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N° 077 // July 4, 2022

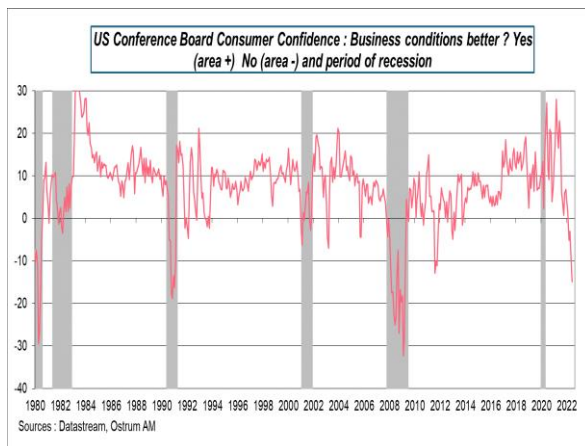
## ● Topic of the week: The US oil dilemma

- Oil production reacts less quickly to rising prices than in the past;
- The US oil industry has been facing headwinds since the second half of the 2010s. The price collapse in 2015 and again in 2020 has profoundly changed the evolution of the sector's capacities;
- In addition to the cyclical issues, the announced end of fossil fuels amplifies the lack of personnel and the rationing of funding induced by the necessary energy transition;
- The Biden Administration's energy policy, partly politically motivated, could be better designed

## ● Market review: Half-year ends in panic

- Horrible first half of year for risk assets;
- Yields plummet as markets ignore central banks;
- Sharp re-steepening of curves;
- Non-existent liquidity across credit markets.

## ● Chart of the week



For sure, households are catastrophic at predicting recessions, which they do not anticipate, generally only when they have already arrived. The fact remains that the results of the Conference Board's survey are particularly bad. The balance between the share of households anticipating an improvement in activity and the share of those anticipating a deterioration in activity is very negative and at its lowest level since March 2009. Such a level is associated with a recession as the chart shows. Households are becoming more concerned about the consequences of continued high inflation, the resulting loss of purchasing power and the severe monetary tightening by the Fed to counter it. They will become more cautious which will weigh on their consumption and therefore on growth. The risk of recession increases in the United States.

## ● Figure of the week

# 52

Source : Ostrum AM

52 years. This is the worst first semester for the S&P 500 in 52 years, since 1970.



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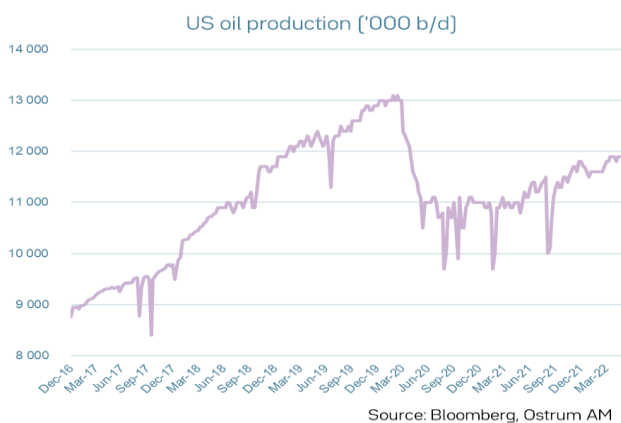
• **Topic of the week**

# The US oil dilemma

**Oil is always central to the economic outlook. Prices are sky-high, causing hardship on consumers in the US and around the world. There is plenty of oil in the ground in North America, but the supply response has been subpar. We look at the operational factors restraining oil output and discuss the options of the Biden Administration to smooth out energy price spikes whilst preserving the transition away from fossil fuel.**

## Factors holding back supply

It is indisputable that the US oil supply response to elevated crude prices has been muted so far in 2022. To be sure, the US is the world's leading producer with current output close to 12 million barrels per day, but still off about a million barrels from all-time highs. In the past, \$75-80 per barrel would have been good enough to kickstart oil production in North America. At around \$110-120 per barrel, supply should be coming onstream but the reality on the field is indeed different for a variety of reasons.

