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Liquid Insight

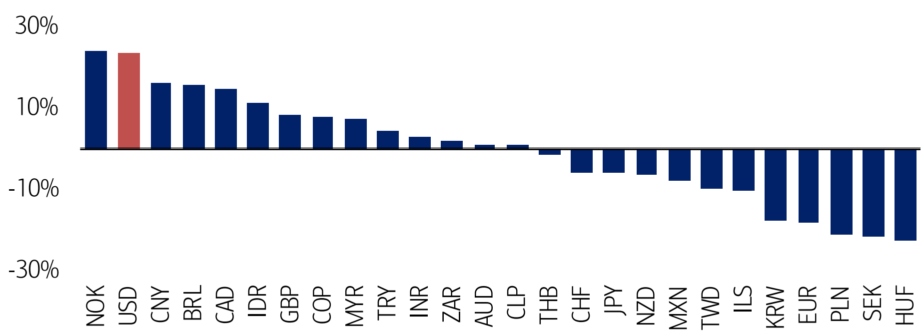
Oil supply shock and FX

Key takeaways

- We examine the implications of an oil supply shock on FX.
- Supply shocks are bullish USD, CAD, and NOK vs EUR and SEK in G10; bullish BRL, IDR and COP vs PLN and HUF in EM.
- Looking ahead: expect persistently tight supply to remain bullish USD; focus on the risk-off in EM FX.

By Vadim Iaralov, Howard Du and David Hauner

Chart of the Day: The USD to gain vs most major currencies amid an oil supply-constraint shock
Major currencies TWI's correlation with crude oil supply factor since 2021



Source: BofA Global Research, Federal Reserve Bank of NY. More positive correlation implies stronger currency when crude oil rallies as a result of supply constraint. More negative correlation implies weaker currency when crude oil rallies as a result of supply constraint.
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The effect of oil supply constraint shock on FX

The recent oil price surge as a result of OPEC+ supply cut has reshaped the prevailing FX market narrative. The Chart of the Day shows that contrary to the widely-known negative relationship between USD and crude oil price, an oil supply shock has been more bullish than bearish for the USD in the post-pandemic environment. CNY TWI has also proven to be resilient, likely due to its use as a funding currency vs other high-beta EM FX. Looking ahead, we expect the USD to be broadly supported until end of the year amid persistently tight oil supply. In G10, we are bullish CAD vs European FX (GBP, EUR, and CHF) on oil supply-driven terms of trade divergence. In EM, we prefer to focus on the eventually arising risk-off trades rather than to chase the oil rally here. We are generally bearish EM vs USD, especially in the CEE and on LatAm currencies that have been popular carry trades, but now come under pressure from rising volatility and a worsening growth/inflation trade-off challenging central banks. The risk to our views is easing of crude oil supply constraint in the near-term.

03 October 2023

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DXY: US Dollar Index. TWI: trade-weighted index.

OPEC: The Organization of the Petroleum Exporting Countries

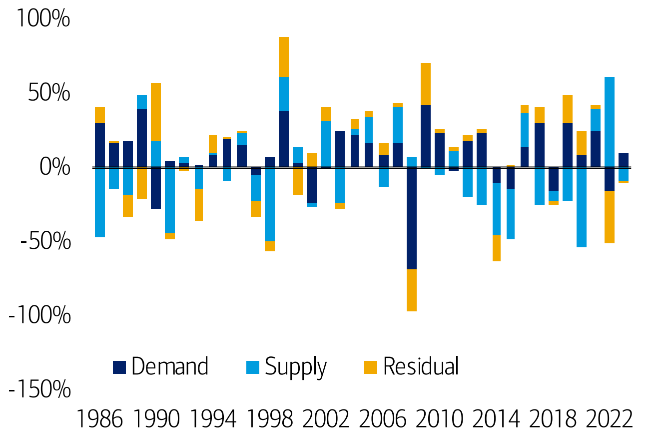
Decomposing crude oil dynamics to supply and demand

The FX market is attentive to the supply-driven surge of crude oil price over the past three months. In this note, we examine the relationship between a wide range of currencies across both G10 and EM respectively with crude oil demand and supply factors and discuss implications of the recent oil supply cut on FX.

Research at the Federal Reserve have decomposed weekly Brent price returns into demand, supply, and residual factors by examining the relationship between crude oil and a large number of financial variables such as global equity markets and non-commerical futures positions (Groen, McNeil, and Middeldorp (2013)). The data started since 1986 (Exhibit 1) and we have previously leveraged this research in some of our own G10 FX publications (see [FX Viewpoint: 07 September 2023]).

The oil factors are constructed to distinguish and identify supply and demand shocks. In particular, if Brent price rises amid a pick-up of the supply factor like in 2022 (Exhibit 1), it means the price rally was driven by a supply constraint shock. On the other hand, if Brent price falls amid a decline of demand factor like in 2008, it means the price rout was driven by collapsing global oil demand. Exhibit 2 shows oil price's correlation with the supply factor has sharply risen since 2021, while its correlation with the demand factor has collapsed in 2022 and still remains near zero. This would suggest supply factor has been more of a driver for oil price fluctuations over the past two years. This has not always been the case, as from 2016 to 2021, oil price has had higher correlation with demand factor than supply factor.

