, the daily deaths number has so far remained in its down-trend. The Omicron wave was first detected in South Africa, but passed through quite quickly and with relatively low loss of life, in spite of low vaccination rates. While it is still too early to be sure, there are signs that the experience in Europe may follow that of South Africa. Switzerland, Spain and Britain are discussing moving from trying to contain the virus to living with it, on the strength of signs that Omicron is plateauing in those countries combined with the fact that the current restrictions, economic disruptions and expensive testing programmes cannot be maintained for much longer. Europe is not through it yet though and Omicron is spreading rapidly around the world.

¹ IATA, Air Passenger Market Analysis October 2021: <https://www.iata.org/en/iata-repository/publications/economic-reports/air-passenger-monthly-analysis---october-2021/>



Global reported daily covid cases and deaths



Source: Bloomberg, John Hopkins University

Even if Omicron does dissipate quickly from now on, the experience of Europe cannot necessarily be transposed to, for example, Asia. This is particularly true of China. As the table below shows, China has a high vaccination rate with roughly two shots per capita, twice as high as the next most populous country – India. However, it is unclear how effective China's vaccines will be in preventing serious cases of Omicron. There have been a small number of studies suggesting the efficacy may be low², but otherwise, there is very little to go on. Local transmission of Omicron has been detected in China, but the authorities have responded with strict lockdowns. It is unclear yet whether this approach will be sufficient to contain the highly contagious Omicron, but the zero tolerance approach to dealing with covid is one that the Chinese government has invested a lot of political capital in and is firmly wedded to. Assuming the zero-tolerance approach does work, there is currently no way of telling how widespread and disruptive lockdowns and movement restrictions might need to be. A particularly challenging scenario for oil demand would be if attempts to contain Omicron through lockdowns ultimately fail and Chinese vaccines prove to be ineffective. China accounts for around 15% of oil demand and a significant disruption to that (which would affect road transport as well) could more than wipe out recoveries in aviation demand elsewhere. Chinese vaccines have also been used in other large countries such as Indonesia, Pakistan and Brazil.

² Sinopharm COVID-19 booster weaker against Omicron – study: <https://www.reuters.com/business/healthcare-pharmaceuticals/sinopharm-covid-19-booster-weaker-against-omicron-study-2021-12-20/>



Country	Total Vaccinations	Population	Rate	% World Population
China	2,848,898,000	1,471,287,436	194%	19.0%
India	1,476,253,454	1,379,998,555	107%	18.0%
United States of America	502,616,303	331,001,800	152%	4.0%
Indonesia	281,574,183	273,524,361	103%	4.0%
Pakistan	163,641,885	220,892,909	74%	3.0%
Brazil	320,000,000	212,559,616	151%	3.0%
Nigeria	16,694,633	206,132,029	8%	3.0%
Bangladesh	129,371,926	164,689,614	79%	2.0%
Russian Federation	140,161,780	146,001,854	96%	2.0%
Mexico	150,180,676	128,932,586	116%	2.0%
Japan	201,259,462	126,476,460	159%	2.0%
Ethiopia	10,958,395	114,964,278	10%	1.0%
Philippines	108,534,301	109,580,798	99%	1.0%
Egypt	58,836,189	102,334,485	57%	1.0%
Viet Nam	150,935,915	97,338,446	155%	1.0%
Democratic Republic of the Congo	340,509	89,607,632	0%	1.0%
Turkey	124,058,691	84,336,296	147%	1.0%
Iran (Islamic Republic of)	122,153,249	83,992,800	145%	1.0%
Germany	149,863,127	83,164,887	180%	1.0%
Thailand	97,482,775	69,800,068	140%	1.0%
Overall	7,053,815,453	5,496,616,910	128%	71.0%

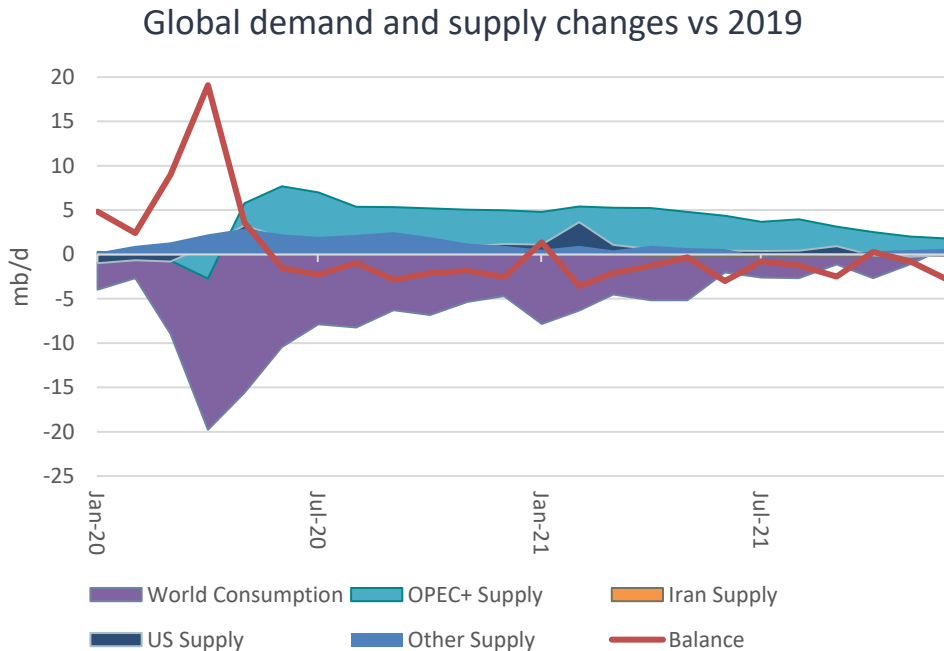
Source: WHO, Investec

Overall, covid continues to generate significant uncertainty around the short term demand outlook. If Omicron becomes the dominant global strain and does generally have mild symptoms, the transition from pandemic to endemic could lead to strong demand for jet fuel and more rapid recovery in oil demand than the IEA anticipates. There are also tail risks, such as the possibility of Omicron causing significant disruptions in China. That uncertainty will likely be greatest over the first quarter.



