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MACROCOSM

Russia's Oil Miracle

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Record seaborne exports at distress prices have lowered the pricing structure of world oil.

We have been frustrated that Brent crude has not even made it halfway to our often-reiterated 2023 target at $100 (see, among others, "Oil's Bumpy Road to $100" March 22, 2023). It hasn't even quite touched $90 this year – and in March, it even briefly got within a few pennies of $70.

- Frustrated, yes, but maybe we shouldn't really be surprised. After all, we called the top early last year at $140, arguing that *Western bans on oil imports from Russia would make Russia a desperate seller*, forced to offer huge discounts to the few nations willing to buy their exports (see "The Bear/Bull Case in the Russian Oil Ban" March 16, 2022).
- The bans, which have been extended to refined product as well as crude, and have been augmented with price-caps enforced by sanctions against shippers and insurers – have disrupted trade patterns at the worst possible time, with global storage levels at historic lows. And global demand has recovered to pre-pandemic levels. Oh, yes, and OPEC is collectively lowering production quotas, and Saudi Arabia is unilaterally curtailing production. All that is the bull case, and we'll discuss its elements in more detail in a moment.
- But evidently we mis-calibrated the relation of the bullish forces and the bearish forces.
- *Prices in competitive markets are set by the marginal transactor – and apparently that is Russia now.*
- *The leakage of Russia's discounted crude prices into the general global price level isn't just a matter of market-structure theory. It's very real when Russia sells crude to India at a steep discount, and India refines it into gasoline and diesel and turns around and sells it to Western nations that had, nominally, banned Russian crude and product* (see "A Very European Ban on Russian Oil. Maybe." April 18, 2022).
- We still aren't sure how to calibrate all this. But for now, *absent some shock event, we think we're at the bottom for global crude prices – but the top is lower than we thought, say at something like $85 Brent, not $100, this year*.

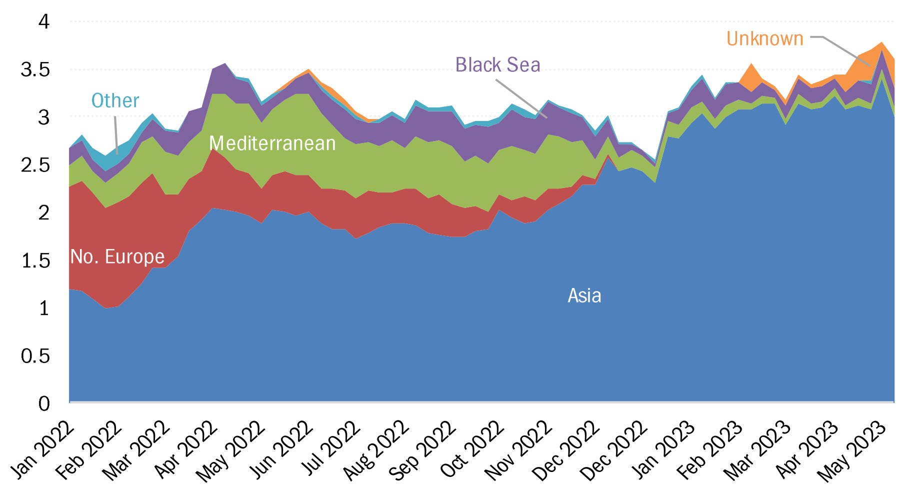
Update to strategic view

OIL: Despite bans and price-caps, Russia's seaborne exports are at an all-time high, most of it directed to Asia where buyers command a significant price discount. As the seller at the margin, a desperate Russia has lowered the price structure of the global market, in part because Asian refiners process Russian crude into gasoline and diesel that is then sold to the West, effectively evading the bans. We expected this dynamic to emerge in the earliest days of the invasion of Ukraine. We knew the then-prevailing $140 Brent price couldn't last, but we've been surprised by the depth and longevity of its depressing effect on prices – and in the face of record-low global stocks, falling investment and other factors that we had thought would point to Brent at $100. We now see current prices as a floor. But we have to recalibrate our estimation of the effect of Russian discounts and revise lower our 2023 price target to $85.

[Strategy dashboard]

- Russia has been so good at finding new markets for its banned exports, and getting that oil transported to them, its seaborne exports are now at all-time highs, as it outproduces its OPEC+ quota.
- Russia has effectively completed a pivot to Asia, predominated by China and India (please see the chart below).