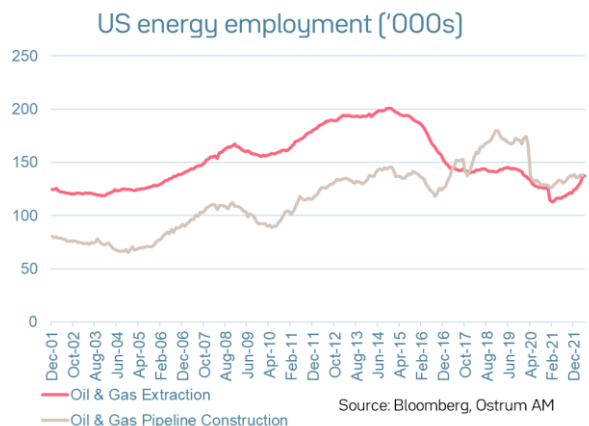


### A talent shortage

The mining industry is no exception to widespread labor shortages in the US economy. On-the-ground anecdotes suggests that a talent shortage is indeed restraining capacity in the sector. There are, at least, two main explanatory factors. Firstly, the narrative on the oil industry is that it has no future: this is the end of oil with peak oil seen around 2030. The supply glut of 2014-2015 leading to sub-\$30 oil

prices as Saudi Arabia opted to defend market share leaving scars in the industry even before the pandemic brought about the odd concept of *negative* crude prices. There has been some seven years of negativity regarding the fossil fuel industry.

Now, environmental concerns also limit the appeal of a career in the oil industry for the younger generations. There has been a notable decline in the enrollment of students in engineering graduate programs in the past few years. Some universities in the US (in states including Louisiana, Oklahoma) and Canada (Alberta) have had to reduce or shut down training programs. In the field, staffing has equally been problematic amid tensions on wages and benefits. Pay in the industry is already very high and it is hard to see how to attract talent from here. The imbalance is made worse by the retirement wave of the older generation of workers. The post-pandemic rally in equity markets offered a window to exit the industry for would-be retirees.



The loss of human capital and field experience will be hard to recoup. Some senior managers in the E&P are very aware of the energy talent crisis ahead: "Shale will likely tip into terminal decline in about five years as the main shale plays run out of locations. Unfortunately, by then, most of the individuals with incumbent knowledge about offshore and international development will have retired. The brain drain in the industry will create a real and much larger crisis in the mid-to-late 2020s (excerpt from the Dallas Fed survey)".

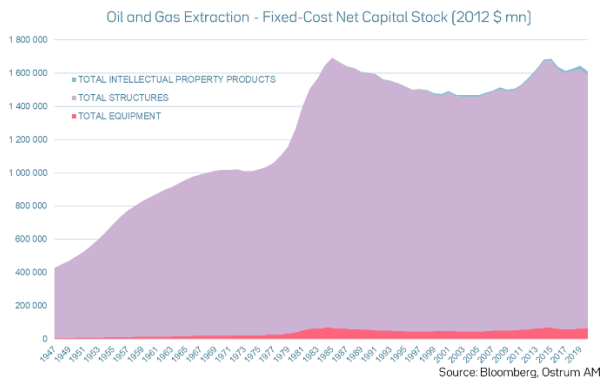
### Supply-chain and equipment maintenance issues curtailed crude output

The price signal to pump more is broken. In the past, shale oil production used to respond to \$75-80 oil but the focus on profitability, instead of growth, mean that less money is going in the ground even as driving and flying demand pick up. The subdued supply response to higher crude prices is traceable to a lack of investment and equipment maintenance issues.

In the wake of the 2014 supply glut, forecasts of long-term

equilibrium prices drifted down to the low \$50 for a while. With the 'end of oil' narrative gaining traction, it is only natural that exploration and production (E&P) companies would not rush investment. Then the pandemic struck and the decision by Saudi Arabia to keep pumping despite plummeting prices dealt another blow to the industry. The 2020 cash flow crisis culminating with \$0 oil prices killed growth plans and even maintenance capital expenditure collapsed.

The Bureau of Economic Analysis estimates the value of the capital stock of the oil & gas industry (net of depreciation and in constant-price terms).



Structures, which account for 94% of the total capital invested in the sector, are down sharply between 2014 and 2020. Capacity has therefore been restrained although equipment and R&D spending are rising. The Fed's industrial capacity data points to an increase so far this year.