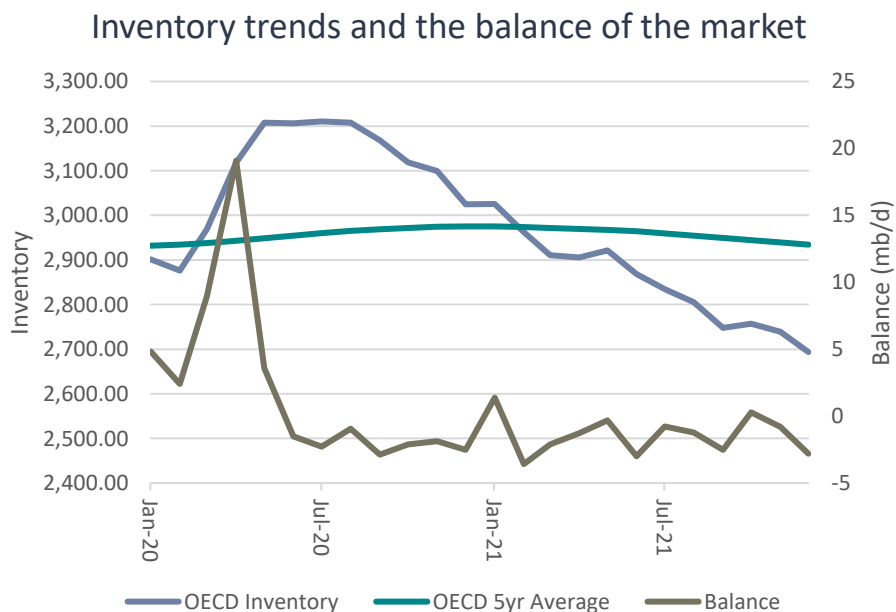
Oil Supply, Demand and Inventory Trends in since 2019

Since the supply response brought about by OPEC+ action and low prices, caught up with the collapse in demand in 2020, the market has generally been in a deficit.



Source: EIA, Investec

Consequently, OECD commercial inventories have now fallen well below its 5-year average, which OPEC has historically targeted. Consequently OPEC+ feels emboldened to push has ahead with its steady programme of production increases, 400 kb/d per month, until all of its cuts have been unwound later this year.



Source: EIA, Investec



OPEC+ Policy and its Implications for 2022

OPEC+, which comprises all OPEC members with the exception of Iran, Libya and Venezuela, along with non-OPEC members including Russia, Kazakhstan and Mexico, agreed to a coordinated response to the covid crisis in 2020. The baseline for the calculation of those adjustments was oil production of October 2018, except for Saudi Arabia and Russia, where a baseline level was 11.0 mb/d was applied. The deal announced in April 2020 involved the following cuts:

- 9.7 mb/d, starting on 1 May 2020 to 30th June
- 7.7 mb/d July to Dec 2020
- 5.8 mb/d 1 January 2021 to 30 April 2022

OPEC+ continued to unwind cuts from last summer with the aim of returning output to baseline level of 43.85 mb/d of crude. To accommodate objections from the UAE which insisted on raising its production baseline as the price for striking a deal to increase output by only 400 kb/d per month, the July 21 OPEC+ meeting agreed to revisions to the baseline of Russia, Saudi Arabia, Iraq, Kuwait and the UAE. This had the effect of raising the baseline by over 1.6 mb/d, to 45.49 mb/d³. It was further decided that the new baseline would apply from May 2022, but that OPEC+ would attempt to reach it only by increments of 400 kb/d per month.

There was an unusual outcome to the last meeting of 2021, where it was agreed that output should increase by 400 kb/d as usual, but that the meeting would remain technically in session in case the Omicron variant hampered the demand outlook to such an extent that members could decide to vary that decision. In the end the increase stood.

The following table shows December 2021 production from OPEC+ members compared to the current baseline, the May 22 baseline and to historic output.

	Current	Max	2019 Ave	Current Baseline	May 22 Baseline	Current Baseline - Current Output	May 22 Baseline - Current Output	Current Baseline - 2019 Ave	May 22 Baseline - 2019 Ave
Russia	10.93	11.41	11.21	11	11.5	0.07	0.57	-0.21	0.29
Saudi Arabia	9.67	11.33	9.56	11	11.5	1.33	1.83	1.44	1.94
Iraq	4.2	4.74	4.59	4.65	4.8	0.45	0.6	0.06	0.21
UAE	2.83	3.71	3.07	3.17	3.5	0.33	0.67	0.1	0.43
Kuwait	2.49	2.93	2.65	2.81	2.96	0.32	0.47	0.16	0.31
Kazakhstan	1.99	2.03	1.92	1.71	1.71	-0.28	-0.28	-0.21	-0.21
Mexico	1.9	2.54	1.87	1.75	1.75	-0.14	-0.14	-0.12	-0.12
Nigeria	1.26	1.78	1.61	1.83	1.83	0.57	0.57	0.22	0.22
Angola	1.14	1.77	1.39	1.53	1.53	0.38	0.38	0.14	0.14
Oman	1	1.09	0.96	0.88	0.88	-0.11	-0.11	-0.08	-0.08
Algeria	0.93	1.03	1	1.06	1.06	0.13	0.13	0.06	0.06
Azerbaijan	0.7	0.86	0.76	0.72	0.72	0.01	0.01	-0.04	-0.04
Malaysia	0.61	0.77	0.7	0.59	0.59	-0.02	-0.02	-0.1	-0.1
Congo	0.25	0.36	0.32	0.33	0.33	0.07	0.07	0.01	0.01
Bahrain	0.19	0.22	0.2	0.2	0.2	0.02	0.02	0	0
Gabon	0.19	0.21	0.2	0.19	0.19	0	0	-0.01	-0.01
South Sudan	0.15	0.17	0.15	0.13	0.13	-0.02	-0.02	-0.02	-0.02
Equatorial Guinea	0.1	0.16	0.12	0.13	0.13	0.03	0.03	0.01	0.01
Brunei	0.1	0.14	0.12	0.1	0.1	0.01	0.01	-0.02	-0.02
Sudan	0.06	0.12	0.07	0.07	0.07	0.01	0.01	0.01	0.01
Total	40.69	45.14	42.46	43.85	45.48	3.16	4.79	1.39	3.02

Source: EIA, Investec⁴

³ 19th OPEC and non-OPEC Ministerial Meeting: https://www.opec.org/opec_web/en/press_room/6512.htm

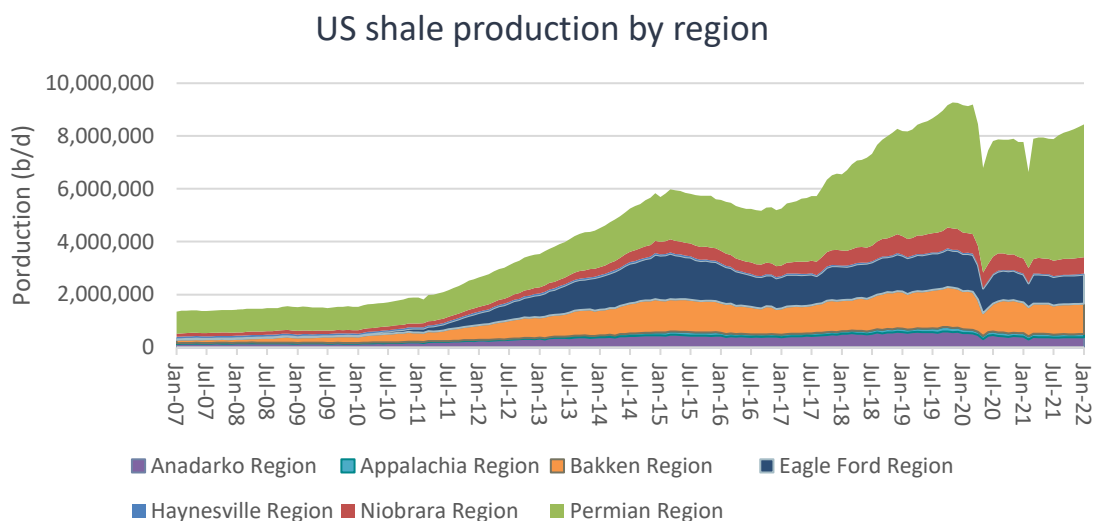
⁴ EIA numbers are drawn from the Short Term Energy Outlook dataset, which includes refinery processing gains in country production numbers. This has been adjusted out of the numbers in the table above, to make them more comparable with OPEC+ baselines and targets on the assumption that the processing gain is 2.34% in all cases. The figures for non-OPEC members include any condensate production, whereas OPEC members do not.