Russian seaborne crude oil exports by destination (million barrels per day)



Source: Bloomberg, TrendMacro calculations

- Note the recently increased export volumes to "unknown" destinations (again, see the chart above). This could indicate anonymizing procedures designed to avoid sanctions, or fatigue in the West for enforcing them. Either way, it's part of *an astonishing success story for Russian exports*. We anticipated it, but we didn't anticipate the *scale* or the *durability* of it.
- Russia's "shadow fleet" of tankers has been the logistical reason why the country has been able to export more volumes, despite Europe banning piped volumes (see "Europe: Winter of Energy Discontent" December 5, 2022).
- Prior to the Ukraine War, Western owned and insured tankers (primarily the EU and Norway) carried 90% of Russian crude oil from the Pacific to ports around the world. After the EU oil ban and G7 price cap were initiated in December 2022, the shadow fleet carried 37% of Russian crude volumes in the Pacific and the West's share fell to 63%. Today the Western owned and insured tankers that ply the Pacific carry only 22% of Russian crude oil trade, with the rest handled by the shadow fleet.
- For Russian crude transported on the high seas from the Baltic and Black Sea ports, the share carried by Western owned and insured carriers was range bound between 85% and 90% from the outbreak of the Ukraine war to the establishment of the EU oil ban and G7 price cap. Today that share has fallen to 78%. The reason why the shadow fleet is less active in the Baltic and Black Sea ports may be that Urals crude has priced for the most part below $60 per barrel. The sweeter crude from the Russian Eastern Siberian Pipeline (ESPO) from Kozmino and Sokol blend from the

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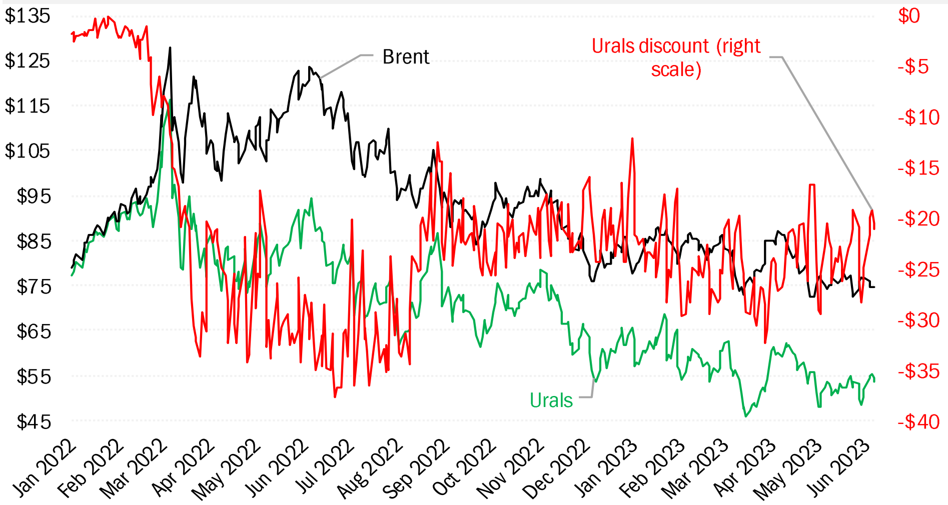
Sakhalin Islands has fetched a price well above $60 – so transporting it would expose Western shippers to sanctions.

Both the sheer abundance and the discount pricing of Russian oil supply to global markets has lowered the overall price structure.

- The most optimistic thing we can say is to point out that the Urals crude benchmark has traded above the G7-imposed $60 cap at times since the OPEC+ production cut in April (please see the chart below). There are reports that Urals FOB from Primorsk to India has been trading well above the cap consistently since its imposition in late February.