Exhibit 1: Crude oil price is affected by both demand and supply factors
Breakdown of crude oil dynamic into demand and supply factors since 1986



Source: BofA Global Research, Federal Reserve Bank of New York

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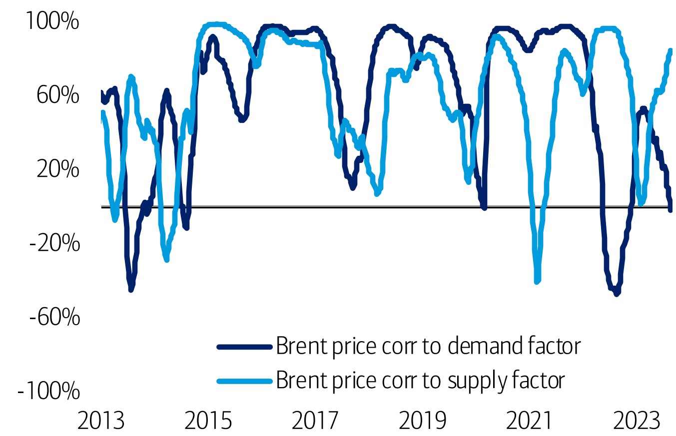
Exhibit 2: Crude oil's correlation vs supply factor has sharply risen post-pandemic, while correlation vs demand factor has weakened
6m rolling correlation between weekly Brent returns vs weekly change of demand and supply factors



Source: BofA Global Research, Federal Reserve Bank of New York

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Crude oil dynamic for FX market

Exhibit 3 illustrates the correlation between weekly changes of a currency's TWI (trade-weight-index) respectively with the weekly changes of Brent price, demand factor, and supply factor since 2021. The first column shows a pick-up in oil price as a first-order effect has been most bullish for NOK and bearish for USD in G10. In EM, rising oil price has been bullish BRL and MXN, bearish TWD, PLN, and HUF over the past two years. However, breaking down the correlation to demand and supply shocks shows diverging effects on FX.

Exhibit 3: Crude oil rallies can have diverging effects on currency TWIs depending on whether it is demand factor-driven or supply factor-driven

Correlation between weekly change in crude oil dynamics vs weekly change in TWI for major currencies since 2021

		TWI FX index correlation vs:		
		Price Brent	Demand	Supply
G10	USD	-23%	-52%	24%
	EUR	-3%	10%	-18%
	JPY	4%	-7%	-6%
	GBP	19%	35%	8%
	CAD	34%	42%	15%
	AUD	28%	46%	1%
	NZD	18%	37%	-6%
	CHF	8%	5%	-6%
	NOK	54%	53%	24%
	SEK	4%	40%	-22%
LatAm	MXN	22%	40%	-8%
	BRL	24%	10%	16%
	COP	18%	20%	8%
	CLP	19%	18%	1%
Asia	CNY	5%	-24%	16%
	INR	-8%	-10%	3%
	TWD	-19%	2%	-10%
	KRW	7%	35%	-18%
	THB	11%	16%	-2%
	IDR	5%	4%	11%
	MYR	-2%	-1%	7%
EEMEA	ZAR	17%	32%	2%
	PLN	-12%	15%	-21%
	HUF	-15%	2%	-22%
	TRY	9%	9%	4%
	ILS	3%	22%	-10%

Source: BofA Global Research, Federal Reserve Bank of New York

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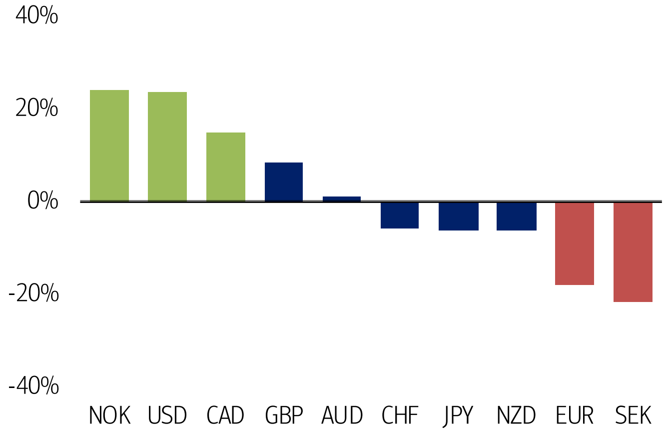
The effect of oil supply constraint shock on FX

An oil price rally stemming from a supply contraction often fosters risk-off, while an oil price rally from demand expansion is more likely to support risk-on amid improving growth prospects. If an oil price rally has occurred due to supply constraint shock like now, or for most of 2022, it has in fact been more bullish than bearish for the USD over the past two years (Exhibit 4). Global supply constraint benefitted the USD as the US is now a net-oil producer and has increased Strategic Petroleum Reserve (SPR) release over the past two years. The correlations are still positive for CAD and NOK, but in our view, investors are likely better off expressing bullish views for these commodity-exporting G10 currencies against EUR and SEK, which have negative terms of trade correlations with the oil price. EUR/CAD has depreciated by more than 3% in September.