The table shows that the May 22 baseline is around 3mb/d above 2019 levels, which raises questions over the ability of OPEC+ to produce enough to reach the higher baseline. Saudi production was already low in 2019 and does have capacity to increase to its baseline of 11.5 mb/d (though this is higher than it has produced consistently in the past), but that still leaves a further 1 mb/d to find from other members. There is also the issue of condensate which is included in the EIA production figures, but are not normally included in baseline compliance. Russia has significant condensate production, but does not usually separate it out of the crude numbers it reports – the figure might be around 900 kb/d according to the IEA. Similarly Kazakhstan has large condensate output which is why the table suggests it needs to cut rather increase output to reach its baseline. Removing condensate from the figures could take as much as 1.5 mb/d off non-OPEC, OPEC+ members. Or to put it another way, OPEC+ may struggle to reach its baseline without including condensate output in the figures.

Will OPEC+ have to compete with other producers in 2022?

Crude traded over 70 \$/b for most of the second half of last year. This has led to increased US shale production, though some of that increase has come in the form condensate rather than crude and overall liquids produced from shale remains below pre-pandemic levels.

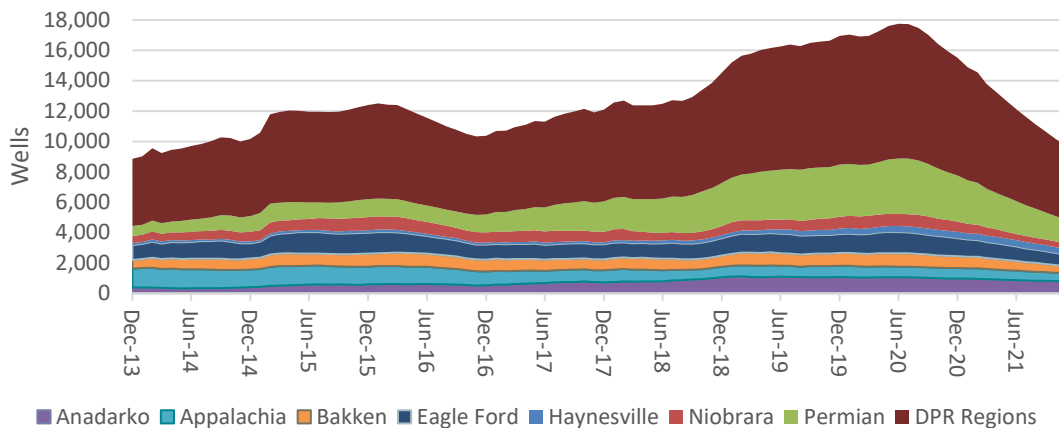


Source: Bloomberg, EIA and Investec

And this production has been underpinned by previously drilled uncompleted wells (DUCs) being brought into production, thus enabling output to recover without the cost of drilling new wells. The chart below shows the large stock of DUCs falling throughout 2020 and 2021 as those wells are completed and put into production. The remaining DUCs are now at levels not seen since 2014.



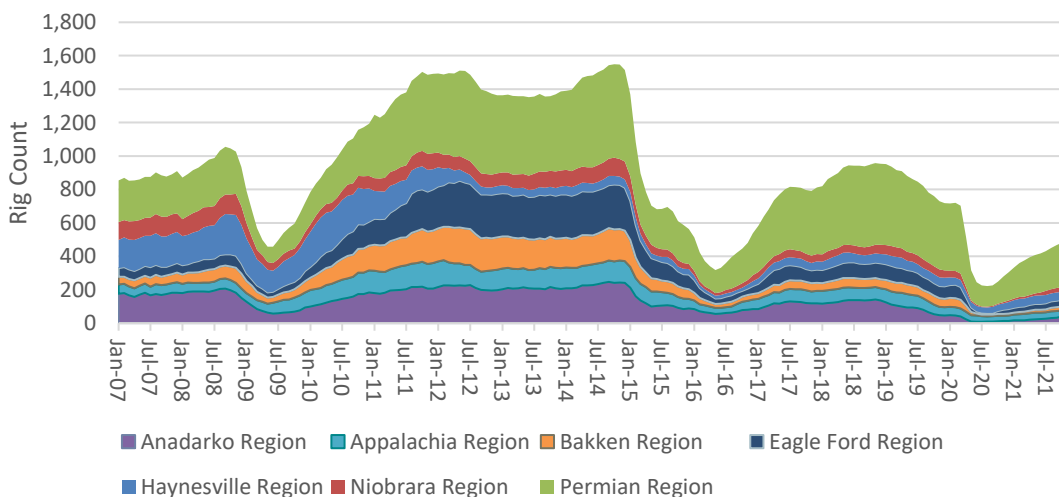
Drilled but uncompleted wells



Source: EIA

DUCs have enabled production to be maintained without significant drilling of new wells as US producers continue to concentrate on cash discipline and repaying debt rather than exploration and drilling.

Drilling activity



Source: EIA

Iran

Biden has clearly adopted a more conciliatory stance towards Iran than his predecessor, but that is not saying much. Iran also has a new leader, Ebrahim Raisi, a hardliner who is subject to US sanctions. Talks have proceeded with great difficulty, but are ongoing.

Indirect talks between Iran and the US aimed at salvaging the 2015 Iran nuclear deal resumed early this year. Western diplomats say they hope to make serious progress by the end of January or early February, but significant difficulties remain around the scope and timing of the lifting of sanctions versus the steps Iran would need to take to dismantle work it has done since, breaching the terms of the old deal.

