



MIDDLE EAST AND CENTRAL ASIA DEPARTMENT



Regional Economic Outlook for MENA, Inflation Dynamics, and Spillovers from U.S. Monetary Policy Normalization

CENTER FOR ECONOMICS AND FINANCE

MAY 31, 2022

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Outline

MENA Regional Economic Outlook for 2022

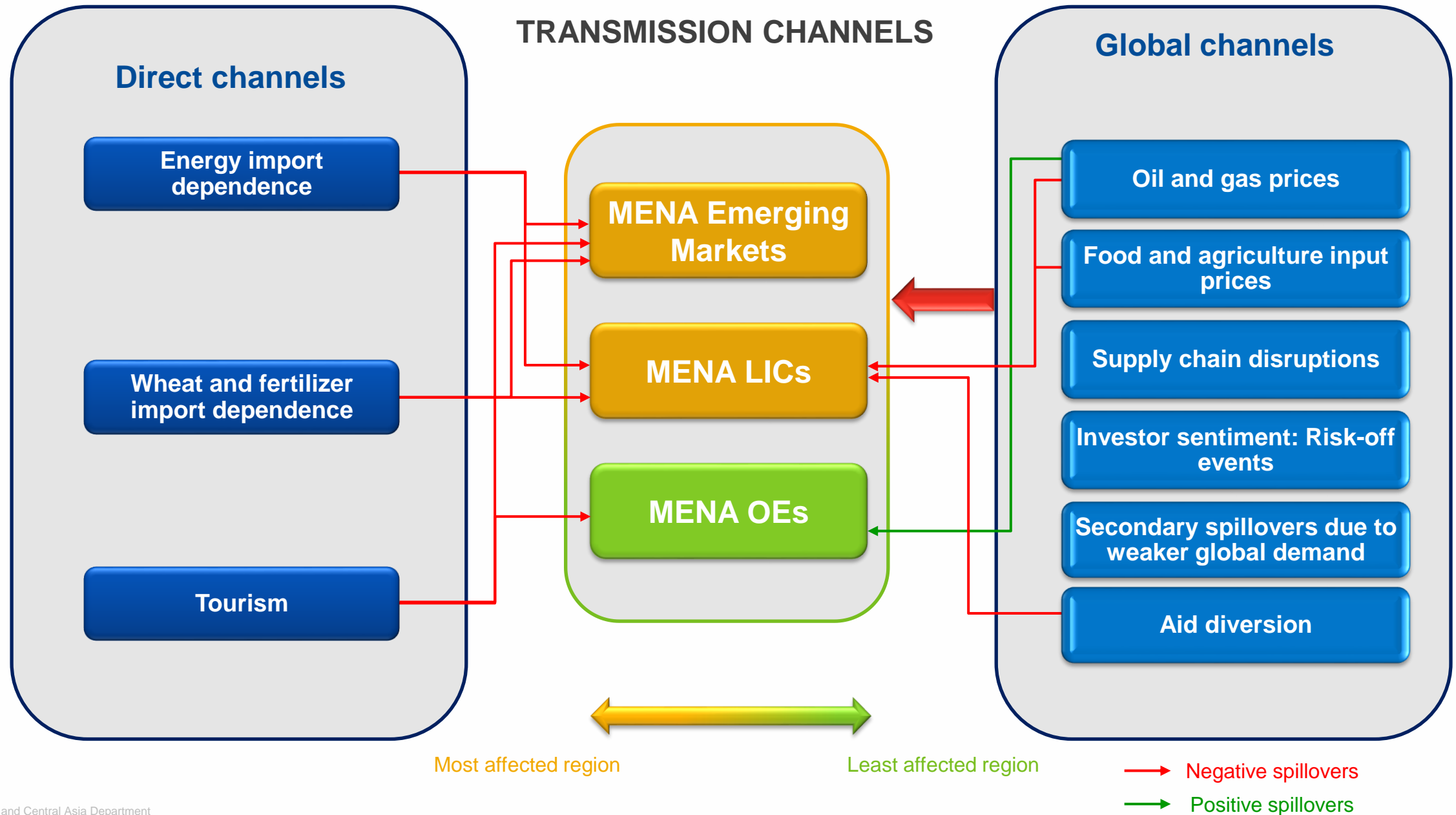
Spillovers from U.S Monetary Policy Normalization

Inflation Dynamics and Drivers

MENA Regional Economic Outlook for 2022 :

**Amplified Divergences In Recoveries amid
Extraordinary Uncertainty with Numerous Risks**

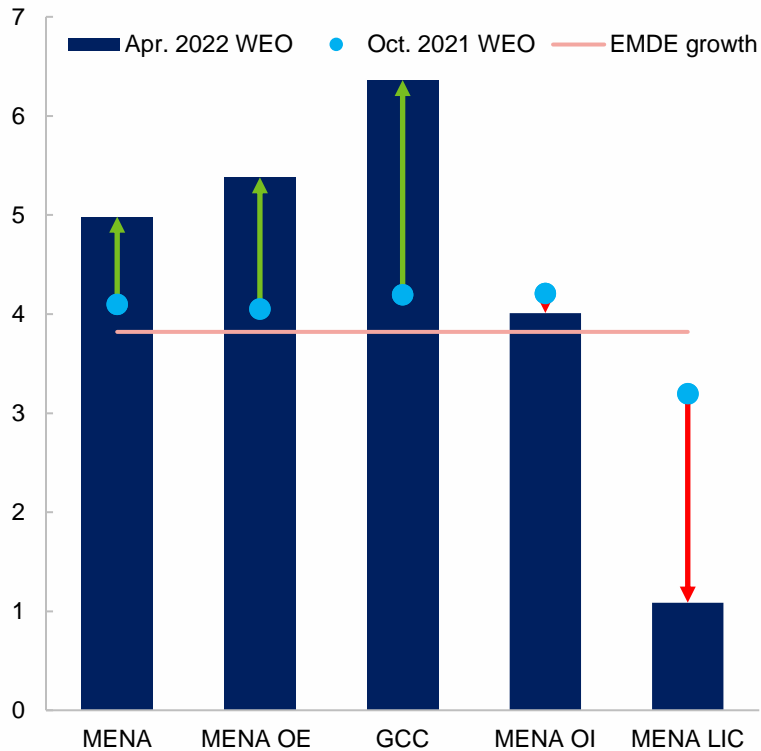
Multifaceted spillovers from the war and sanctions are shaping the outlook



Leading to divergent recovery prospects in 2022

Slower recovery for oil-importers while oil exporters recover faster

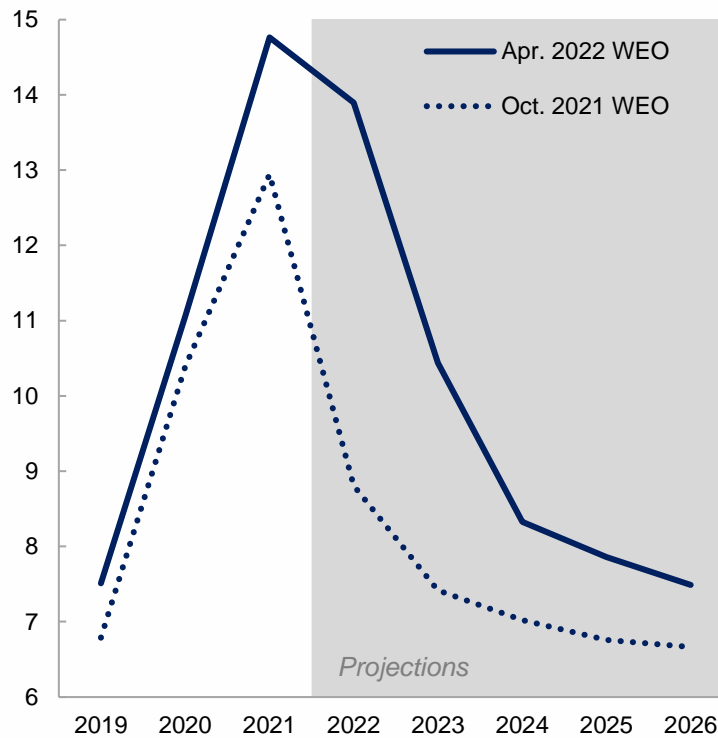
MENA: Real GDP Growth, 2022
(Year-over-year percent change)



Source: IMF, WEO; and IMF staff calculations.

Step upward revision for inflation

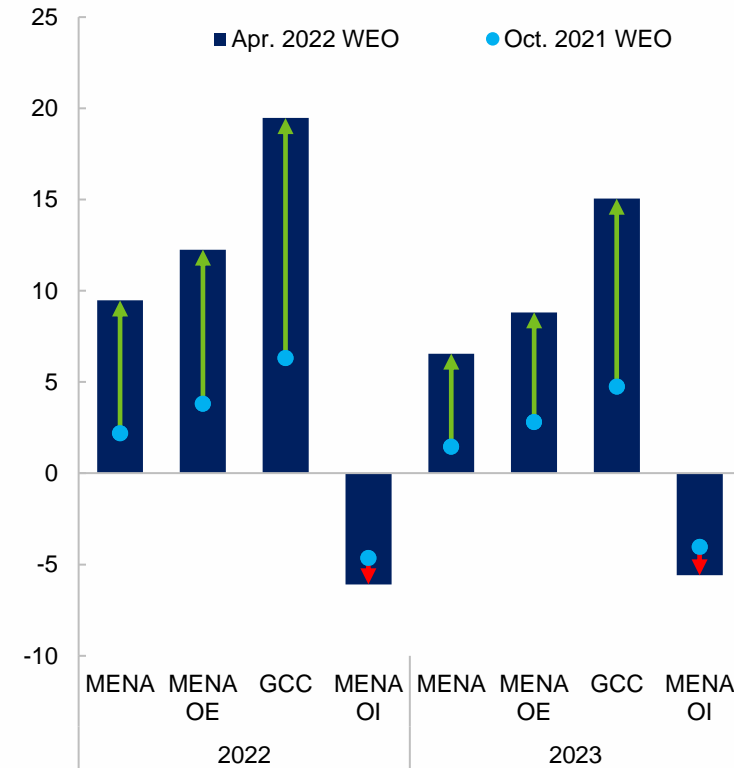
MENA: Headline Inflation
(Year-over-year percent change, average)



Source: IMF, WEO; and IMF staff calculations.

Diverging external accounts triggered by higher commodity prices

MENA: Current Account Balance
(Percent of GDP)



Source: IMF, WEO; and IMF staff calculations.