In the EM space, oil price rallies as a result of supply shock have been bullish on a trade-weighted basis for CNY, BRL, IDR, COP and bearish for PLN and HUF (Exhibit 5). The effect on BRL, IDR, PLN, and HUF can be explained via the terms of trade channel, while CNY may be seen as a regional risk-off currency amid global oil supply shock. The CFETS (China Foreign Exchange Trade System) index has remained resilient over the past two months, despite falling terms of trades on higher oil price for China and the CNY weakening vs the USD.

Exhibit 4: Crude oil rally driven by supply constraint is bullish NOK, USD, and CAD TWIs vs bearish EUR and SEK TWIs
G10 TWI's correlation with crude oil supply factor



Source: BofA Global Research, Federal Reserve Bank of New York. More positive correlation implies stronger currency when crude oil rallies as a result of supply constraint. More negative correlation implies weaker currency when crude oil rallies as a result of supply constraint.
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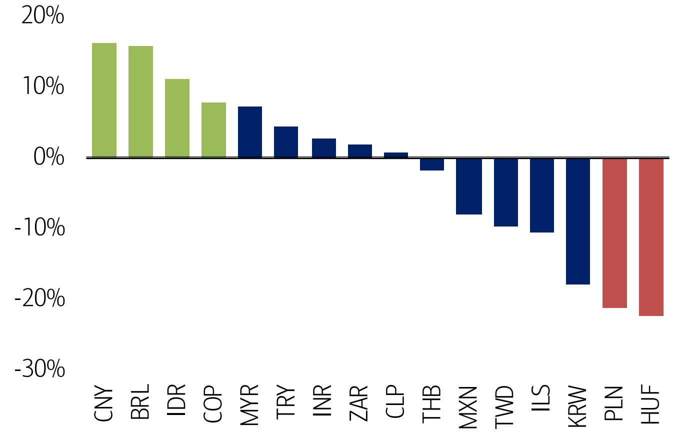
Exhibit 5: Crude oil rally driven by supply constraint is bullish CNY, BRL, IDR and COP TWIs vs bearish PLN and HUF TWIs for the EM FX complex
EM FX TWI's correlation with crude oil supply factor



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G10 FX implications for rest of the year

Following the recent surge in energy prices, our commodity strategists have revised up their forecasts for the rest of the year ($96/bbl for Brent and $92/bbl for WTI in Q4 2023, see Global Energy Weekly: 26 September 2023). We believe supply will remain tight with OPEC+ committed to curbing oil supply into year-end and China stimulus poised to expand into 4Q23 (BofA China Activity Coincident Tracker: 27 September 2023). Exhibit 4 supports our view that the broad USD index could stay elevated in the near-term, potentially until end of this year (FX Viewpoint: USD Outlook, 27-Sep-2023). We also continue to believe the USD would only broadly weaken vs G10 peers after it briefly moves to the risk-off side of the "USD-smile", potentially as a result of a deterioration in the US economic data (FX Viewpoint: 19 September 2023). Within the G10 complex, we are constructive on CAD for the near-term (FX Viewpoint: 29 August 2023) and hold a bullish view on the oversold G10 high-beta currencies vs the European majors (EUR, GBP, and CHF; for more details see Liquid Insight: G10 FX RV to end the year 07 September 2023).

Don't chase the oil rally for EM FX – it's self-defeating

In the EM space, we prefer to focus on the eventually arising risk-off trade rather than to chase the oil rally here (World at a Glance: Shutdown Anxiety, 26-Sep-2023). In the last oil price spike in mid-2022, pick-up in volatility and risk aversion eventually overwhelmed the positive impact of the oil supply shock for the likes of COP. We are also more concerned about the next stage, which might be global growth slowdown leading to a normalization of oil price due to lower expected demand, triggering global risk-off concerns. As a result, in EM FX, we are generally bearish, especially in the CEE and LatAm currencies that have been popular carry trades on the back of high rates, but now come under pressure from rising volatility and a worsening growth/inflation trade-off challenging central banks. Our preferred expressions of this bearish view are currently long USD against CNY and TWD. We are also short MXN (crowded proxy for US soft landing) vs ZAR (unloved proxy for China hard landing – already much more priced-in than in the US). We recently closed shorts in CLP, HUF, PEN and PLN after big moves.

Notable Rates and FX Research

- **Global Rates, FX & EM Year Ahead 2023 –** Year Ahead 2023: Pivot ≠ Peak, 20 Nov 2022
- After 1.05 **Global FX Weekly**, 29 Sep 2023
- Breaking Bund **Global Rates Weekly**, 29 Sep 2023
- As the dust settles after the USD rally, **Liquid Cross Border Flows**, 02 Oct 2023

Rates, FX & EM trades for 2023

For a complete list of our open trade recommendations, as well as our trade recommendations closed over the past 12 months, see the reports below:

Global FX Weekly: After 1.05 29 September 2023

Global Rates Weekly: Breaking Bund 29 September 2023

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