French officials are reported to have said recently that, while progress was made in December, the parties are still far away from reaching a deal. Still, Iran is presumably keen to get more of its crude back into world markets and the West has a strong interest

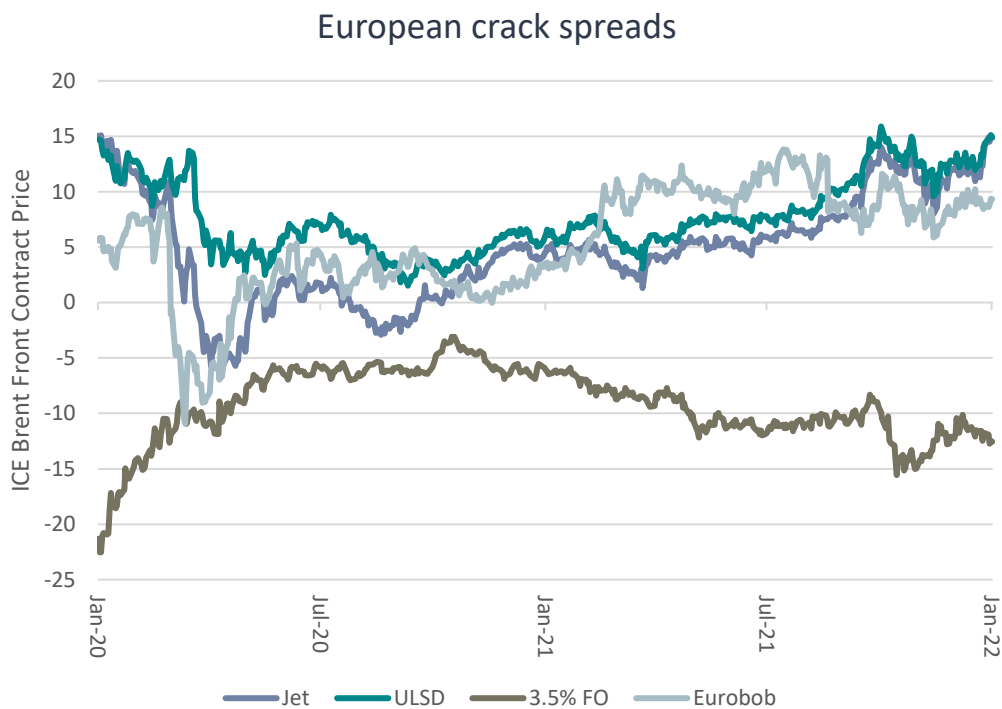


in ensuring Iran does not develop a nuclear weapons capability. Logically, this suggests a deal will be achieved in the end, but it looks set to be a protracted and tortious process.

Iranian volumes have increased somewhat over the past year as it exploits various means of getting crude onto world markets. Output is around 1.3 mb/d below levels seen before Trump withdrew from the old deal. This is not a massive number. Indeed, it happens to be around the same level as the shortfall we may see between what OPEC+ aims to achieve later this year and what it may actually deliver.

Oil and Refined Products

The process of normalisation in consumer demand is continuing as can be seen in the crack spreads of European refined products which are now back to levels similar to those seen pre-covid.



Source: Bloomberg, Investec



Scenario Analysis

The following scenario analysis uses historical and forecast data from the US Energy Information Administration's (EIA) latest monthly report along with the International Energy Agency's (IEA) report as an alternative demand outlook, to look at the implications of a number of scenarios. The EIA is more bullish on demand, so the IEA's forecasts are used to represent a less optimistic outlook.

At its meeting on 18th July 2021, OPEC+⁵ expressed a desire to eliminate cuts relative to its original crude oil output baseline and to revise the baseline up from May this year. The press release talked of an "endeavour" to do this by the end of September 2022 and to do so by adding a maximum of 400 kb/day per month. It was stressed however, that OPEC+ retain flexibility, via its monthly meetings, to revise its plan as conditions develop. In addition, OPEC+ has often talked about the importance of targeting an OECD commercial inventory figure at around the 5-year average.

Consequently, it is assumed that OPEC+ will increase output in-line with its stated plan provided inventories are not above the 5-year average. If they do exceed that level, OPEC+ is assumed to cut output by not more than 400 kb/day per month.

In which case, whether OPEC+ is able to meet its planned output increases will depend on assumptions about demand and non-OPEC+ supply. The degree to which OPEC+ output falls short of its preferred path could act as a measure of how disaffected its members may become and consequently indicate the risk of discipline breaking down and output increasing from member acting unilaterally. Alternatively, prices would need to follow a path that disincentives non-OPEC+ production. In other words, large OPEC+ shortfalls would tend to indicate a risk of downward pressure on prices.

The scenarios are as follows:

1. Strong demand – uses EIA demand and US supply forecast while Iranian and other sources, remain unchanged from December 21 levels
2. Moderate demand – uses IEA demand, EIA US supply forecast while Iranian and other sources, remain unchanged from December 21 levels
3. Strong demand / strong supply – like 1 but, Iranian sanctions lifted in Q2-22 and other sources of crude build slowly
4. Moderate demand / strong supply – like 2 but, Iranian sanctions lifted in Q2-22 and other sources of crude build slowly

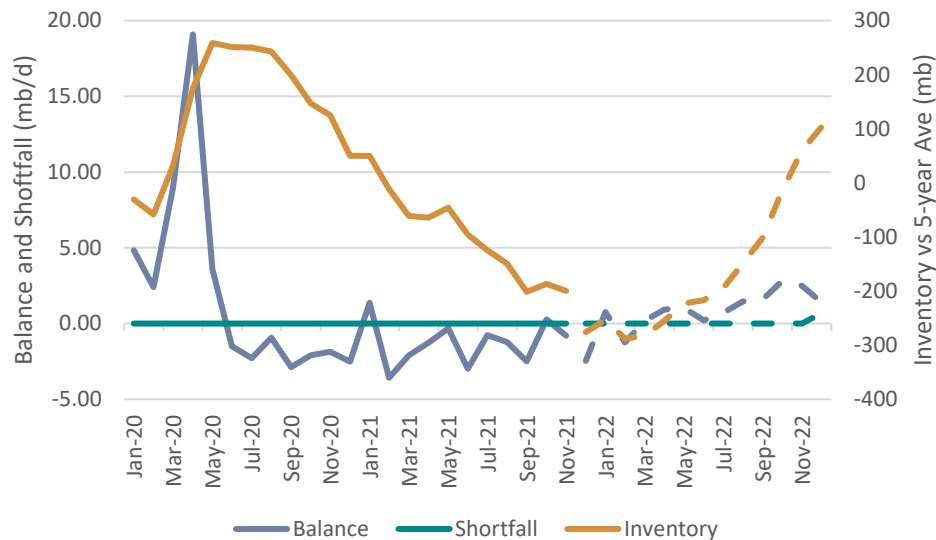
Note that all supply figures include refinery processing gains and OPEC+ baselines have been adjusted upwards by 2.34% to include assumed processing gains.

⁵ OPEC July meeting press release: https://www.opec.org/opec_web/en/press_room/6512.htm



Scenario 1

This scenario uses EIA demand and US supply forecasts, while Iranian and other sources, remain unchanged from December 21 levels. OPEC+ are able to put through all of their planned increases, reaching the upwardly revised baseline output later this year and inventories recover to the 5-year average. The risk here is that not all OPEC+ members can met their baseline output target, creating a risk of deficit in the market and higher oil prices.