Crude oil prices (USD per barrel)

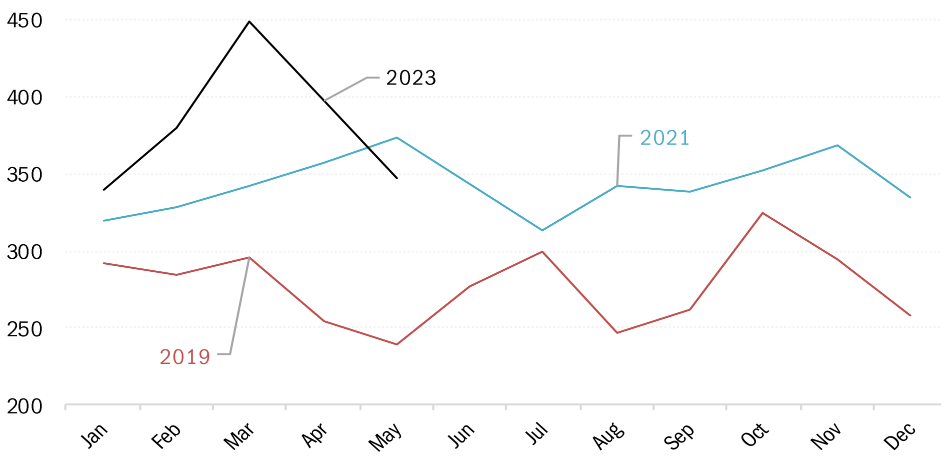


Source: Bloomberg, TrendMacro calculations

- After the February imposition of the G7 $100 diesel price cap and EU ban on Russian petroleum products, we expected refining runs in Russia would fall sharply – taking production off the global table and driving a price squeeze on crude inputs (see "Crack Spreads Point North for Crude Prices" February 7, 2023). But Russian crude oil exports to other refining centers have almost fully compensated for lost Russian refining runs.
- Refiners in South America (Brazil), Africa (Morocco, Tunisia, Libya and Algeria) and the Middle East (Turkey, the UAE and even Saudi) and Asia (China, India, Malaysia and Singapore) – and these are the countries that we know of – import Russian oil or products and either further refine them or mix them with existing inventories to ship mostly to Europe.
- Located close to large refinery complexes, Primorsk is the major seaborne distillate export hub in Russia. In the first five months of 2023, it has exported more diesel than in 2019 (the last pre-pandemic year – please see the chart on the following page) or in 2021 (the last pre-Ukraine invasion year).

This all probably goes a long way to explaining why our bull case for crude

Primorsk diesel exports (thousand barrels per day, seasonally adjusted)



Source: Bloomberg, TrendMacro calculations

has not materialized.

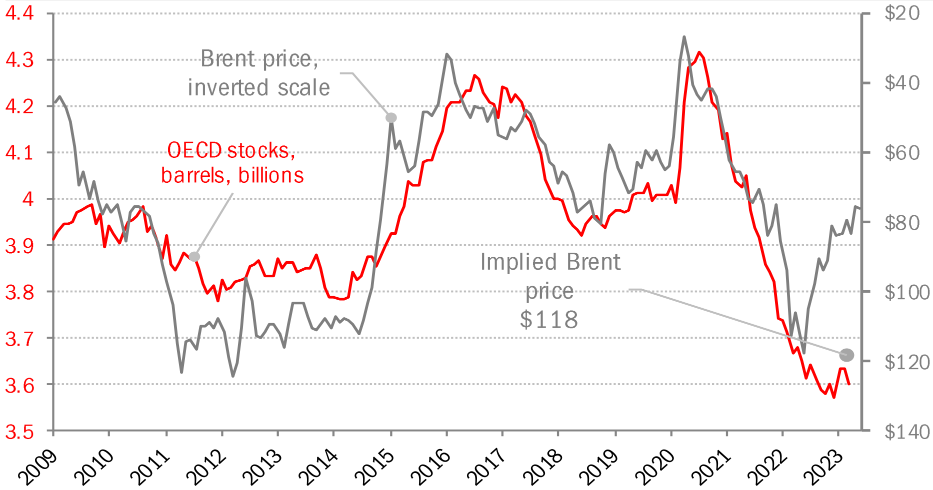
Of course a material change in the conflict between Russia and Ukraine could suddenly change these dynamics. We see two potential futures, and both are bullish for crude – the problem is both depend on entirely unpredictable geopolitical developments.

- _One possibility is a brokered peace_, in which Western bans and price caps are lifted. Russia would no longer have to sell its crude at a discount, and that depressant force on the global price structure would be removed.
- _The other possibility is a nuclear or chemical escalation by Russia_, which would make it such a pariah state that even China could no longer buy its oil at any price. That would effectively remove all Russian supply from world markets. In the face of low global stocks, there's no telling how high crude prices would go.

Such unpredictable shocks aside, there remain many dynamics in place to assure that there really isn't any downside from here.