Companies never opt to shut wells down if given a choice. It is indeed costly to turn off wells. Restarting existing capacities is not easy either. In a crisis, companies operate smaller fleets and there is simply less workers able to operate on the ground. Indeed, when oil prices fall and companies operate below capacity for a prolonged period, unused drilling equipment must be parked somewhere and serve as source for parts for operated units. Sidelined units may therefore not be readily operable when demand picks up. Furthermore, when the need for spare parts emerged, global supply-chain issues were in full swing. Increased delivery times slowed the rebuilding of capacity. The cost of drilling equipment also rose due to component sourcing challenges and tensions on metal prices. Other input prices including chemicals were another impediment to a recovery in output.

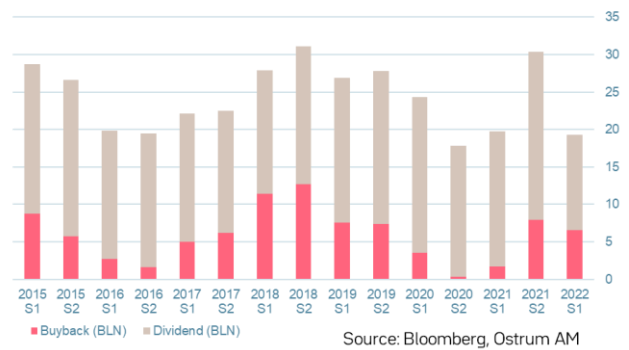
**Credit crunch**

Credit is in ample supply in the US... except for non-ESG compliant sectors. There is a real credit crunch facing the oil industry. The net-zero banking alliance and the pension funds' industry made it clear that funding to the fossil fuel

sector will shrink to comply with climate-related goals. That affects both equity and debt financing.

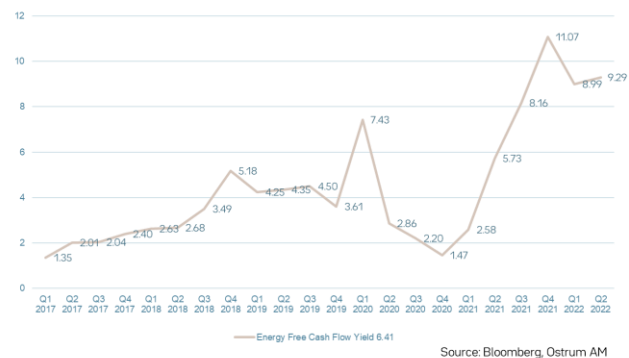
In addition, existing stakeholders have changed their views of the industry. The prospects of \$80 per barrel in the long run is no longer good enough for equity investors given ESG concerns, volatility and the impact of Fed tightening on stock prices. In 2020, financing was obviously constrained by cash burn. With crude prices hovering about \$110-120, oil and gas companies are now making a lot of cashflow, but equity holders insist on share buybacks and dividend payouts.

SPX Energy sector - Return to shareholders (\$ Bn)



Growth and the decision to invest is a distant second to enhancing shareholder returns in the 'end of oil' era. 'Old finance' is staging a comeback, but oil companies still pay down debt.

SPX Energy - Free Cash-Flow Yield



**The oil industry hanging in the transition balance**

**Hard to strike the right balance**

There is no way around the energy transition. The need to decarbonize will profoundly reshape the global economy. But the transition cannot be achieved overnight, not even in a few years. The need for oil will not go away for several decades. The use of fossil fuel (oil, gas, coal) will continue

to rise alongside renewables. The focus must remain on the core objectives to reduce emissions. The cost of renewables may continue to come down as technology improves. That's not to say, upstream carbon capture must not be improved.

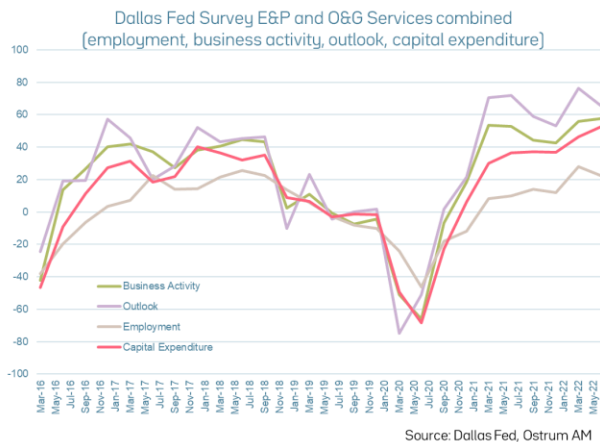
There is a dilemma. Choking off financing for the fossil fuel industry is necessary to promote and finance clean energy generation. However, abandoning the oil industry is akin to imposing a carbon tax equivalent to an estimated \$250 a carbon ton at current oil prices.