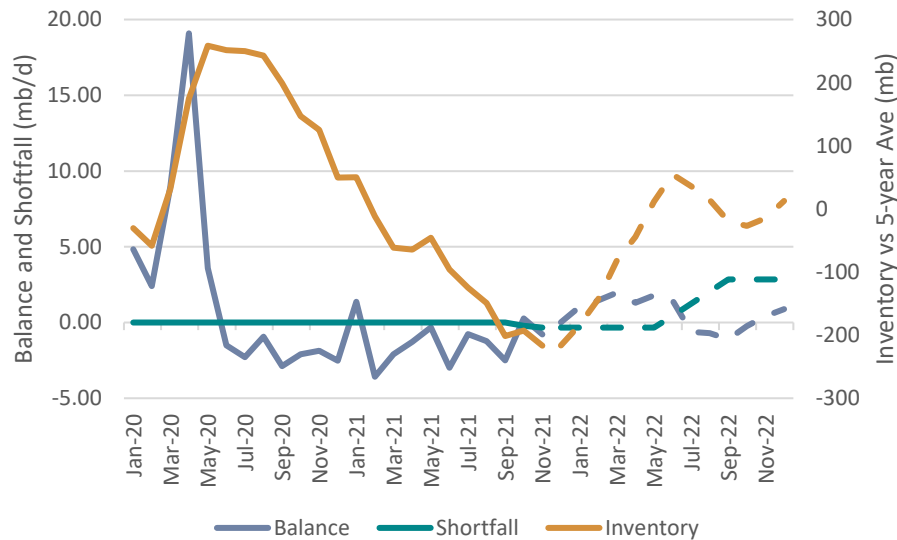
Summary Table	Demand	US Supply	Iran	Other Supply	OPEC+	Balance
2021	96.89	18.80	2.39	34.77	39.56	-1.37
2022	100.52	20.00	2.45	34.70	44.39	1.02
Increase	3.63	1.20	0.06	-0.07	4.83	2.39

Source: EIA, IEA, Investec



Scenario 2 – Use EIA forecasts but with OPEC additional production from April

This scenario uses the more moderate demand forecast of the IEA, combined with US supply forecasts, while Iranian and other sources, remain unchanged from December 21 levels. In this scenario OPEC+ are able to continue increasing at 400 kb/d per month for the first the first half of this year, but risk oversupplying the market if they continue into the second half. This leaves them around 2mb/d behind their baseline by the end of the year, but this may not be such an issue if members are struggling to meet quotas anyway. This scenario suggests a moderate price outlook.



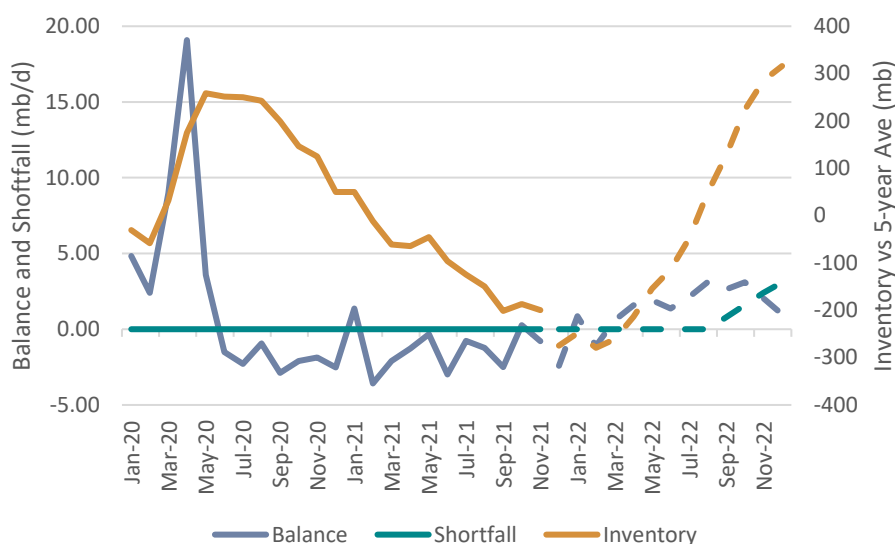
Summary Table	Demand	US Supply	Iran	Other Supply	OPEC+	Balance
2021	96.68	18.80	2.39	34.77	39.56	-1.16
2022	99.53	20.00	2.45	34.70	43.00	0.63
Increase	2.84	1.20	0.06	-0.07	3.44	1.79

Source: EIA, IEA, Investec



Scenario 3 – Use EIA forecasts but with OPEC additional production from April

This scenario uses EIA demand and US supply forecasts, while Iranian oil starts to come back from March and other sources also increase modestly. OPEC+ are able to continue increasing at 400 kb/d per month initially, but the increase in Iranian and other sources leads to OPEC+ needing to cut output again from September. Cutting at the rate of 400 kb/d per month, is not enough to prevent a surplus and inventories building. This scenario suggests a bearish output later this year.



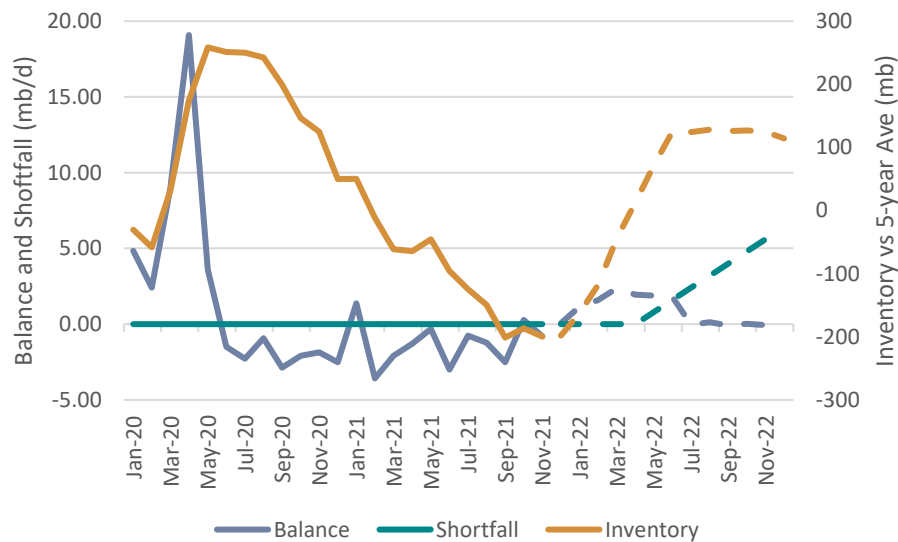
Summary Table	Demand	US Supply	Iran	Other Supply	OPEC+	Balance
2021	96.89	18.80	2.39	34.77	39.56	-1.36
2022	100.52	20.00	3.25	35.08	43.79	1.60
Increase	3.63	1.20	0.86	0.30	4.23	2.96

Source: EIA, IEA, Investec



Scenario 4 – Use EIA forecasts but with OPEC additional production from April

This scenario uses the more moderate demand forecast of the IEA combined with US supply forecasts, while Iranian oil is assumed to start to come back from March and other sources also increase modestly. OPEC+ are unable to increase output beyond April and must then cut output to avoid a surplus. This leads to OPEC+ falling far short of its baseline leading to disharmony amongst members and bearish outlook for much of this this year.