- Historically, global stocks – official and private storage of crude – have been highly correlated to price. After all, stocks represent nearly frictionless marginal supply, so the tighter they are, the greater the risk premium must be embedded in prices to hedge against the unpredictable supply interruptions so common in the history of oil markets.
- _Based on the historical relationship with OECD stocks, Brent should now be trading at $118_ (please see the chart on the following page).
- One reason stocks are so low is that the Biden administration drained almost 250 million barrels from the US Strategic Petroleum Reserve in response to the price shock in the immediate wake of Russia's invasion of Ukraine. In December it vowed to replenish the

Historical relation of OECD stocks and Brent price



Source: JODI, Bloomberg, TrendMacro calculations

SPR when WTI traded around $70. But after a single 3 million barrel buy, there has since been nothing.

- *That's disappointing. We expected it would be a hard floor under WTI. But it is nevertheless a soft one – at these levels, further draws would require transcendent political exigencies. And an administration bent on abolishing fossil fuels doesn't want to encourage their use by keeping their prices too low for too long.*

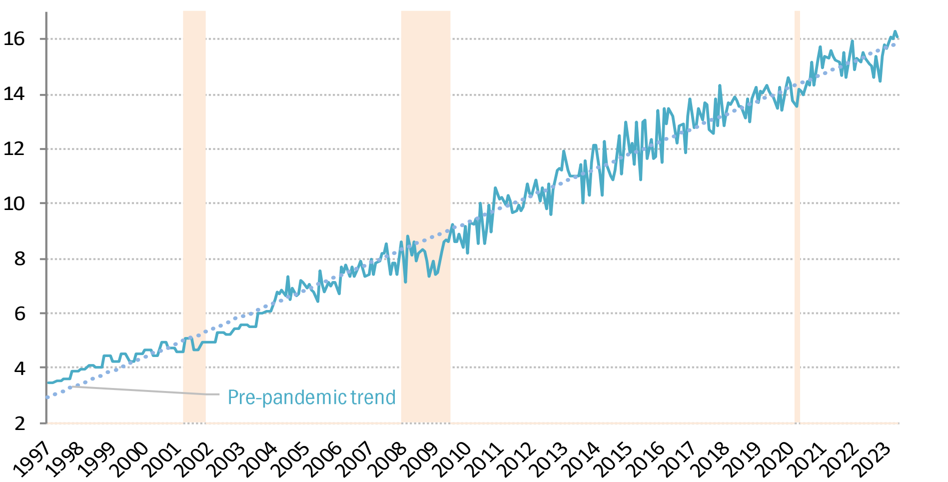
As low as stocks are, they would presumably be lower still if Russia had been making their agreed-upon OPEC+ cuts in production. And so we see Saudi Arabia stepping in unilaterally to support prices with its own one-off production cut of one million barrels per day. This comes a month after the cartel announced a 1 million barrels per day production quota cut to take effect next year. The Kingdom, too, doesn't want to see prices too low for too long.

- And herein lies one weakness in our case that there's not much downside from here. To be sure, Saudi played the adult in the room *this* time. But the *prior* time Saudi wanted to cut production and Russia didn't, the volatile Prince Mohammed bin Salman al Saud (MBS) set off a production war – just when the Covid pandemic lockdowns were destroying global demand (see "Just What We Didn't Need: An Oil Price War" March 8, 2020). While noting it for completeness, we assign this little probability-weight: at this point MBS and Russian President Vladimir Putin are very much aligned in their shared strategic opposition to the West's anti-fossil fuel agenda (see "Ukraine: A Pawn in Putin's Energy Survival Strategy" July 11, 2022).

Another positive factor putting a floor under current prices is global oil demand growth. In January we projected incremental liquids demand growth of about 2.5 million barrels per day this year, while the International Energy Agency and the US Energy Information Agency were at 1.7 and 1 million, respectively (see “Surprises of 2023 Volume 2: Oil Demand, With or Without EVs” January 11, 2023). Last month, the IEA revised its projection higher by a half million to 2.2 million and, the EIA has raised its forecast by 600,000 to 1.6 million.

- Our out-of-consensus call was primarily based on Chinese oil demand rising rapidly in the post pandemic world. So far in 2023, China has experienced the four highest oil consumption months in history, with February breaking above 16 million barrels per day per for the first time (please see chart below). China is expected to account for 60% of year-over-year incremental global oil demand growth.