At this juncture, it is of the utmost importance to avoid social issues and polarization of the public debate. Switching off to clean alternatives can be costly (electric vehicles, heat pumps) or require big investment before being accessible to the many. A disorderly transition could thus lead to social unrest. In the broader scheme of things, the geopolitics of the energy transition played a big role in the Russian aggression of Ukraine. That must not be ignored. There is no transition without energy security and broad awareness of peak oil in the coming years.

## The way forward for US industry

### Brightening outlook despite cost challenges

The quarterly Dallas Fed survey is very informative as regards the outlook for the US oil industry. It surveys exploration & production firms as well as oil and gas support service companies.



Activity in the oil and gas sector expanded at a robust pace in the second quarter of 2022. The business activity index edged up from 56.0 in the first quarter to 57.7 (an all-time high in its short 6-year history). Capital expenditure is set to accelerate into next year. The oil production index remained well above average but fell from 45.0 in the first quarter to 32.6 in the second quarter. Most executives expect U.S.

crude oil production to grow by 1.0 mb/d or less from December 2021 to December 2022. A third of survey participants said that it would take 4-6 months for their firm to drill and complete an additional well beyond current plans. 48 percent suggests 7-12 months.

Costs increased for a sixth straight quarter. A vast majority of respondents (94%) report supply-chain issues impacting their business. Most expect supply-chain problems to linger for another year. The report indeed points to significant shortages of steel tubular goods (such as drill pipes and casing) partly because of the situation in Ukraine. Equipment, personnel, sand, and chemicals are also in short supply. Among E&P firms, the index for finding and development costs increased from 56.0 in the first quarter to 70.6 in the second. Lease operating expenses also advanced notably, from 58.9 to 74.1. It is taking longer for firms to receive materials and equipment.

Oilfield services firms reported improvement across key indicators. The equipment utilization index jumped from 50.0 to 66.7 in the second quarter. The operating margin index advanced amid evidence of pricing power. All labor market indexes in the second quarter remained upbeat, pointing to strong growth in employment, hours and wages.

On average, respondents expect a West Texas Intermediate (WTI) oil price of \$108 per barrel by year-end 2022 (responses ranged from \$65 to \$160). Survey participants expect Henry Hub natural gas prices of \$7.55 per million British thermal units (MMBtu) at year-end.

## Energy policies in the US

Needless to say the current Administration has no friends in the oil industry. The view from Texas is that the Biden government has declared war on fossil fuels. According to senior management at oil companies, permitting of all kinds remains difficult, if not impossible, and the lead times are forever. The blame game is going on in the background as policies remain targeted at the consumer rather than the producer.

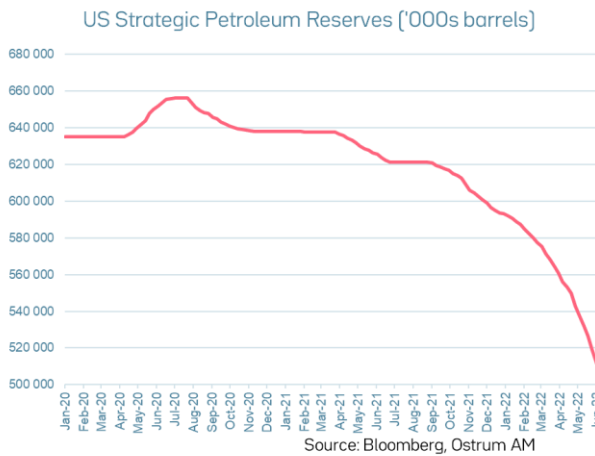
### A miscalibration of the SPR release

The price of oil is an important driver of economic activity. The Federal Reserve has now signaled that it could tolerate a recession if that is what it takes to get inflation down. But there is scope for domestic policies aiming at cheaper energy.