Summary Table	Demand	US Supply	Iran	Other Supply	OPEC+	Balance
2021	96.68	18.80	2.39	34.77	39.56	-1.16
2022	99.53	20.00	3.25	35.08	42.06	0.86
Increase	2.84	1.20	0.86	0.30	2.49	2.02

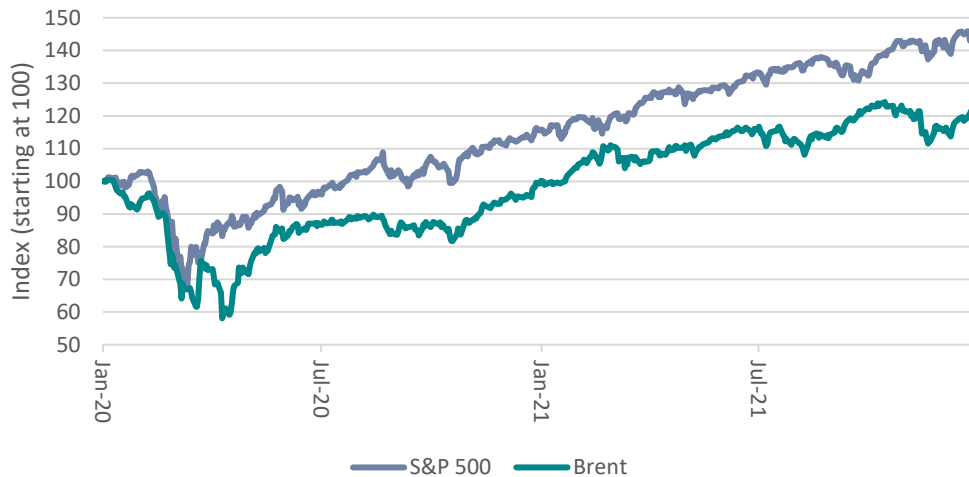
Source: EIA, IEA, Investec



The Market

Oil prices often tend to be correlated with movements in equities. This is partly because they may be reacting to the same stimulus of economic growth or contraction, but also because they can follow the same changes in sentiment. When moves are scaled to the same volatility, Brent is seen to have underperformed the S&P 500 in the rally up from the lows of 2020, but has broadly followed it.

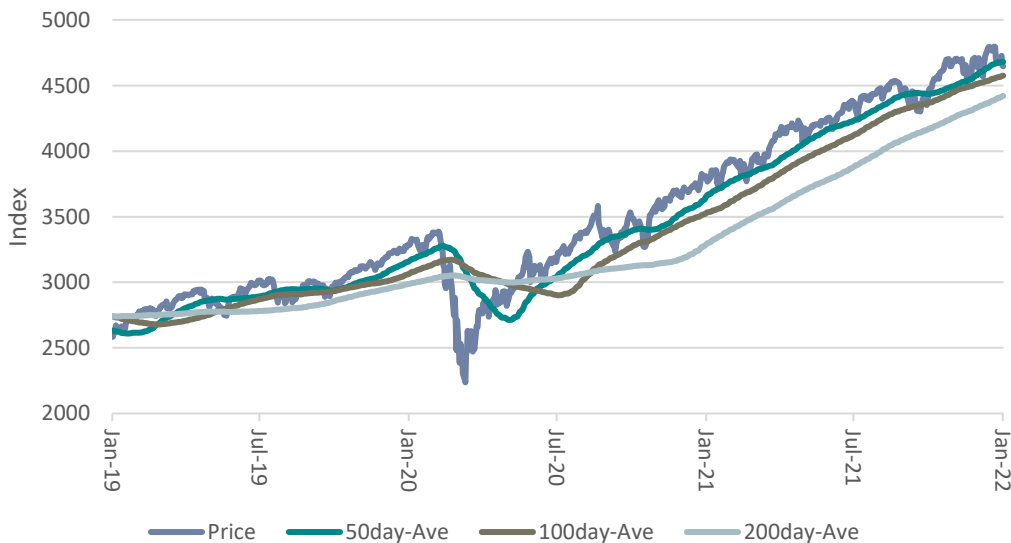
Brent and S&P 500 scaled to the volatility



Source: Bloomberg, Investec

Oil markets are particularly sensitive to sharp sell-offs in equity markets. In the short term at least, panic selling in asset markets can overwhelm fundamentals and push oil prices lower whether the move seems justifiable or not. The rally in the S&P 500 up from the lows of covid, to continue a multi-year bull run, has been extraordinary. The 100-day moving average has been a strong support level that has not been significantly breached since the market sold off into the pandemic. It has been tested many times, however. A deeper sell-off that reaches down to the 200-day average could very well upset oil markets. Given the long bull run in equities, this is a danger for crude.