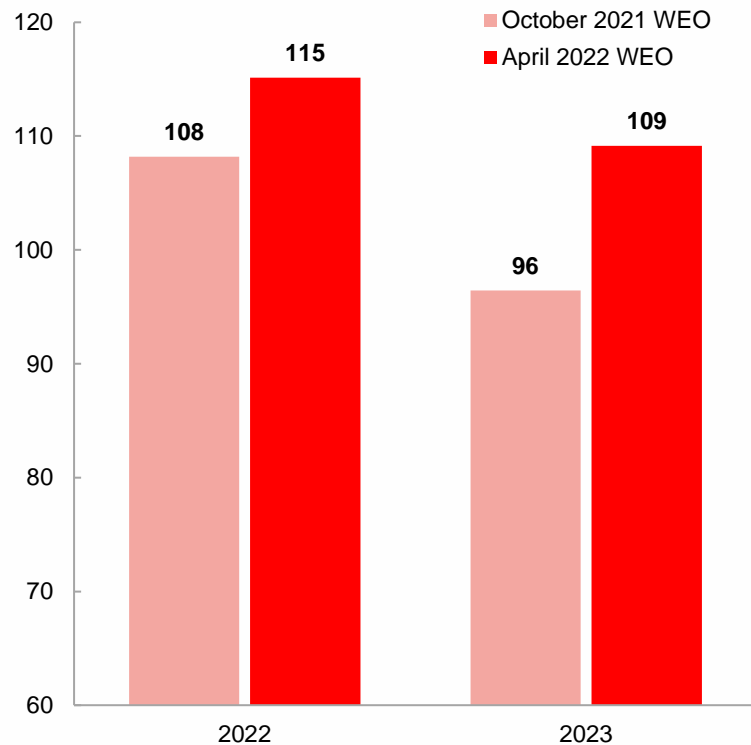
Emerging markets' fiscal and financing vulnerabilities increased, while oil exporters are benefiting from sizeable windfall

MENA emerging markets' financing needs increased due to the war and faster monetary policy normalization...

...amid large pandemic-induced revenue losses over the medium term...

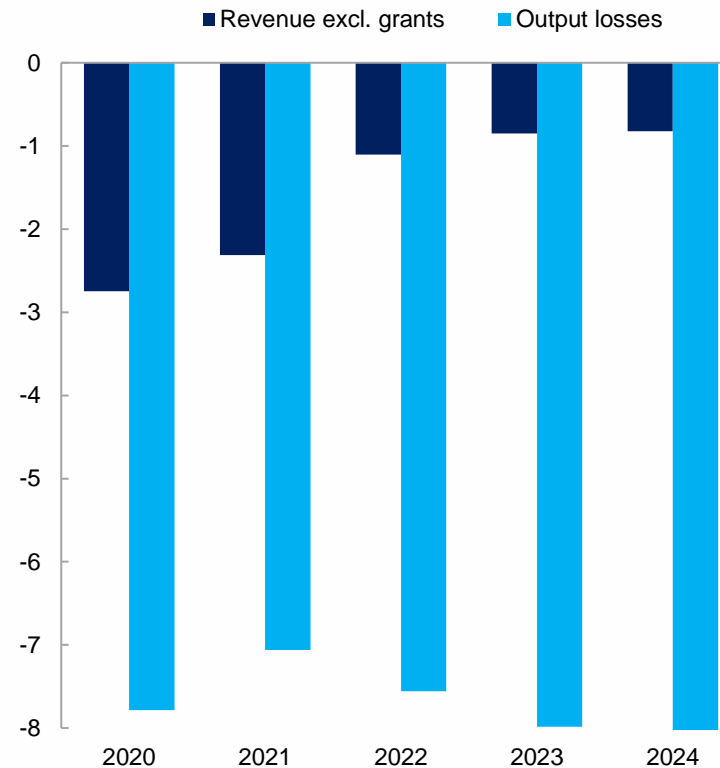
...while MENA OEs are building sizeable buffers from the oil recovery

MENA EM&MIs: Public Gross Financing Needs
(Percent of fiscal revenues, simple average)



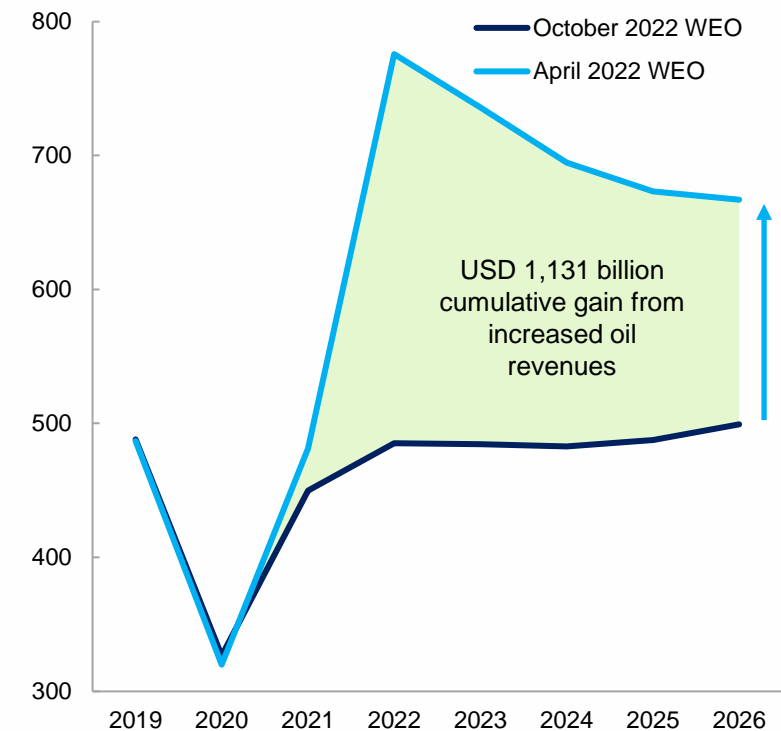
Sources: National authorities; and IMF staff calculations.
Note: Tunisia is excluded due to lack of projections because of ongoing technical discussions pending program negotiations.

MENA EMMI: Output and Revenue Losses
(Percent of 2019 GDP, percentage point changes from pre-COVID-19 projections)



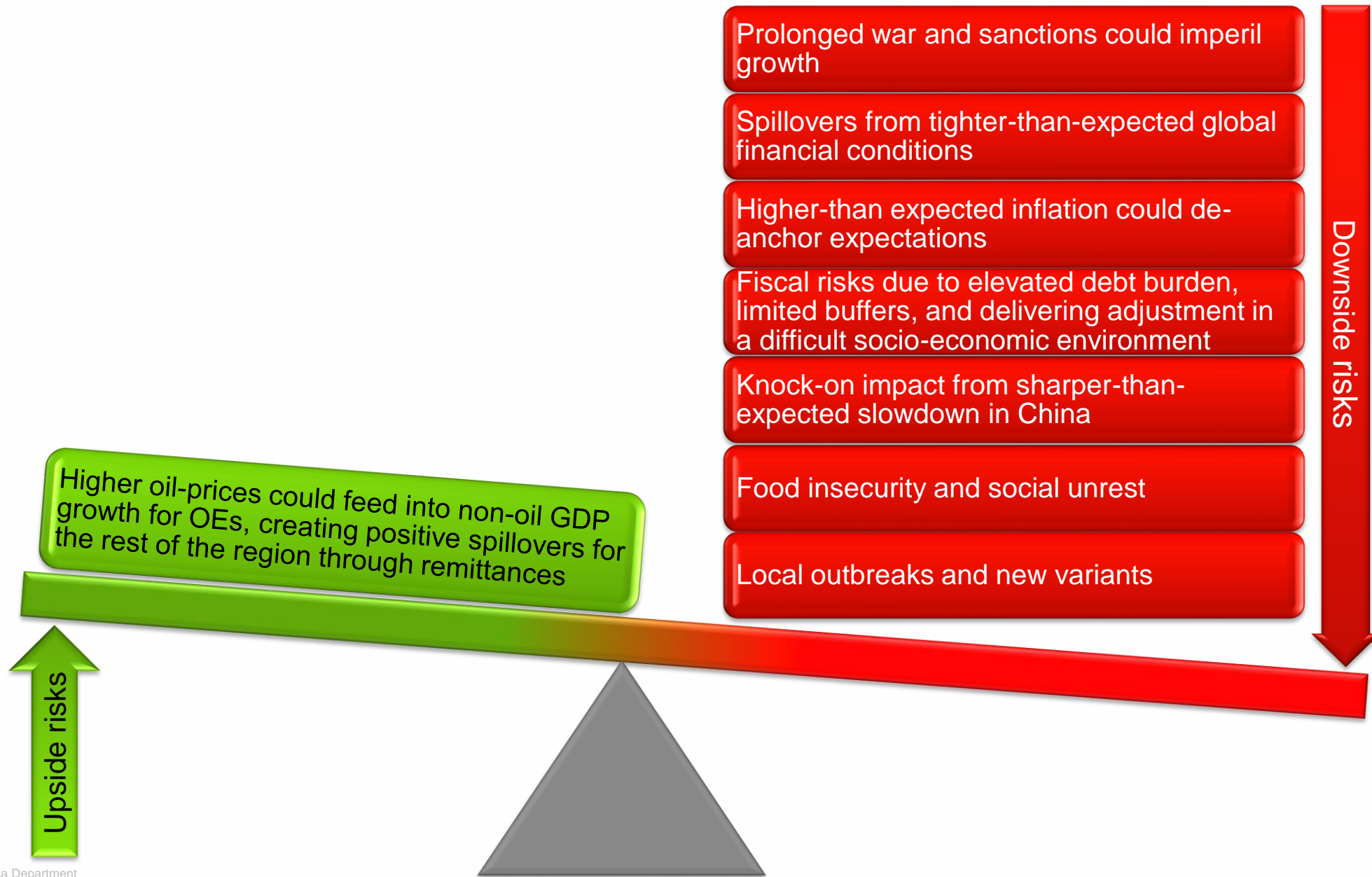
Sources: IMF, WEO, and IMF staff calculations.

MENA OE: Oil Revenues
(Billion of US dollars)



Source: National authorities; IMF, WEO; and IMF staff calculations.

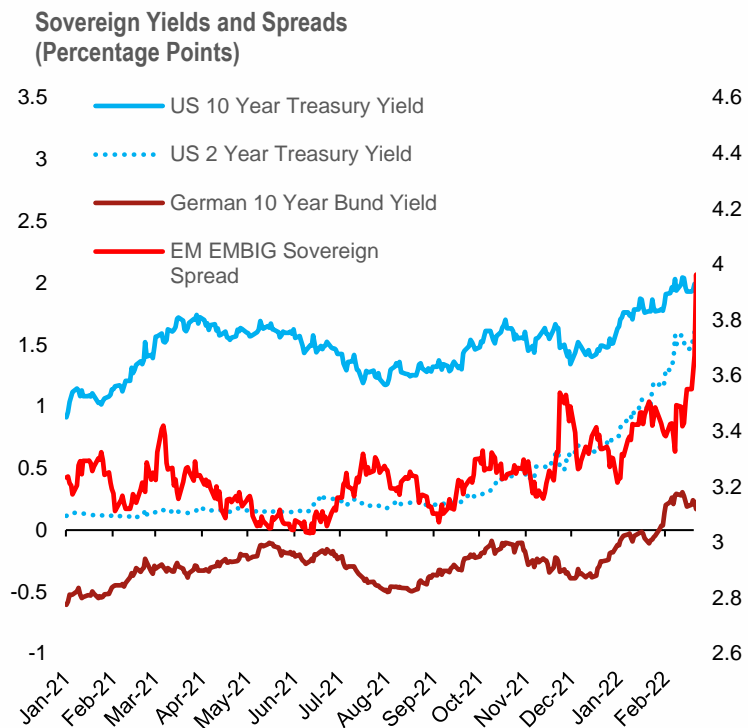
Uncertainty remains very high, and risks are tilted to the downside