The SPR can be thought of a binding constraint to incentivize oil investment. It is a long-term storage capacity that can be used as a signal to producers at a time when crude supply has been quite inelastic to higher prices. The

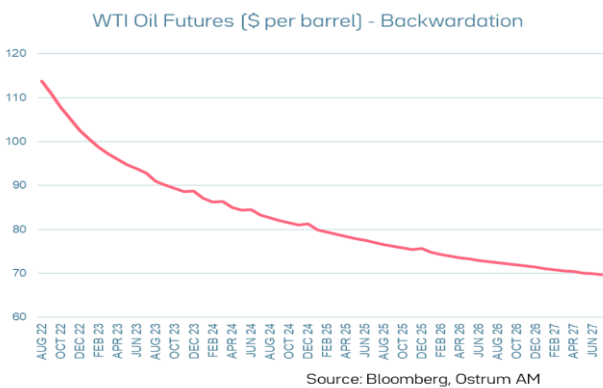
Department of Energy can use the storage capacity to provide some form of price insurance or a physical guarantee and explore foreign supply opportunities.

The Strategic Petroleum Reserve has been used to that aim. The Biden Administration has decided to sell 180 million barrels in the market, or roughly 1 million barrels each day over a six-month period. The latest data suggests that the SPR drawdown has been faster than planned originally as gasoline prices surge. The release is politically motivated as the midterm elections loom in November and gas prices are obviously a hot topic at present in the US.



**Dealing with backwardation in oil futures markets**

The current problem to solve is dealing with extreme backwardation in the oil market. Term crude prices trade much lower than spot.



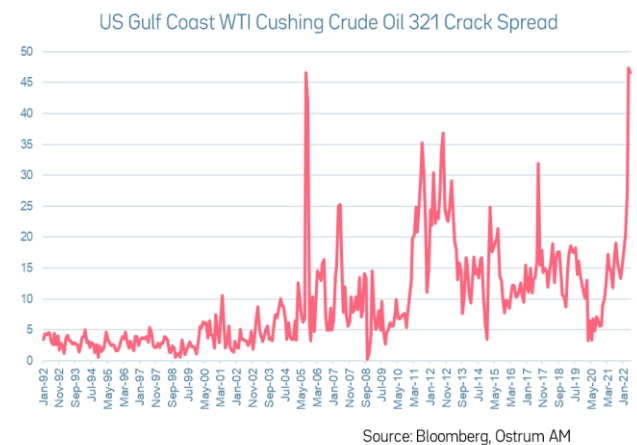
High spot prices accrue to record profits in the industry. There is thus no reason to further underpin profitability and the urgency for the Biden Administration must be to reduce consumer energy bills. Opening the taps is obviously politically motivated and has been criticized as a bad use of a finite resource. However, consumers only care about spot

prices. Failing to bring down spot could raise household inflation expectations and force the Fed into more tightening. Conversely producers care about long-term prices. They hedge their revenue by selling future production at predetermined prices. One policy could be that for every barrel sold in the market, the DoE could make forward purchases as a signal to producers that prices will be underpinned. In Wall Street parlance, flatten the oil curve, selling spot and buying futures. This would be a more active policy to deal with dynamics of supply and demand for oil.

In addition, the US government could suspend a 18c tax on a gallon of gasoline to provide immediate relief to the consumer. It does subsidize the consumer and has drawbacks in terms of incentives to cut consumption for those who can adjust. There is therefore some cross-subsidy to producers as demand destruction starts beyond \$120 per barrel.

**A crack spread (refining margin) explosion**

As concerns gasoline, there is an additional problem to lower prices. The refining capacity in the US is aging. For years, refining has been a low margin business due to excess capacity. There has been no greenfield investment in the US refining sector since 1977. Prior to the oil export ban repeal, US refiners enjoyed a 'subsidy' as WTI crude traded at a discount to similar quality oil. That implicit subsidy has gone, capacity was retired during the Covid recession and new capacity in emerging markets (Nigeria, China, India...) has raised competition from abroad. All the above contributed to increased crack spreads (refining margins) for which there is no easy solution. For example, a 100-year-old refinery in Texas would need a \$3 billion investment to continue operating at reasonable levels. A stopgap solution from the government to fund those \$3 billion could help in the absence of private-sector financing.



### The G7 proposal to cap Russian oil prices?

The US, the UK and Canada have already announced bans on Russian oil, while the European Union plans to ban seaborne Russian crude by December and fuels by early next year. The US is now pushing for a price cap to limit Russia revenue and keep energy flowing. The mechanism would allow the transportation of Russian crude and petroleum products sold below a price threshold. Buyers can keep using insurance provided by the International Group of Protection & Indemnity Clubs in London, which covers 95% of the world's fleet, as long as they agree not to pay more than a certain price for the oil on board. It is unclear whether current buyers of Russian oil, including China and India, would join the mechanism.