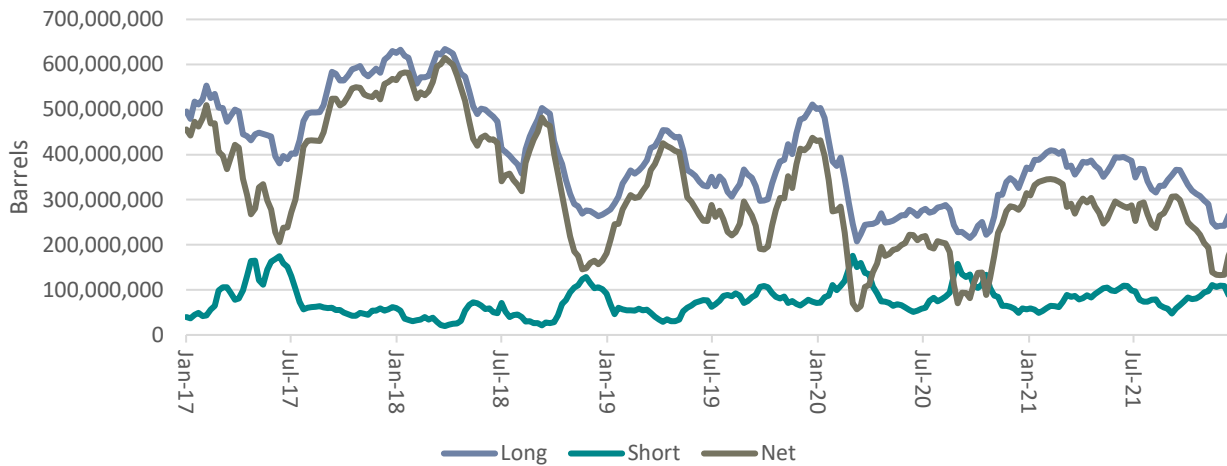
S&P 500





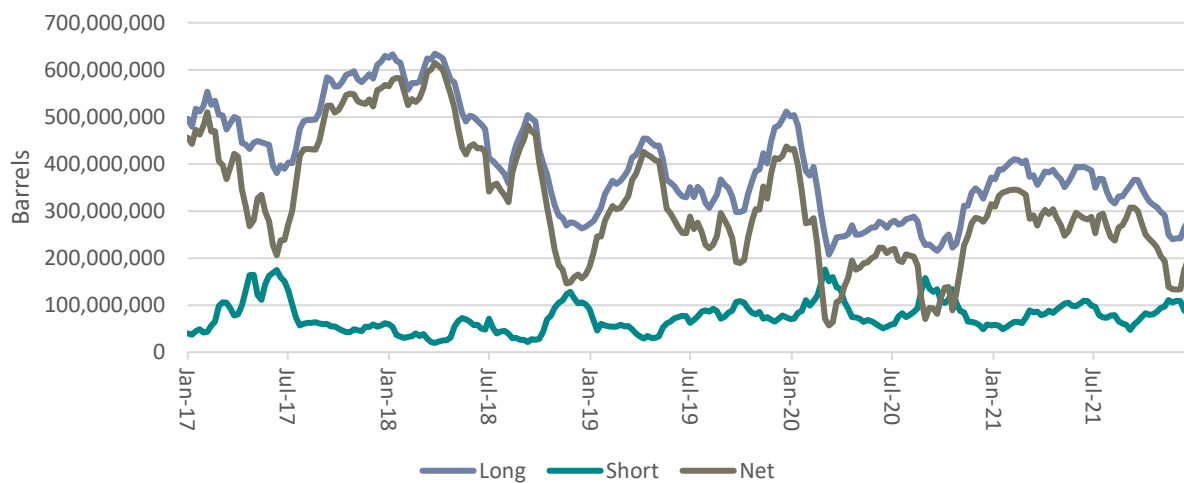
In spite of the rally in oil, speculators are not particularly bullish. In Brent and WTI, speculative long positions have recovered a little since the market started to worry about Omicron, but are well below levels seen in the summer and far less than long positions reached in 2018.

Brent Managed Money Positioning



Source: CFTC, Bloomberg, Investec

WTI Managed Money Positioning

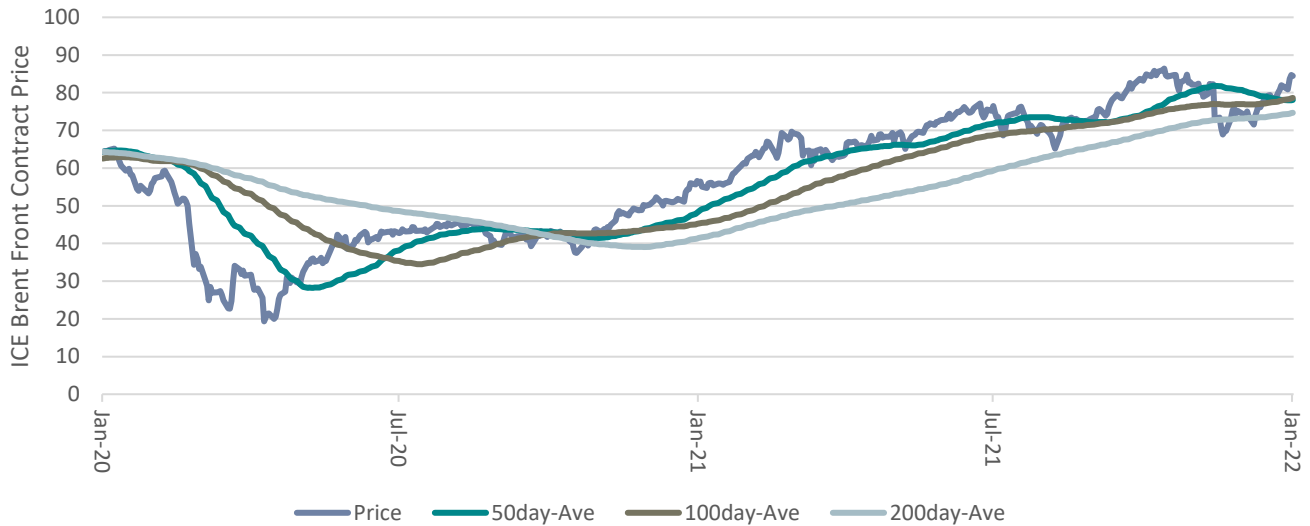


Source: CFTC, Bloomberg, Investec



Even though Brent is trading over 80 \$/b and not far off 4-year highs, the relatively light positioning of speculators suggests there is *room* for the market to rally should it develop the upward momentum to do so.

Recent Brent history



Source: Bloomberg, Investec

In the short term Brent is supported by 80 \$/b the figure and moving averages around 78 \$/b, followed by the 200-day moving average around 75 \$/b. While on the upside is the high from October 2021 at 86.70 \$/b and the high from 2018 which is only marginally higher at 86.74 \$/b. Beyond that, having broken a very long term down-trend that starts with the all-time high in 2008, the market has the potential for some interesting upside – at least from a technical point of view. The rally from the lows of 2020 has been rapid and may face challenges in the short term, but a correction could easily form the base of a further leg higher.

Long term Brent price history





Source: Bloomberg and Investec

Summary

The demand outlook for 2022 begins with great uncertainty. The rally back over 80 \$/b suggests the market is of the view that Omicron is a largely transitory problem and its apparently low severity combined with its ability to outcompete other variants, could signal the end of the pandemic and a shift to endemic. Let's hope so.

The reality though, is that nobody can tell for sure what impact Omicron will have as it spreads around the world, so there remains significant uncertainty over the outlook for the first quarter. If omicron does indeed prove not to be too disruptive, we can expect to see strong demand growth this year as air travel recovers. Continued increases in OPEC+ output, up to their new baseline, along with US supply growth, could be needed to keep pace with that. The break, last year, through a key long term trend-line resistance going back to 2008, could open the way to testing higher levels, perhaps over 90 \$/b. This seems all the more credible in view of the currently low levels of speculative long positions in futures markets.

Alternatively, it may be that Omicron proves to be more challenging for oil demand, especially if it takes hold in China and vaccines there do not prevent serious illness. Moderately disappointing growth in consumption need not be too problematic particularly if OPEC+ can slow their increases. This will be particularly important if sanctions on Iran are lifted this year.

There are risks to supply too though. OPEC+ producers: Nigeria and Kazakhstan, both suffered disruptions last year and there are question marks over the ability of members to reach targets this year. Over compliance with cuts was once seen as a strength – OPEC+ going the extra mile to balance the market. Whereas going forwards it could be seen as failure. Expanding US production also faces challenges. It maybe that output does not increase as much as the EIA expects.

On balance there is probably more to be positive about than negative for oil prices, while there are, as ever, tail risks that could send the market either way.