Spillovers from U.S. Monetary Policy Normalization

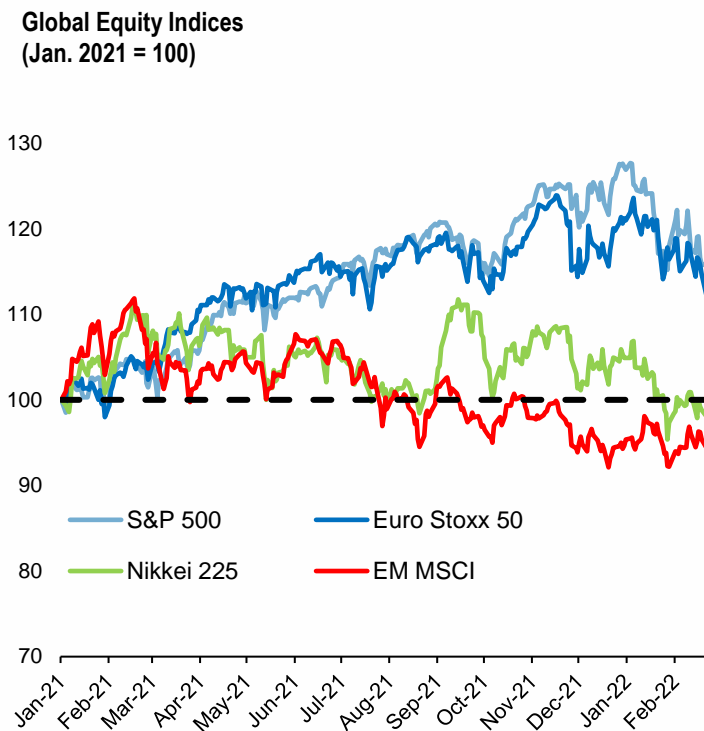
Global financial conditions reversed on news of an imminent normalization of monetary policy in advanced economies, particularly in the U.S.

Sovereign yields and spreads have been on an upward trajectory...



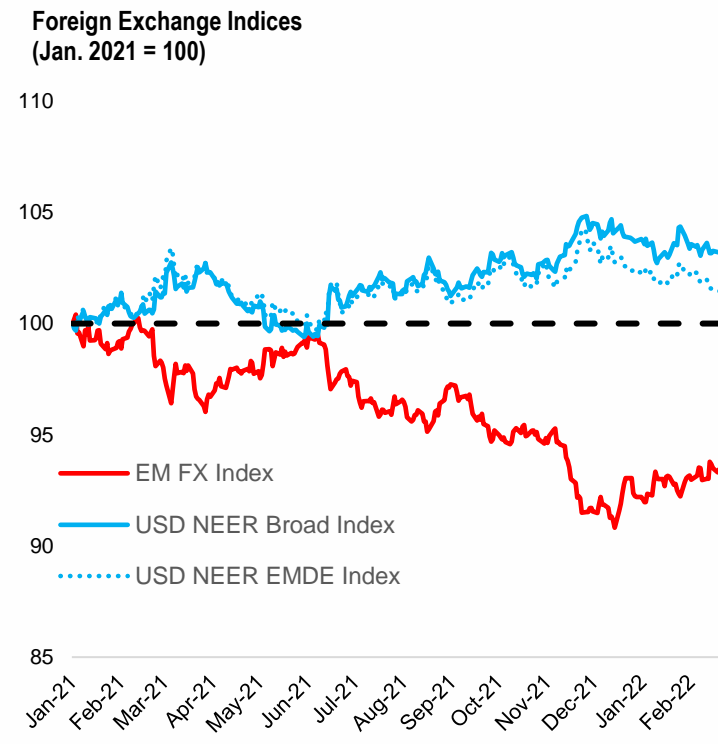
Sources: Bloomberg Finance L.P., IMF Staff Calculations

...while global equity markets have been in a sell-off mode since 2021



Sources: Bloomberg Finance L.P., Haver Analytics, IMF Staff Calculations

The dollar appreciated while EMs' currencies depreciated

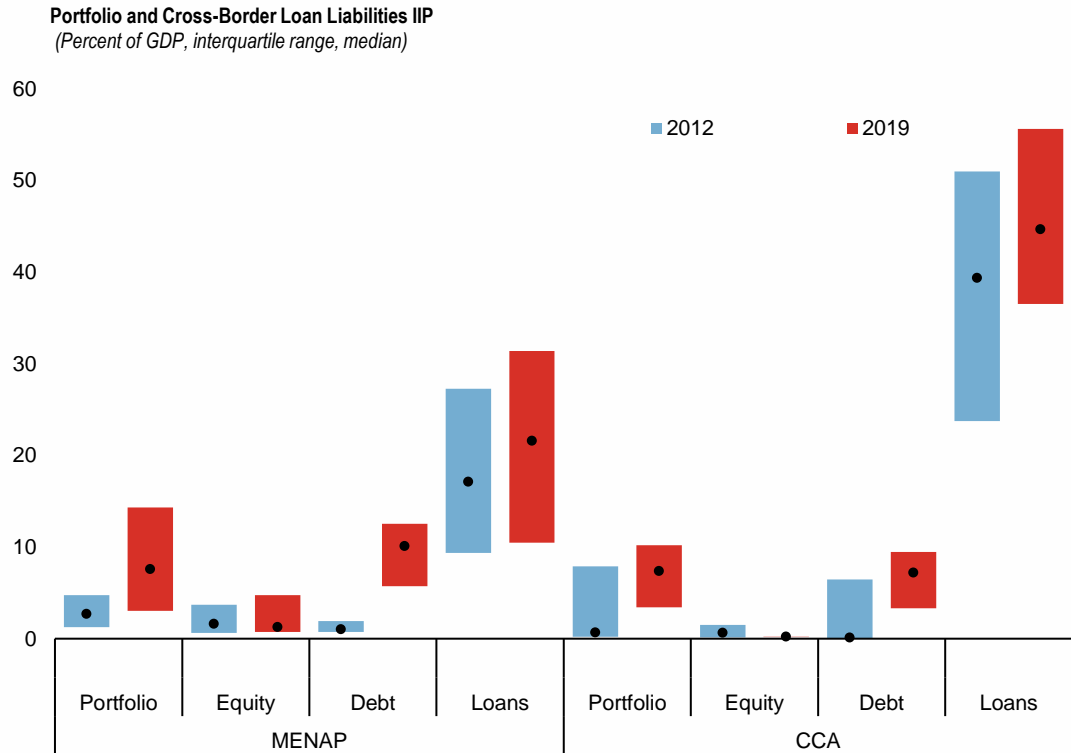


Sources: Bloomberg Finance L.P., IMF Staff Calculations

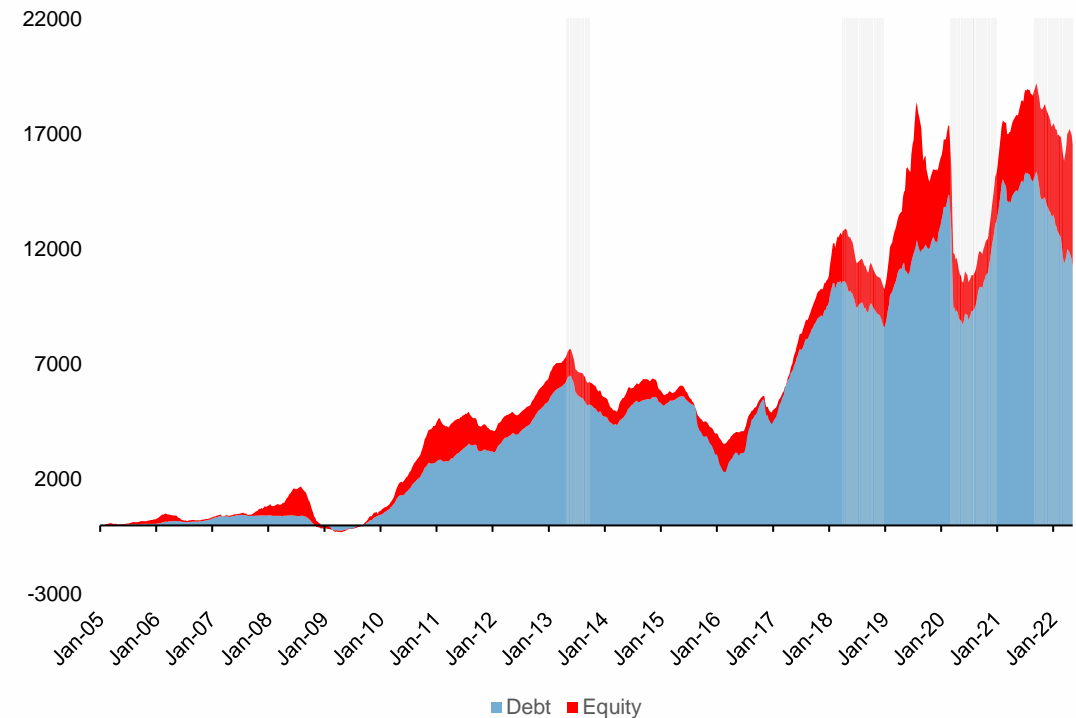
The Middle East and Central Asia has been accumulating large amounts of cross-border capital, but is prone to ebbs

Countries in ME&CA have received increased amounts of cross-border portfolio flows and loans over the past decade

Fund flows to ME&CA ebb upon changes in global financial conditions



Panel 1: Cumulative Fund Flows to ME&CA (Millions of US dollars)



Source: Emerging Portfolio Fund Research, Haver Analytics; and IMF Staff Calculations
May. 1-Sep. 30, 2013. 2018 Federal Reserve Tightening: Apr. 1-Dec. 31, 2018. Covid-19: Mar. 1- Dec. 31, 2020. 2021-22: Sep. 1, 2021 - May. 11, 2022.

Source: IMF World Economic Outlook Database; and IMF staff calculations
Note: MENAP = Middle East, North Africa, Afghanistan and Pakistan. CCA = Caucasus and Central Asia.