## Conclusion

**The price signal seems to be broken in the oil market. US crude output is facing structural headwinds on the field, a credit crunch due to climate concerns and other impediments to growth related to inflation and supply-chain issues. Energy security is however extremely important to ensure a smooth transition in a challenging international context. Policies pursued in the US and elsewhere could be better designed to ease price pressures whilst preserving climate ambitions.**

**Axel Botte**

- **Market review**

## Half-year ends in panic

### Apocalyptic semester for risk ended with a resounding plunge in rates ignoring the hawkish message from central banks

The S&P 500 equity gauge just had its worst first half in 52 years and early trading on July 1<sup>st</sup> doesn't bode well. Government bond yields are plunging again due to fears of recession, end-of-month maturity extension flows and, in general, the inability of financial intermediaries to take on risks at the half-year close. The illiquidity of the credit market causes considerable widening pressure in spreads. After interest rates and swap spreads earlier on this year, corporate credit spreads eventually gapped wider in the past month. Financial market participants seem to believe that central banks will capitulate and abandon their goal of bringing inflation back to the 2% target. The yield curves steepened considerably last week. However, the ECB symposium in Sintra did not hint at monetary easing to come. Inflation is not under control, but the decline in commodities is fueling recession themes and the hope of an autonomous deceleration in inflation. The US dollar remains the default safe haven. The Swiss franc is at par and the dollar-yen is hovering around 135 awaiting a hypothetical BoJ intervention.

The US economy has exhausted its potential. Second quarter growth is expected to be slightly negative. Private domestic demand, the only engine of growth in the first quarter, is slowing down. Consumption of goods is falling due to high inflation and residential investment appears constrained by the sharp rise in mortgage rates. Household consumption may increase between 1 and 1.5% at annualized rate between April and June. Business investment remains upbeat. US production of capital goods will post double-digit annualized growth in the second quarter. Public demand has been holding back growth for several quarters, but support for Ukraine will reverse the drop in military spending. The trade balance should improve at the margin after the prolonged deterioration that characterizes an overheated US domestic demand. In the euro area, economic surveys point to a downturn in activity. The European PMIs, watched closely by market participants, nevertheless remained above the key threshold of 50. Inflation is out of control at 8.6% in June. However, there are signs of stabilization in service prices (3.4%). The unexpected decline in German inflation (8.1% in June) comes from a one-off unprecedented drop in the cost of public transport.

The price action in financial markets is indicative of an increased preference for liquid and safe assets. The T-note plunged violently, dragging down all the G10 bond markets. The US 10-year yield (2.85%) has fallen some 65 bps since

the June 14 high. If economic activity is variable, the perception of risk by speculative investors is changing even more rapidly. The bearish consensus on interest rates has now been fully reversed despite the persistence of inflation. The latest downshift in bond yields is traceable to a reduction in real yields. The message from Central bankers of the ECB symposium in Sintra, quite hawkish on the outlook for inflation, had little impact on financial markets. Admittedly, the half-year close may have favored duration extension trades and a rush towards liquid assets, but the pullback in bond yields looks overdone. In just two weeks' time, the German 2-year bond yield priced out fully 125-150 bps worth of expected monetary tightening. Last week's range on the German 2-year yield is the largest on record. In turn, sovereign bond spreads had to adjust to lower risk-free yields. The prospect of an anti-fragmentation tool sparked a spread convergence trade. The Italian 10-year BTP tightened by 16 bp against the German Bund to 186 bp while the French OAT spread widened by 4 bp to near 60 bp. The expected reallocation of bond maturities from the ECB's portfolio is creating some pressure on French and Belgian debt. The devil is in the details of the anti-fragmentation mechanism which is expected to be released on July 21.

In risky asset markets, flows follow the fears of recession. Globally, around \$5.8bn came out of equity funds. US technology stocks took a beating, with utilities offering the only shock absorber. The downward acceleration in bond yields offers only a brief respite for growth stocks, which are lagging behind the dividend theme so far in 2022.