What to look out for in 2022

Here is a brief summary of some of the factors which could have a bearing on oil prices in 2021 and which could help in interpreting the sustainability of price trends during the course of this year:

The Virus and the Vaccines

- Absolutely key for the next few weeks will be progress of Omicron
- Levels of hospitalization, severe illness and deaths are probably a better indicator than daily cases as the latter is too heavily influenced by changes in levels of testing
- The spread in China should be particularly closely watched

OPEC+ Production

- For now OPEC+ increases can be expected to continue as planned
- If there are challenges for demand though, OPEC+ response and willingness to adjust their schedule of increases will be important
- Later in the year, if increases continue as planned, the ability of OPEC+ to deliver those increases will be important

Technical Levels

- Downside
 - 80 \$/b and moving average support around 78 \$/b
 - 200-day moving average around 75 \$/b
- Upside
 - October 2021 high at 86.70 \$/b and the high from 2018 which is only marginally higher at 86.74 \$/b
 - Not much in the way of technical levels beyond that until 100 \$/b area from 2014

US Shale

- Need to keep a close eye for signs of higher prices stimulating production in the US

Iran

- The negotiations are very challenging, but may eventually be successful

Geopolitical Risks

- The unrest in Kazakhstan led to a recent disruption in output
- Libya continues to experience challenges with the civil war going on there
- Russia vs NATO in relation to the Ukraine

Inventories

- Inventories are the acid test of views on the balance of supply and demand

Investors

- Investor positions remain surprisingly low given how strongly the market has rallied
- The multi-year bull run in equities continues, but a sharp reversal in equity prices, if/when it happens, could well be negative for oil



Appendix A – Reporting Schedules and Key Dates

IEA Oil Market Report

Publication dates are as follows:

- 19 January
- 11 February
- 16 March
- 13 April
- 12 May
- 15 June
- 13 July
- 11 August
- 14 September
- 13 October
- 15 November
- 14 December

The report is published at 09:00 London time

OPEC 2022 Meetings

In the first week of each month

US Inventory Numbers

15:30 each London time Wednesday
(Except in weeks with a US public holidays when the release is at 4:00pm on Thursday)



Appendix B – Scenario underlying data tables

Scenario 1: Strong demand – uses EIA demand and US supply forecast while Iranian and other sources, remain unchanged from December 21 levels

	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
World Consumption	101.1	98.2	100.6	99.7	99.5	99.9	101.1	101.0	101.0	101.3	100.4	101.4	102.2
OPEC+ Supply	41.9	42.3	42.7	43.1	43.5	43.9	44.3	44.7	45.1	45.5	45.9	46.3	45.9
Iran Supply	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
US Supply	19.6	19.5	19.5	19.7	19.8	19.9	19.9	20.0	20.3	20.3	20.2	20.5	20.6
Other Supply	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
Balance	-2.5	0.8	-1.3	0.2	0.9	1.0	0.2	0.7	1.5	1.6	2.8	2.5	1.4
OECD Inventory	2,663	2,686	2,651	2,657	2,684	2,716	2,722	2,745	2,790	2,838	2,925	2,999	3,042
OECD 5yr Average	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939
OPEC+ Target	41.9	42.3	42.7	43.1	43.5	43.9	44.3	44.7	45.1	45.5	45.9	46.3	46.5
OPEC+ Shortfall	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7

Scenario 2: Moderate demand – uses IEA demand, EIA US supply forecast while Iranian and other sources, remain unchanged from December 21 levels

	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
World Consumption	98.6	97.9	97.9	97.9	99.1	99.1	99.1	100.8	100.8	100.8	100.3	100.3	100.3
OPEC+ Supply	41.9	42.3	42.7	43.1	43.5	43.9	43.5	43.1	42.7	42.3	42.7	43.1	43.5
Iran Supply	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
US Supply	19.6	19.5	19.5	19.7	19.8	19.9	19.9	20.0	20.3	20.3	20.2	20.5	20.6
Other Supply	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
Balance	0.0	1.0	1.4	2.0	1.3	1.8	1.4	-0.6	-0.7	-1.1	-0.2	0.4	0.9
OECD Inventory	2,733	2,765	2,805	2,866	2,905	2,961	3,004	2,985	2,963	2,930	2,922	2,935	2,962
OECD 5yr Average	2,949	2,949	2,949	2,949	2,949	2,949	2,949	2,949	2,949	2,949	2,949	2,949	2,949
OPEC+ Target	41.5	41.9	42.3	42.7	43.1	43.5	43.9	44.3	44.7	45.1	45.5	45.9	46.3
OPEC+ Shortfall	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	0.4	1.2	2.0	2.8	2.8	2.8	2.8



Scenario 3: Strong demand / strong supply – like 1 but, Iranian sanctions lifted in Q2-22 and other sources of crude build slowly

	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
World Consumption	101.1	98.2	100.6	99.7	99.5	99.9	101.1	101.0	101.0	101.3	100.4	101.4	102.2
OPEC+ Supply	41.9	42.3	42.7	43.1	43.5	43.9	44.3	44.7	45.1	44.7	44.3	43.9	43.5
Iran Supply	2.5	2.5	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.8	3.8	3.8	3.8
US Supply	19.6	19.5	19.5	19.7	19.8	19.9	19.9	20.0	20.3	20.3	20.2	20.5	20.6
Other Supply	34.8	34.8	34.9	34.9	35.0	35.0	35.1	35.1	35.2	35.2	35.3	35.3	35.4
Balance	-2.4	0.9	-1.1	0.6	1.6	1.9	1.4	2.1	3.1	2.6	3.1	2.0	1.0
OECD Inventory	2,664	2,691	2,660	2,678	2,725	2,785	2,825	2,891	2,988	3,067	3,163	3,224	3,255
OECD 5yr Average	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939
OPEC+ Target	41.9	42.3	42.7	43.1	43.5	43.9	44.3	44.7	45.1	45.5	45.9	46.3	46.5
OPEC+ Shortfall	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.6	2.4	3.1

Scenario 4: Moderate demand / strong supply – like 2 but, Iranian sanctions lifted in Q2-22 and other sources of crude build slowly

	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
World Consumption	98.6	97.9	97.9	97.9	99.1	99.1	99.1	100.8	100.8	100.8	100.3	100.3	100.3
OPEC+ Supply	41.9	42.3	42.7	43.1	43.5	43.1	42.7	42.3	41.9	41.5	41.1	40.7	40.3
Iran Supply	2.5	2.5	2.5	2.7	2.9	3.1	3.3	3.5	3.7	3.8	3.8	3.8	3.8
US Supply	19.6	19.5	19.5	19.7	19.8	19.9	19.9	20.0	20.3	20.3	20.2	20.5	20.6
Other Supply	34.8	34.8	34.9	34.9	35.0	35.0	35.1	35.1	35.2	35.2	35.3	35.3	35.4
Balance	0.1	1.1	1.6	2.4	1.9	1.9	1.8	0.0	0.1	-0.1	0.0	-0.1	-0.3
OECD Inventory	2,741	2,776	2,821	2,894	2,953	3,011	3,064	3,063	3,067	3,065	3,066	3,064	3,053
OECD 5yr Average	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939	2,939
OPEC+ Target	41.9	42.3	42.7	43.1	43.5	43.9	44.3	44.7	45.1	45.5	45.9	46.3	46.5
OPEC+ Shortfall	0.0	0.0	0.0	0.0	0.0	0.8	1.6	2.4	3.2	4.0	4.8	5.6	6.3



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