Crude oil consumption in China (millions of barrels per day)

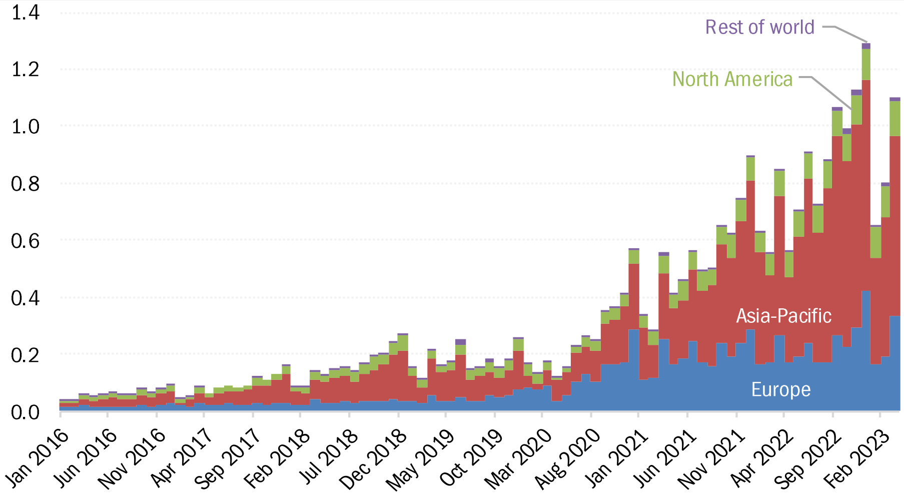


Source: Bloomberg, TrendMacro calculations

We still don’t see an important impact on gasoline demand caused by battery electric (BEV) and plug-in electric vehicles (PHEV) – at least not anytime within any feasible investment planning horizon. Last year, electric vehicles sales contributed slightly more than 10 million vehicles to the global fleet with strong sales in the fourth quarter (please see the chart on the following page). This year, sales got off to a slow start in January but increased in February and March.

- This points to potential global sales of 12 million units for the year, slightly more than what we previously forecasted. But that’s still a significantly lower year-over-year growth rate (20% increase) than the 58% increase in 2022, and the doubling in 2021. For all the media adulation, it’s significant that EV sales growth is, in reality, decelerating – despite being a still-young product market.
- Depending on the scrappage rate for electric vehicles after many newer and more powerful models hit the salesroom with lower price ranges this model year, the total units in operation will probably be in the 30 to 32 million range – representing slightly more than 2 percent of the entire worldwide light-duty vehicle fleet. This

Electric vehicle sales (millions)



Source: Bloomberg, TrendMacro calculations

estimate is essentially in-line with our previous forecast respectively (again, see [“Surprises of 2023 Volume 2: Oil Demand, With or Without EVs”]).

Regrettably, another factor putting a floor under prices is the deepening deceleration of energy investment in the United States. Despite the fact that OPEC+ is reducing production, the number of US drilling rigs and completion crews has quickly been reduced over the past month after rolling over at what we think will prove to be the peak for drilling and completion activity for this cycle in November 2022.

- The EIA expects that 85% of new production needed in 2023 – or 1.25 million barrels per day – will come from the US and Canada while OPEC cuts about 500,000 barrels. We have always said that US shale production is far from peaking – and we were not surprised when it hit an all-time high in February at 9.33 million barrels per day. Yet the speed with which US oil and gas companies are pulling back rigs and fracking crews suggest that EIA’s forecast of year-over-year incremental production growth of 720,000 barrels is in jeopardy.
- Since OPEC+ lowered production after the 33rd OPEC and non-OPEC ministerial meeting last October, the US oil and gas industry has pulled back 88 rigs – or 11% of US rigs employed – and shut down 44 fracking crews – or 15% of the fleet employed. These actions are not only hitting current production, but also reducing the number of drilled and uncompleted wells (DUCs), which had been stabilizing in the fourth quarter of 2022. After averaging about 3,650 oil-prone DUCs from October to December, 2023 data shows a contraction of 220 to April (last data point available). Oil-prone DUCs, which constitute our accessible, underground, yet-to-be-tapped oil reserve, have been more than halved since the pandemic.
- To be sure, a lot has been going on since February, including three high-profile US bank failures and an ever-louder chorus of analysts

calling for recession. Maybe the tone will improve if the Federal Reserve makes it clear (or at least clearer) this week that its scorched-earth tightening cycle is over. But all this takes place against a backdrop of a presidential administration committed to the abolition of fossil fuels, and an ESG culture on Wall Street that has been making capital for the energy industry scarcer and more expensive for years.