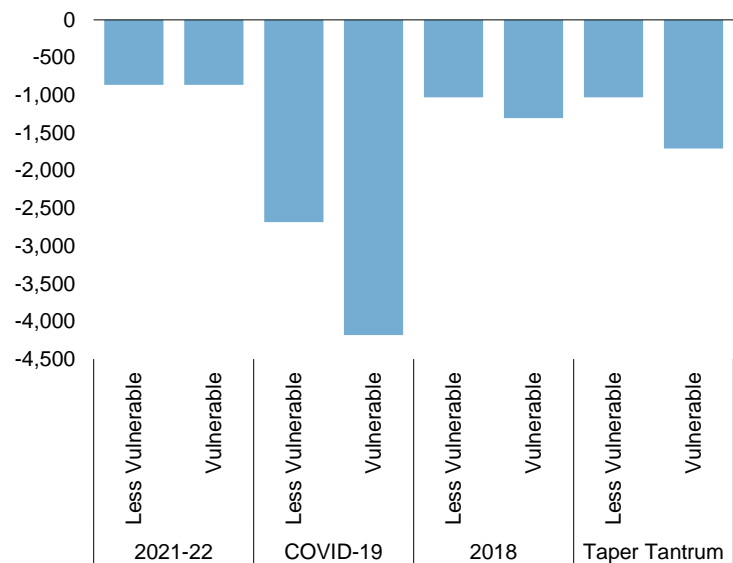
Tightening global financial conditions adversely affect the region's economies, with vulnerable ones being most impacted

Vulnerabilities exacerbate outflows from ME&CA countries during global shocks

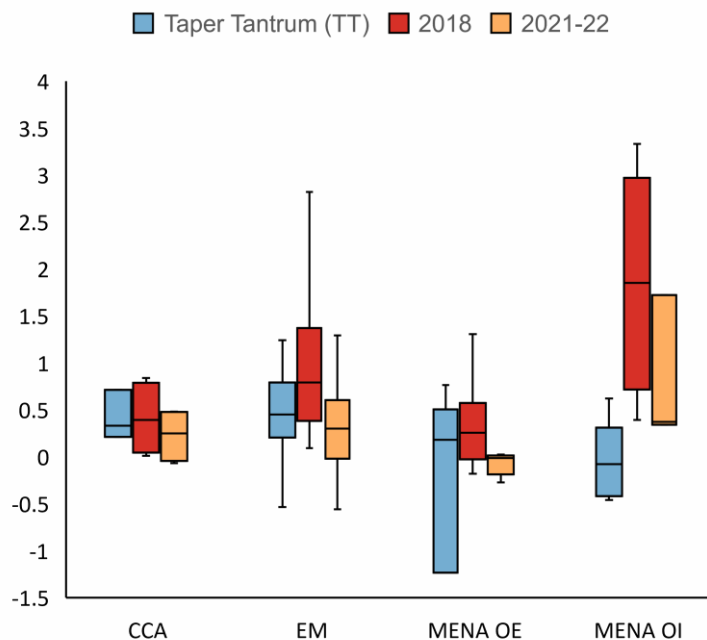
The region's countries' sovereign spreads increase upon MP tightening announcements by the Federal Reserve

Equity prices started declining as discussions of monetary policy normalization intensified, except in MENA OEs

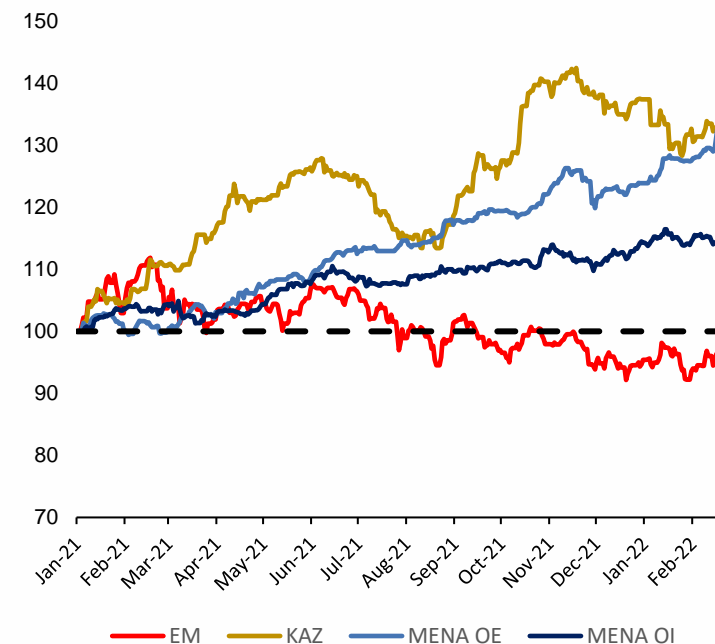
Fund Flows in ME&CA during Global Shocks
(Millions of US dollars)



EMBIG Sovereign Spread Change
(in ppt)



ME&CA Equity Markets: 2021-22 Episode
(Jan. 2021 = 100)



Source: Emerging Portfolio Fund Research, Haver Analytics, IMF Staff Calculations
Taper Tantrum: May. 1-Sep. 30, 2013. 2018 Federal Reserve Tightening : Apr. 1-Dec. 31, 2018.
Covid-19: Mar. 1- Dec. 31, 2020. 2021-22: Sep. 1, 2021 - Feb. 16, 2022. Countries whose FX reserves to GDP ratio is below (above) the sample's median are (less) vulnerable. Bars in panel 2 represent cumulative fund flows during the episode. Countries included in the analysis of fund flows are: Azerbaijan, Bahrain, Egypt, Georgia, Iraq, Jordan, Kazakhstan, Kuwait, Lebanon, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Tunisia, and United Arab Emirates.

Sources: Bloomberg Finance L.P, JP Morgan Chase, IMF Staff Calculations
Note: Spread change is calculated as the difference between the spread on the last day and first day of the episode. Taper Tantrum: May. 1-Sep. 30, 2013. 2018 Federal Reserve Tightening : Apr. 1-Dec. 31, 2018. 2021-22: Sep. 1, 2021 - Feb. 22, 2022.

Source: Bloomberg Finance L.P; and IMF staff calculations
Note: MENA OE = Middle East and North Africa Oil Exporters. MENA OI = Middle East and North Africa Oil Importers

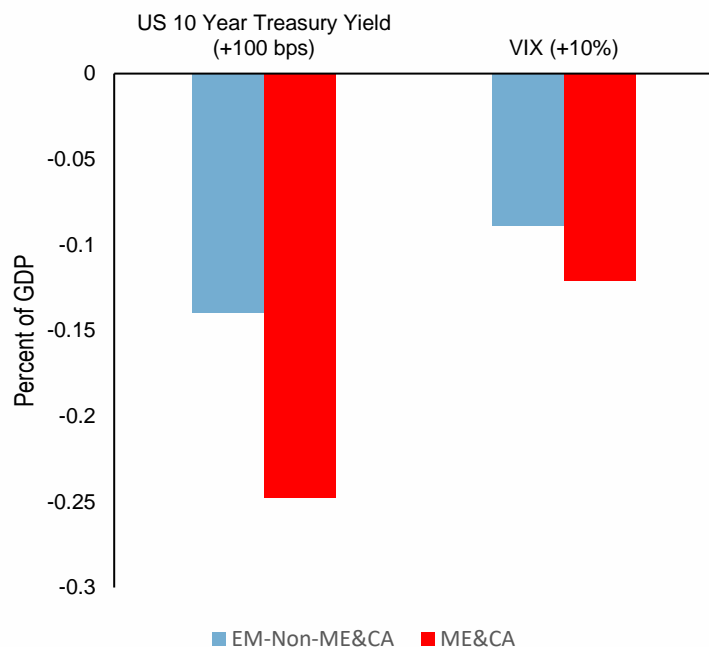
Portfolio inflows to ME&CA could decline substantially, particularly under a scenario of aggressive tightening by the Fed and heightened global risk aversion

Portfolio inflows to ME&CA are more sensitive to changes in global financial conditions relative to other EMs

ME&CA countries could, on average, see a significant drop in their portfolio inflows...

...and the region, as a whole, could lose up to \$31 billion under a scenario of aggressive tightening and heightened global volatility

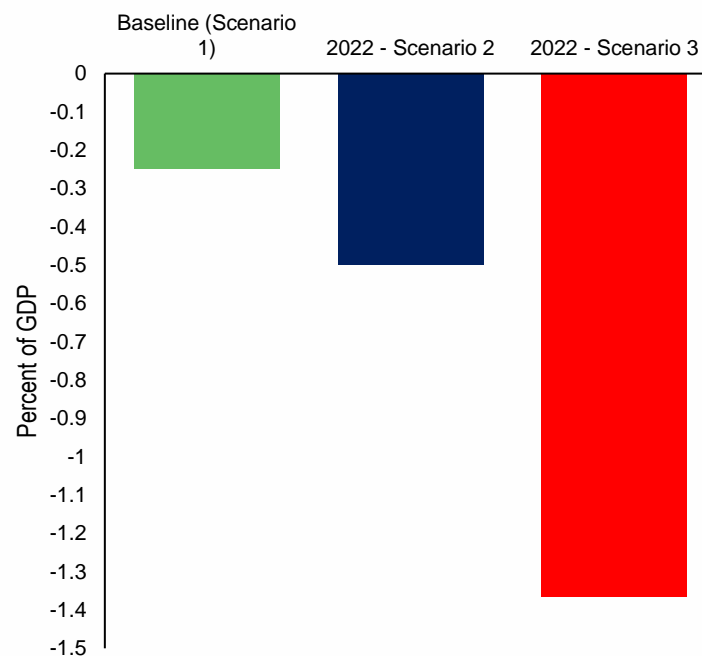
Sensitivity of ME&CA Portfolio Inflows to Global Financial Conditions



Source: IMF staff calculations

Note: Sovereign yield bars represent the effect of a 100 bps increase in the U.S. 10-year yield on portfolio inflows to GDP. VIX bars represent the effect of a 10 percent increase in the VIX on portfolio inflows to GDP. EM-Non-ME&CA sample: 31 countries. ME&CA sample: 14 countries. bps = basis points; EM = emerging market; ME&CA = Middle East and Central Asia; VIX = Chicago Board Options Volatility Index.

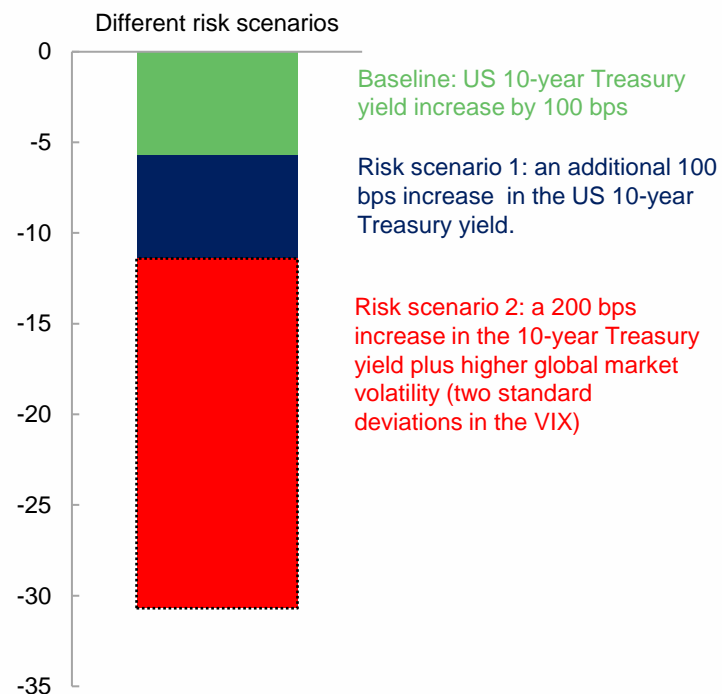
Portfolio Inflows Stress Tests (US Tightening and Global Uncertainty)



Source: IMF staff calculation

Note: Baseline (scenario 1): a 100 bps increase in the U.S. 10-year Treasury yield. scenario 2: a 200 bps increase in the US 10-year treasury yield. scenario 3: a 200 bps increase in the US 10-year treasury yield and a two standard deviations increase in VIX in 2022 relative to 2021. bps = basis points. VIX = Chicago Board Options Volatility Index.