Final investor flows are unfavorable to the credit asset class. These fund outflows have a considerable bearing on the liquidity of the risky credit markets, as financial intermediaries refuse to take positions as the half-year closing approaches. Euro IG credit (+56 bp against Bund in June) was the last shoe to drop. The June credit drawdown is the consequence of past increases in interest rates and the widening of swap spreads. The primary market activity remains thin (-13% in January-June compared to last year), and high new issue premiums cannot even protect from subsequent performance in secondary markets. The real estate sector (in Sweden lately) continues to pose challenges whilst hybrid debt underperforms due to their high credit beta. The indices offer the only available hedge for credit risk, but the violence of the current index spread widening movement suggests possible resales of protection in the coming weeks. High yield is widening significantly with very negative total returns in June (-7%). The BB vs. B decompression trend is accelerating, a sign of rising risk aversion. The B-rated and below segments are completely neglected and, there too, liquidity is non-existent. The high yield market is now trading around 650bp.

**Axel Botte**  
Global strategist

● Main market indicators

<b>G4 Government Bonds</b>	04-Jul-22	1w k (bp)	1m (bp)	2022 (bp)
EUR Bunds 2y	0.56%	-35	-11	+118
EUR Bunds 10y	1.27%	-28	-1	+145
EUR Bunds 2s10s	70.6bp	+7	+10	+27
USD Treasuries 2y	2.83%	-29	+18	+210
USD Treasuries 10y	2.88%	-32	-5	+137
USD Treasuries 2s10s	4.3bp	-3	-23	-73
GBP Gilt 10y	2.12%	-27	-3	+115
JPY JGB 10y	0.24%	-1	+4	+7
<b>€ Sovereign Spreads (10y)</b>	04-Jul-22	1w k (bp)	1m (bp)	2022 (bp)
France	57.95bp	+5	0	+20
Italy	189.52bp	-7	-3	+54
Spain	104.77bp	-6	-4	+30
<b>Inflation Break-evens (10y)</b>	04-Jul-22	1w k (bp)	1m (bp)	2022 (bp)
EUR 10y Inflation Swap	2.49%	-19	-32	+39
USD 10y Inflation Swap	2.67%	-18	-29	-10
GBP 10y Inflation Swap	4.02%	-2	-21	-15
<b>EUR Credit Indices</b>	04-Jul-22	1w k (bp)	1m (bp)	2022 (bp)
EUR Corporate Credit OAS	216bp	+15	+53	+121
EUR Agencies OAS	76bp	+5	+11	+27
EUR Securitized - Covered OAS	82bp	+4	+10	+36
EUR Pan-European High Yield OAS	660bp	+72	+181	+342
<b>EUR/USD CDS Indices 5y</b>	04-Jul-22	1w k (bp)	1m (bp)	2022 (bp)
iTraxx IG	120bp	+11	+32	+72
iTraxx Crossover	590bp	+53	+150	+348
CDX IG	101bp	+6	+20	+51
CDX High Yield	577bp	+49	+105	+285
<b>Emerging Markets</b>	04-Jul-22	1w k (bp)	1m (bp)	2022 (bp)
JPM EMBI Global Div. Spread	540bp	+33	+91	+171
<b>Currencies</b>	04-Jul-22	1w k (%)	1m (%)	2022 (%)
EUR/USD	\$1.043	-1.455	-2.487	-8.3
GBP/USD	\$1.212	-1.215	-3.320	-10.5
USD/JPY	JPY 135	0.052	-2.593	-15.0
<b>Commodity Futures</b>	04-Jul-22	-1w k (\$)	-1m (\$)	2022 (%)
Crude Brent	\$111.8	\$0.9	-\$5.2	49.52
Gold	\$1 810.0	-\$12.9	-\$31.4	-1.05
<b>Equity Market Indices</b>	04-Jul-22	-1w k (%)	-1m (%)	2022 (%)
S&P 500	3 825	-2.21	-6.89	-19.7
EuroStoxx 50	3 471	-1.93	-8.27	-19.3
CAC 40	5 983	-1.06	-7.75	-16.4
Nikkei 225	26 154	-2.67	-5.79	-9.2
Shanghai Composite	3 405	0.78	6.57	-6.4
VIX - Implied Volatility Index	26.70	-1.95	7.70	55.1

Source: Bloomberg, Ostrum AM



## Additional notes

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