We simply dismiss stories that the US and Iran are restarting negotiations to rehabilitate the nuclear deal that former President Donald J. Trump scuttled in 2018 (see "Iran Deal: More Fire, More Fury, Pure Trump" May 9, 2018). Stories started appearing right after Saudi's unilateral one million barrels per day cut on June 4. Remember, the Biden administration wants Saudi to produce more (so we can produce less).

- We don't see Iran or Libya pumping significantly greater volumes to materially affect prices, a possibility floated by some analysts earlier this year.
- Iranian and Venezuelan crude oil production is up only 70,000 barrels per day, combined, comparing the last 4 months of 2022 and the first four months of 2023, which has minimal impact on crude oil prices.
- Iraq still hasn't agreed with Turkey to re-open the Ceylon pipeline since its closure in February. Talks are ongoing, but there is still 450,000 barrels per day of possible crude oil production curtailed in Kurdistan Iraq that could come into the market soon.

The EIA points to the long-awaited opening of Canada's Trans Mountain Pipeline expansion project, which could add an additional 590,000 barrels per day in transport capacity for Alberta's heavy crude oil, thereby boosting Canadian production by 500,000 barrels by 2024. The project has been behind schedule and has tripled in cost. When looking at the crude oil production projections from the Canadian provincial and federal governments, there hasn't been a material increase in oil sands projected volumes. The latest private sector forecast suggests that oil sands production might increase by about 560,000 barrels by 2030 – not 2024. This year oil sands production will probably climb about 100,000 and another 150,000 in 2024.

- For 2023, US and Canadian incremental crude oil production will add about 800,000 barrels per day, far from the 1.25 million projection of the EIA, whose global incremental liquids *demand* projection for 2023 is still only 1.6 million. This will likely leave a short-term hole in supply if Russia actually follows through on what is likely only a threat – a cut in production by 500,000 barrels (brandished yet again last week by Deputy Prime Minister Alexander Novak) – a big hole if global demand hits our projection of 2.5 million barrels.

The EIA also expects South America's crude oil and liquids production to rise by about 400,000 barrels per day this year.

- For Brazil, production growth stalled at the end of last year, but a recent update from the national petroleum agency claims that production could climb to 4 million barrels per day by 2025, from 3 million in 2022.
- Recent production figures show that crude oil and condensate production fell slightly from an all-time high of 3.261 million barrels per day in January to 3.12 million in March after newly re-elected President Luiz Inácio Lula da Silva surprised the industry with a 9.2% export tax from March to June. Lula had criticized Petrobras (the national oil company) for focusing too much on dividends instead of national investment, and halted its divestiture plan that was set to fund more off-shore oil production. It looks like Brazil will not reach its lofty production targets under a more-interventionist administration.
- A more likely source of additional oil production will come from Guyana. Producing 360,000 barrels per day at the end of 2022, it has the right mix of policies and international oil companies drilling off-shore to add significant production. The EIA sees 480,000 barrels in 2024, but didn't estimate 2023's output. Unfortunately, the Inter-American Development Bank – led by the Biden administration – refused to provide a loan to build out Guyana's oil and gas pipeline network last year because it allowed for more global fossil fuel production. So production growth will be inhibited by take-away capacity at least in the short-term.

Bottom line

Despite bans and price-caps, Russia's seaborne exports are at an all-time high, most of it directed to Asia where buyers command a significant price discount. As the seller at the margin, a desperate Russia has lowered the price structure of the global market, in part because Asian refiners process Russian crude into gasoline and diesel that is then sold to the West, effectively evading the bans. We expected this dynamic to emerge in the earliest days of the invasion of Ukraine. We knew the then-prevailing $140 Brent price couldn't last, but we've been surprised by the depth and longevity of its depressing effect on prices – and in the face of record-low global stocks, falling investment and other factors that we had thought would point to Brent at $100. We now see current prices as a floor. But we have to recalibrate our estimation of the effect of Russian discounts and revise lower our 2023 price target to $85.