Portfolio Inflows Losses (Billion US Dollars)



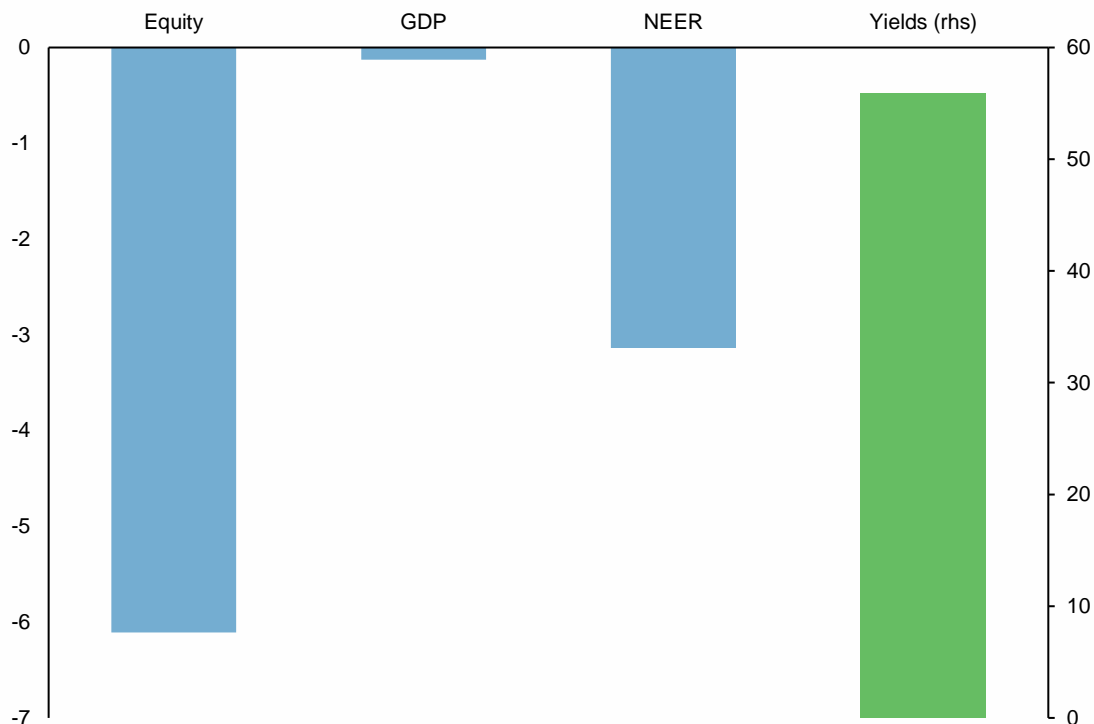
Source: IMF staff calculation

Tighter monetary conditions in the U.S. result in adverse spillovers to ME&CA economies

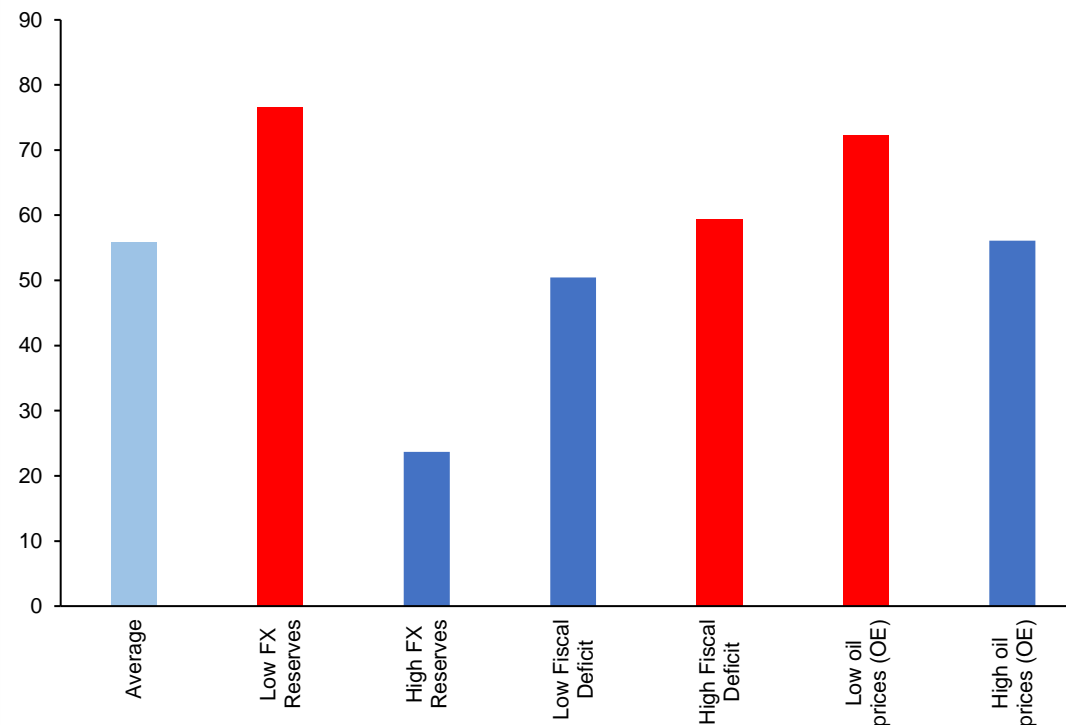
A rise in U.S. interest rates results in adverse spillovers to equity markets, exchange rates, sovereign yields, and the real economy...

... but countries with stronger fundamentals suffer a lower rise in their sovereign yields.

Average Impact of a 100 bps Increase in US 10-Year Treasury Yield
Percentage Point (lhs), basis points (rhs)



Impact of a 100 bps Increase in the US 10-Year Treasury Yield on ME&CA Countries
Sovereign Yields(Basis points)



Source: IMF Staff Calculations.
Note: Bars represents average response over 6 months.

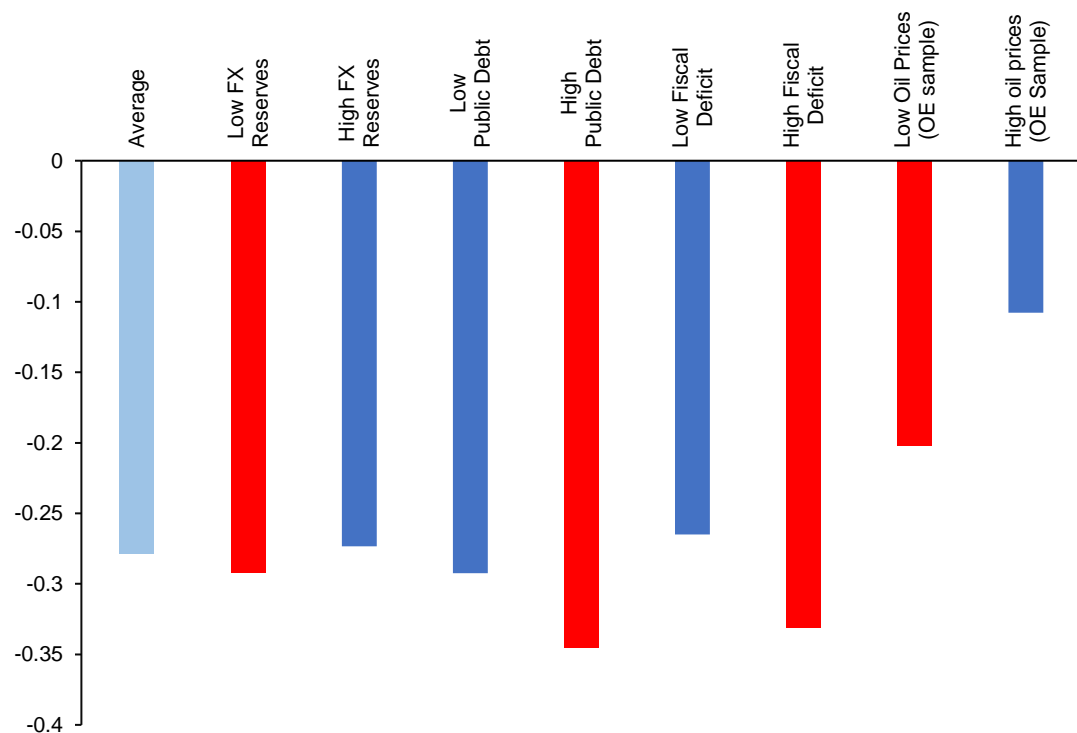
Source: IMF staff calculation.
Note: Low (high) reserves represents countries with FX reserves-to-GDP ratio below (above) 50 percent (three months of imports, on average). All Gulf Cooperation Council countries are included in the group of high reserves coverage, reflecting extensive accumulated buffers in their sovereign wealth funds. Low (High) public debt represents countries with debt to GDP ratio below (above) 70 percent (upper 25th percentile). Low (High) deficit represents countries with primary fiscal balance to GDP ratio above (below) -6 percent (bottom 25th percentile). Low (high) oil prices for oil exporting countries represents periods with oil prices below (above) \$45 per barrel (bottom 25th percentile). Bars represent the average response over six months. bps = basis points; FX = foreign exchange; ME&CA = Middle East and Central Asia; OE = oil exporter; OI = oil importer.

Strong economic fundamentals mitigate the adverse effect of U.S. monetary policy tightening and reversal in global risk sentiment on ME&CA portfolio flows

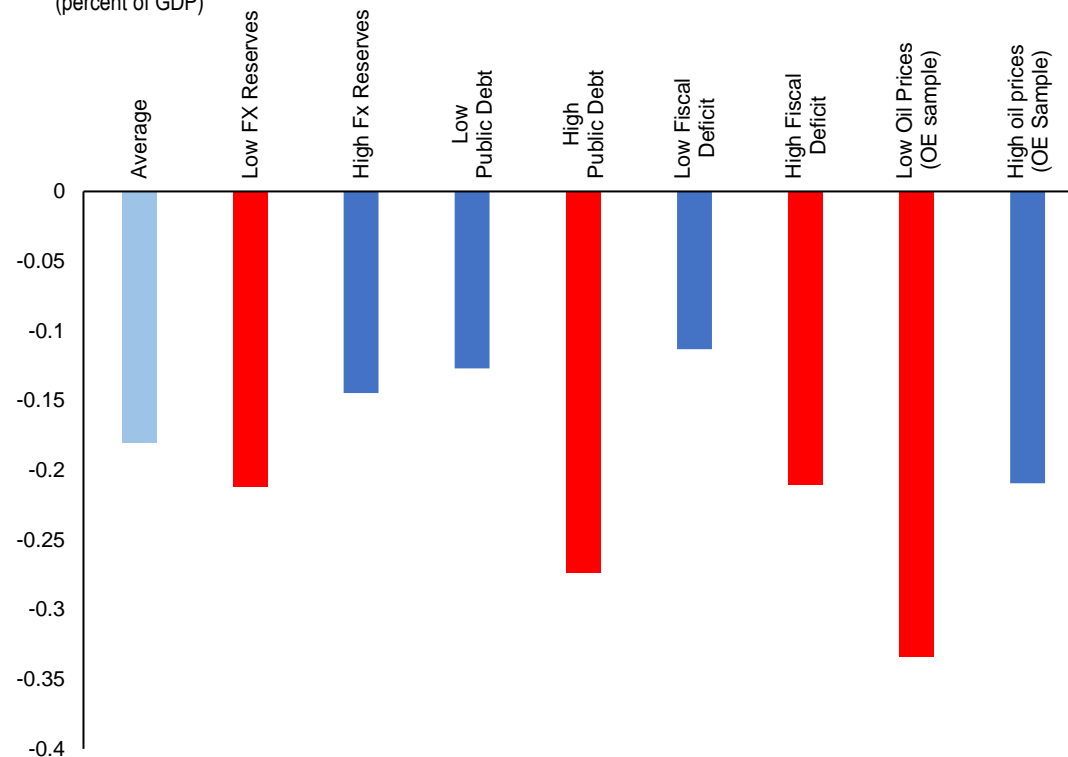
ME&CA countries with stronger fundamentals face lower declines in portfolio flows after a rise in U.S. interest rates

Strong fundamentals also mitigate the adverse impact of a rise in global risk aversion on ME&CA countries' portfolio flows

Impact of a 100 bps Increase in the U.S 10-year Treasury Yield on ME&CA Countries' Portfolio Inflows (percent of GDP)



Impact of a One Standard Deviation Increase in VIX on ME&CA Countries' Portfolio Inflows (percent of GDP)



Source: IMF staff calculation.

Note: Low (high) reserves represents countries with FX reserves-to-GDP ratio below (above) 50 percent (three months of imports, on average). All Gulf Cooperation Council countries are included in the group of high reserves coverage, reflecting extensive accumulated buffers in their sovereign wealth funds. Low (High) public debt represents countries with debt to GDP ratio below (above) 70 percent (upper 25th percentile). Low (High) deficit represents countries with primary fiscal balance to GDP ratio above (below) -6 percent (bottom 25th percentile). Low (high) oil prices for oil exporting countries represents periods with oil prices below (above) \$45 per barrel (bottom 25th percentile). Bars represent the average response over six months. bps = basis points; FX = foreign exchange; ME&CA = Middle East and Central Asia; OE = oil exporter; OI = oil importer.

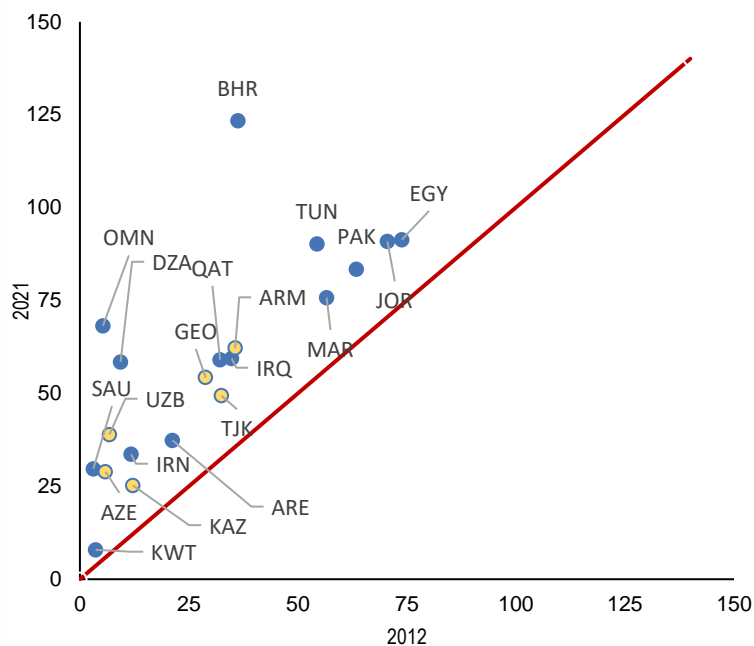
Spillovers from tightening global financial conditions may be more severe this time around given the deterioration in fundamentals of many of the region's countries

Public debt-to-GDP ratios have increased in most countries compared to 2012

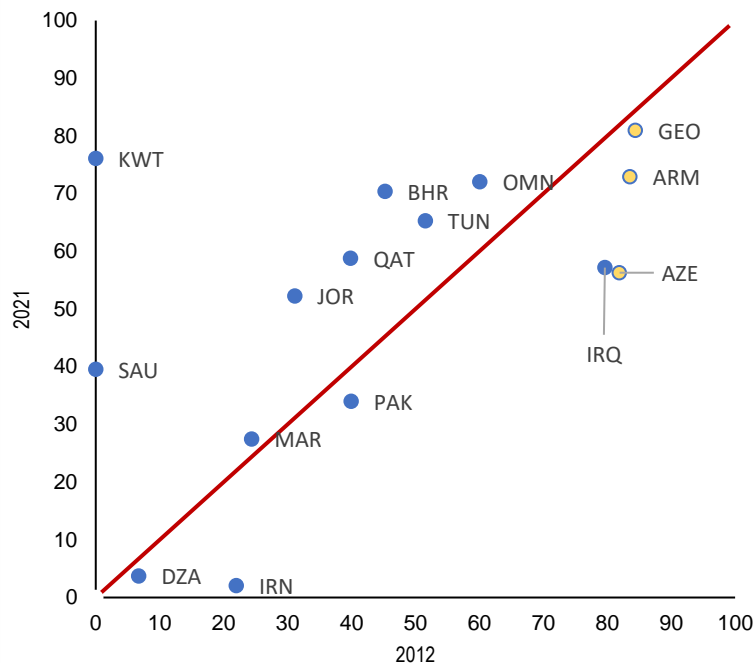
Reliance on foreign currency debt has also increased

International reserves are, however, more ample

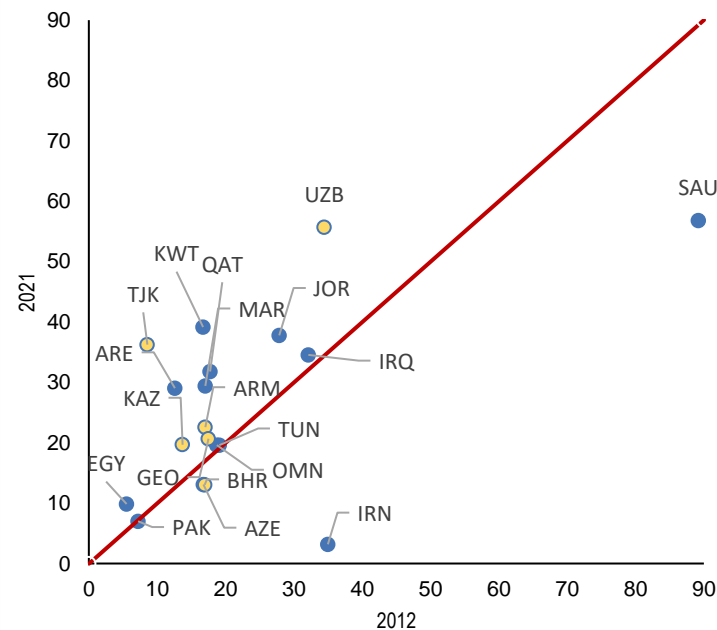
Public Debt (percent of GDP)



Share of Foreign Currency Public Debt (percent of total public debt)



FX Reserves (percent of GDP)



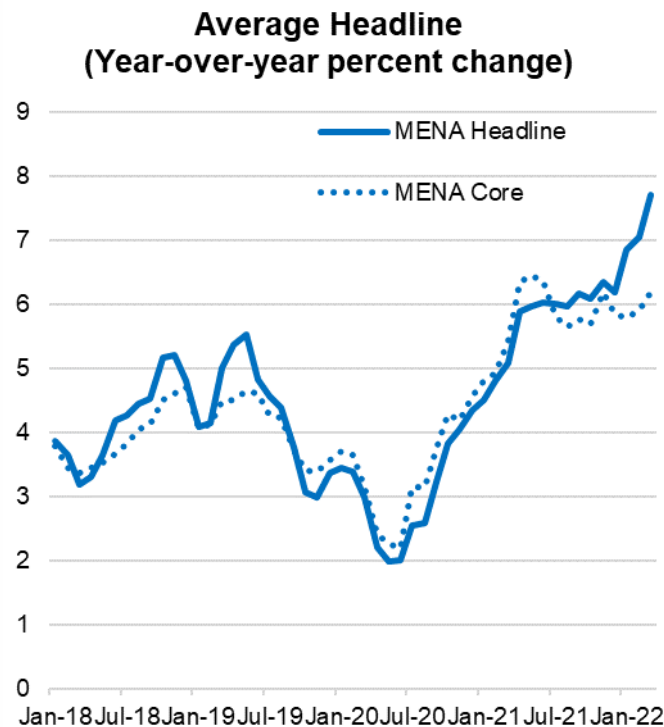
Sources: IMF World Economic Outlook Database; and IMF staff calculations.

Note: Public debt for Egypt refers to Fiscal Years. Country abbreviations are International Organization for Standardization country codes. FX = foreign exchange.

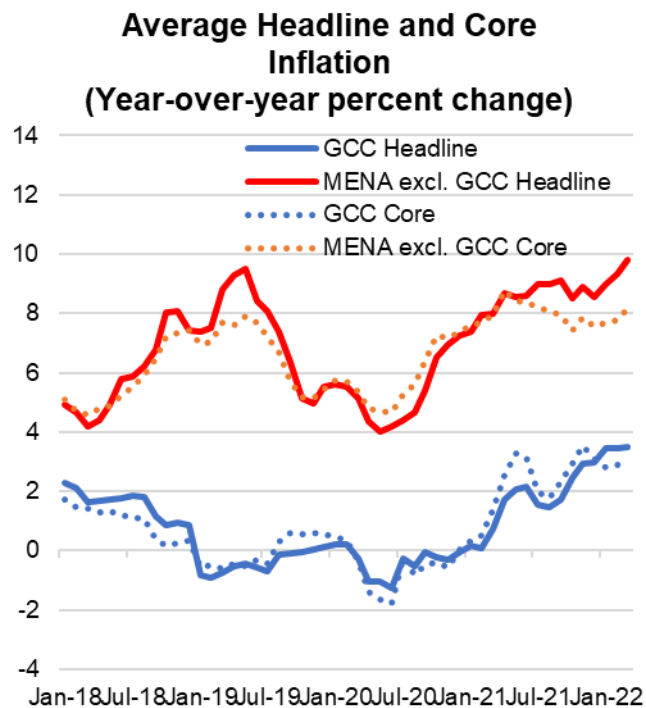
Inflation Dynamics and Drivers in the Middle East and Central Asia

Inflation levels since 2021 have been significantly higher than in previous years

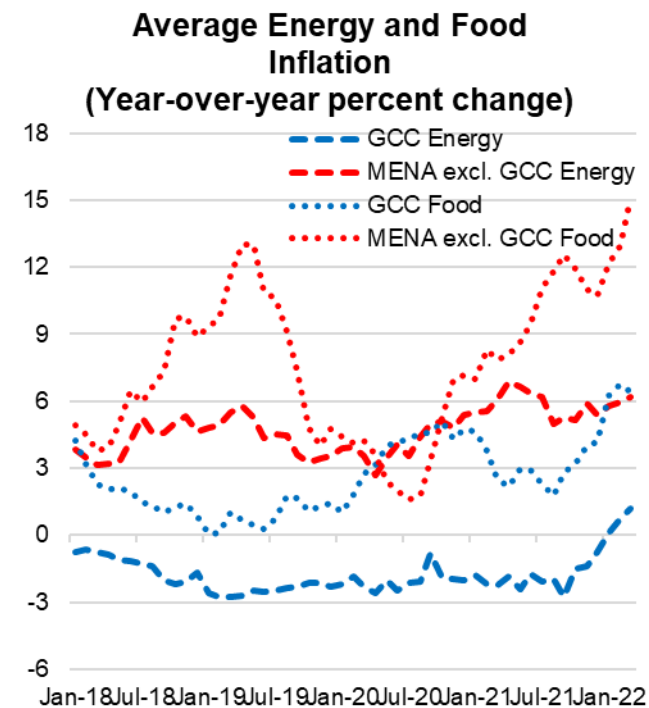
Inflation is the highest in 3 years



There are differences across sub-regions



Food prices increased across the region, although to different extent



Sources: Haver Analytics; National Authorities; IMF, *CPI database*; and IMF staff calculations.

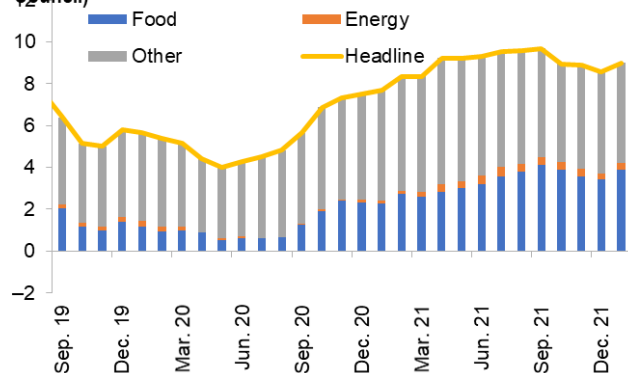
Note: MENA = Middle East and North Africa. MENA includes ALG, BHR, EGY, IRN, IRQ, JOR, KWT, MAR, OMN, QAT, SAU, SOM, TUN, UAE, and WBG. GCC includes BHR, KWT, OMN, QAT, SAU, UAE.

Latest data: Dec 2021.

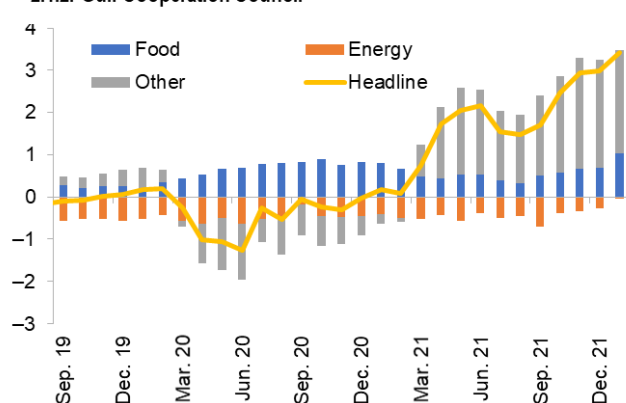
Inflation sub-components differ across MENA

Diverse inflation drivers across sub-regions

2.1.1. Middle East and North Africa (excludes Gulf Cooperation Council)



2.1.2. Gulf Cooperation Council

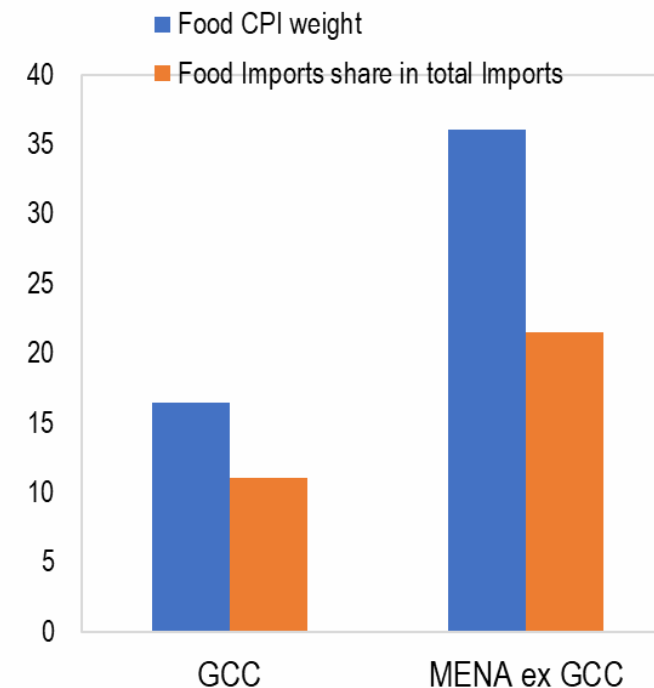


Sources: Haver Analytics; National Authorities; IMF, *CPI database*; and IMF staff calculations.
 Notes: MENA = Middle East and North Africa. MENA includes ALG, BHR, EGY, IRN, IRQ, JOR, KWT, MAR, OMN, QAT, SAU, SOM, TUN, UAE, and WBG. GCC includes BHR, KWT, OMN, QAT, SAU, UAE. Energy prices are approximated by *Housing, Water, Electricity, Gas and Other Fuels*. Latest data: Dec 2021.

Inflation components vary depending on different factors

- Oil and food subsidies or price controls
- Relative weight of food and energy products in CPI
- Relative weight of service sector in the economy
- Other country specific factors

Food CPI weight and import share differ across sub-regions



Sources: IMF staff calculations based on data from Haver Analytics, country authorities, and the United Nations Conference on Trade and Development. UNCTADstat database.

Note: CCA = Caucasus and Central Asia; CPI = consumer price index; GCC = Gulf Cooperation Council; MENA = Middle East and North Africa. Food weight in the CPI includes nonalcoholic beverages and is unweighted average, latest year available. The Food CPI weight corresponds to the latest year available. The Food Imports share in total imports correspond to the average for 2016-2020.

Estimating (an augmented) Phillips Curve

$$\pi_{i,t} = \alpha + \underbrace{\beta_1 \pi_{i,t}^e}_{\text{Inflation expectations}} + \underbrace{\beta_2 y_{i,t}^{domestic}}_{\text{Domestic component}} + \underbrace{\beta_3 y_{i,t}^{foreign} + \beta_4 \Delta P_{i,t-1} + \beta_5 Z_{i,t-1}}_{\text{Foreign component}} + \varepsilon_{i,t}$$

Q-o-q core (headline) inflation $\pi_{i,t}$ is regressed in a panel FE on :

- $\pi_{i,t}^e$ is inflation expectations, measured by the 5-year ahead forecast for CPI inflation in the IMF WEO,
- $\pi_{i,t-1}$ is lagged core or headline inflation,
- $y_{i,t}^{domestic}$ is the domestic output gap,
- $y_{i,t}^{foreign}$ is the foreign output gap,
- $\Delta P_{i,t-1}$ captures a measure of external price pressures in the previous period,
- $Z_{i,t-1}$ is the lag of the dependent variable, of energy, and of food price inflation.

Inflation expectations and external price pressures matter

	Core inflation	Core inflation	
Inflation expectations	Inflation expectations 5 year ahead	0.228***	0.209***
		(0.061)	(0.078)
Domestic component	Lag of core (headline) price inflation	0.270**	0.0574
		(0.113)	(0.087)
Foreign component	Output Gap	-0.000383	0.00717
		(0.001)	(0.032)
	Lag of external price pressure		0.0320***
			(0.009)
	Foreign Output Gap		-0.448
			(0.423)
	Lag of energy inflation		
	Lag of food inflation		
	Observations	348	189
	R-Squared overall	0.53	0.58
	R-Squared Adjusted	0.46	0.48
	R-Squared within	0.24	0.29

Notes: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. All regression include country and time fixed effects. Countries include: Egypt, Georgia, Iran, Jordan, Kazakhstan, Kuwait, Morocco, Qatar, Tunisia, Saudi Arabia.

Sources: IMF, World Economic Outlook (2021), Haver; and IMF Staff estimations.

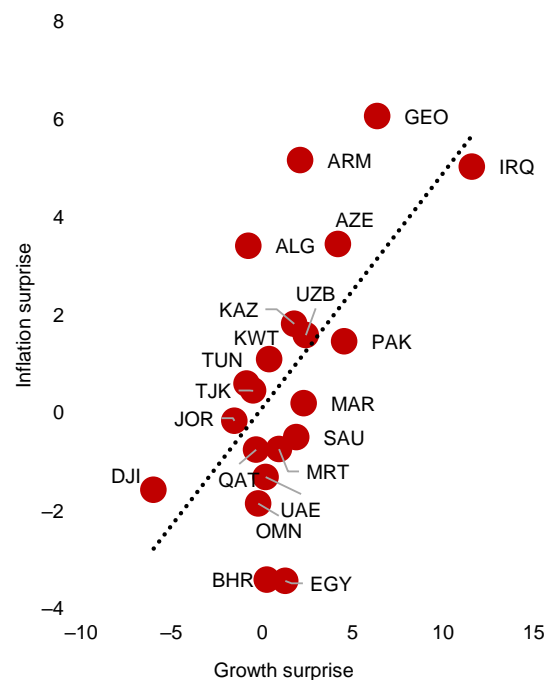
No role for demand factors?

Some Caveats about limited role of domestic demand in the Phillips Curve

- **Uncertainty and measurement errors in output gap measurement**
- **Output gap a poor proxy for labor slack?**
- **Estimation during the low inflation era**

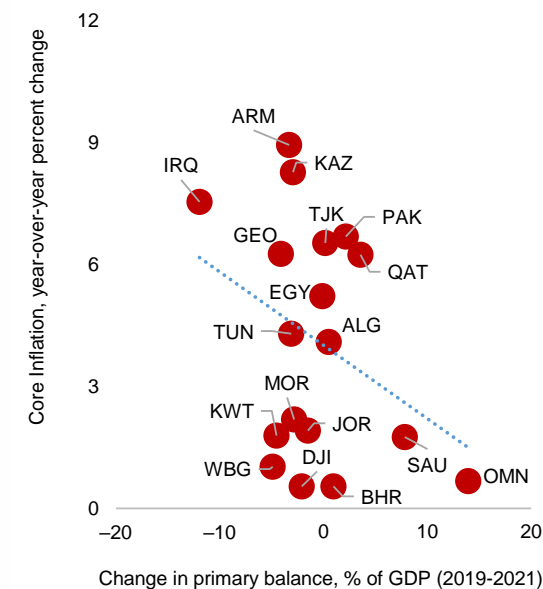
Post-pandemic inflation and growth surprises are highly correlated

Growth surprises and inflation 2020-2021



Countries where fiscal policy was more supportive also experienced higher inflation

Change in Primary Fiscal Balance % of GDP (2019-2021) and Core Inflation



Sources: World Economic Outlook databases; and IMF staff calculations.
 Note: Inflation and growth surprise values computed as the difference between 2021 actual values and projections from the October 2020 World Economic Outlook report. Country abbreviations are International Organization country codes.

The role of global factors in driving domestic inflation dynamics

The diagram illustrates the equation for domestic inflation dynamics. At the top, a green rounded rectangle labeled "Global factor" has a bracket pointing to the term $\beta_k x_t$ in the equation. At the bottom, a green rounded rectangle labeled "Controls" has a bracket pointing to the entire right-hand side of the equation, including the lagged inflation terms, the global factor term, the future inflation terms, and the error terms.

$$\pi_{i,t+k} = \alpha_i^k + \sum_{j=1}^l \gamma_j \pi_{i,t-j} + \beta_k x_t + \sum_{j=1}^k \theta_j x_{i,t+j} + \sum_{j=1}^l \vartheta_j x_{i,t-j} + \delta z_t + \varepsilon_{i,t} \quad (1)$$

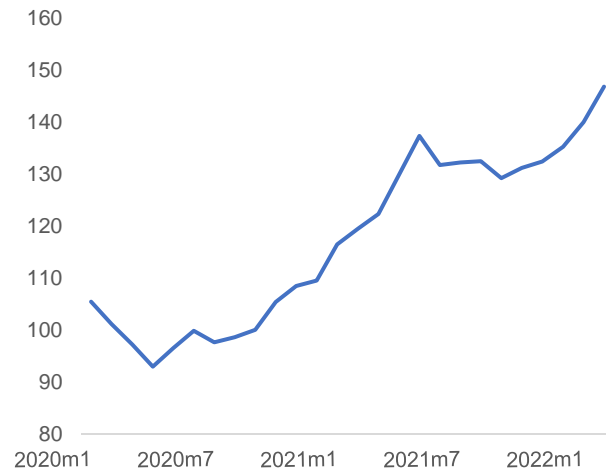
Where:

- π represents domestic CPI inflation of country i at time t .
- x_t is the change the global factor in month t .
- α_i are country-fixed effects while β_k measures the impact of changes in the (shocked) global factor on domestic inflation for each future period k .
- γ_{jk} captures the persistence of domestic CPI inflation.
- $z_{i,t}$ contains a list of control variables including month-fixed effects (to account for seasonality in the dependent variable), the world output gap to control for global demand pressures, the exchange rate of the domestic currency against the US dollar, and global factors not included in x_t .

International food prices pass-through to domestic prices

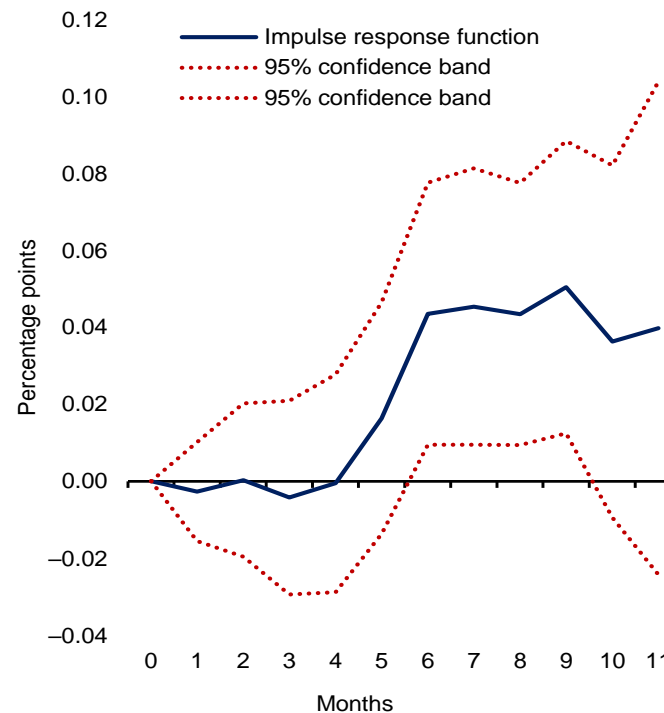
International food prices have increased dramatically since 2021...

Food prices
(Index, 2016=100)



Source: IMF

...affecting domestic inflation



Source: IMF staff calculations.

Note: The chart shows the cumulative Impulse Response Function (IRFs) for domestic inflation and 95% confidence interval bands following a 1 percent increase in international food prices. CPI = consumer price index.

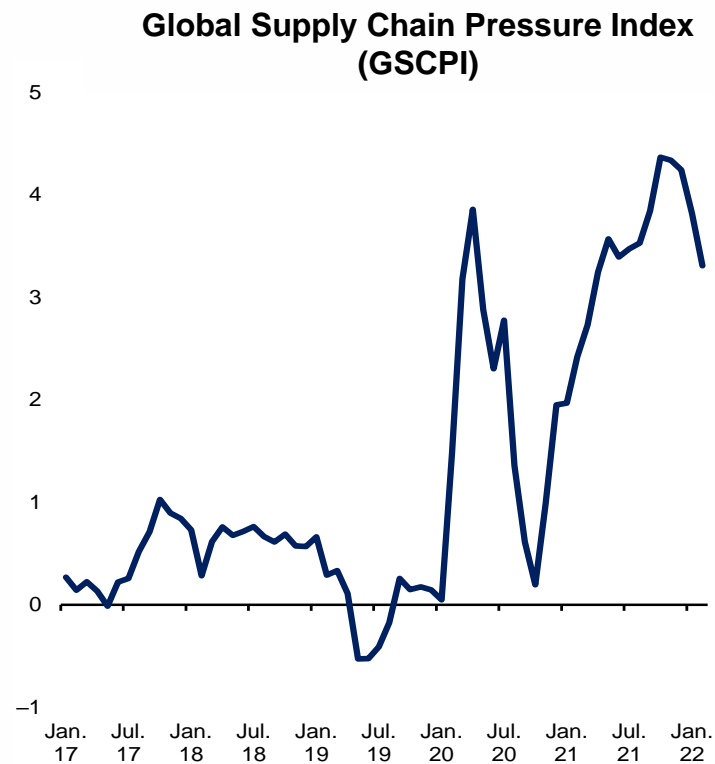
Share of food in CPI affects the transmission

	(1)	(2)
	Int. food prices pass-through	Int. food prices pass-through
Share of food in CPI	0.219** (0.0699)	
Food import share		0.00614 (0.0038)
Observations	17	21
R-squared	0.386	0.177

Robust standard errors in parentheses. * p<0.10, ** p<0.05

Global supply chain constraints affect inflation

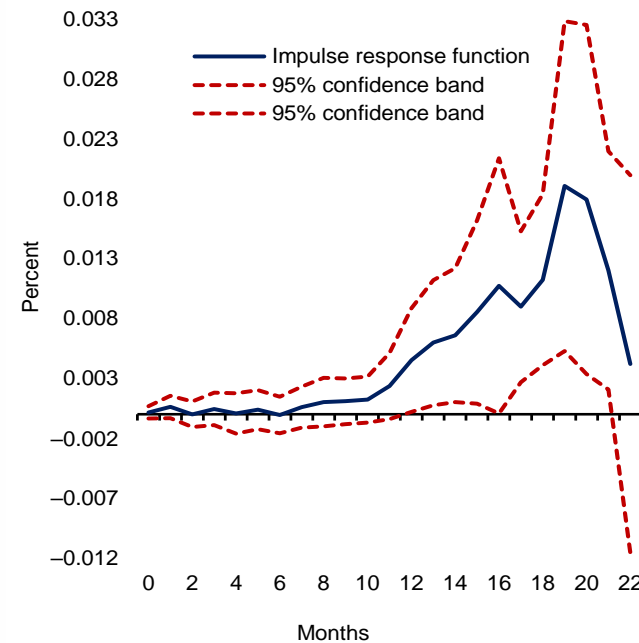
Supply chain constraints rose to new maxima in 2021



Source: Beningno et al. 2022

Supply chain constraints affect domestic inflation with a lag

Response of CPI to one std. shock in GSCPI



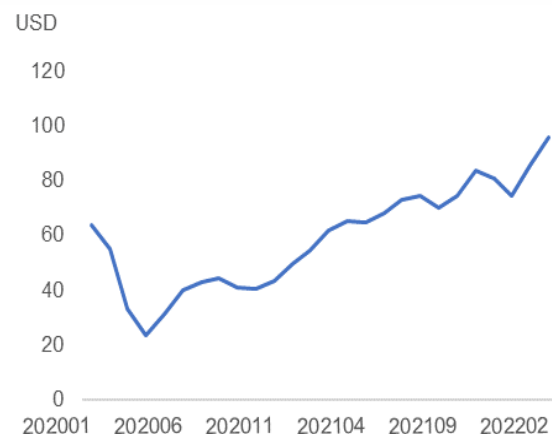
Source: IMF staff calculations

Note: CPI = consumer price index; GSCPI = Global Supply Chain Pressure Index. The chart shows the cumulative Impulse Response Function (IRF) for domestic inflation and 95% confidence bands following a 1 standard deviation in the GSCPI.

International oil prices affect domestic energy prices

Oil prices increased since mid-2020

**Brent oil price
(USD, spot price)**

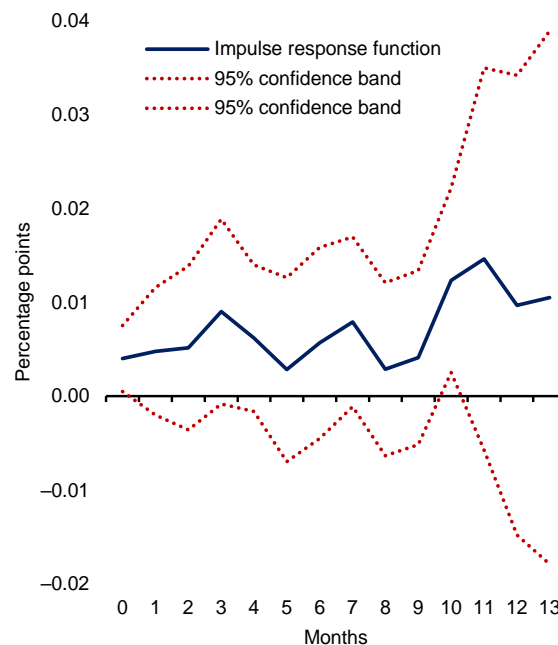


Source: IMF staff calculations

Oil price subsidies reduce pass-through to domestic inflation

**Pass-through of oil prices to domestic inflation
(response to CPI to 1% price shock)**

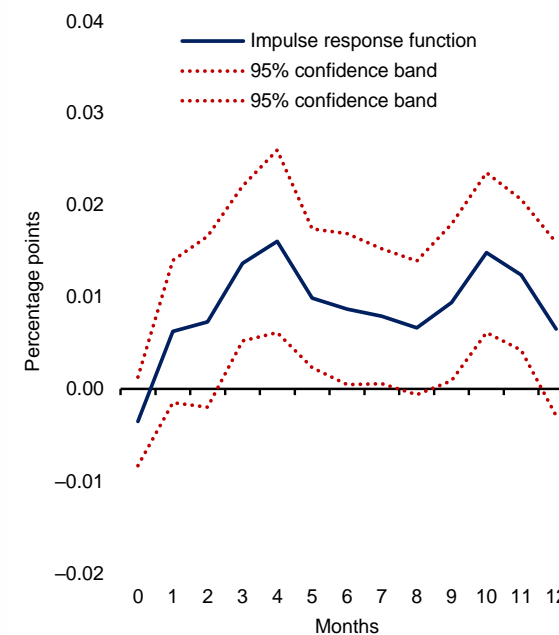
1. Subsidies above the ME&CA Median



Oil price pass-through to domestic inflation with low or no subsidies

**Pass-through of oil prices to domestic inflation
(response to CPI to 1% price shock)**

2. Subsidies below the ME&CA Median




Policy Challenges


Managing policy trade-offs while advancing transformational recovery

All countries:
Improve macro policy frameworks:
anchor fiscal adjustment in a credible MTFF
and strengthen monetary frameworks


React in a targeted manner

Emerging Markets:


 Allow food and energy prices to adjust gradually while protecting the most vulnerable (targeted, transparent, temporary support)

 Make fiscal consolidation inclusive, spending more efficient and improve revenue mobilization to support social spending


LICs/FCS:


 Decisive support from the international community is paramount to address food security due the lack of fiscal space

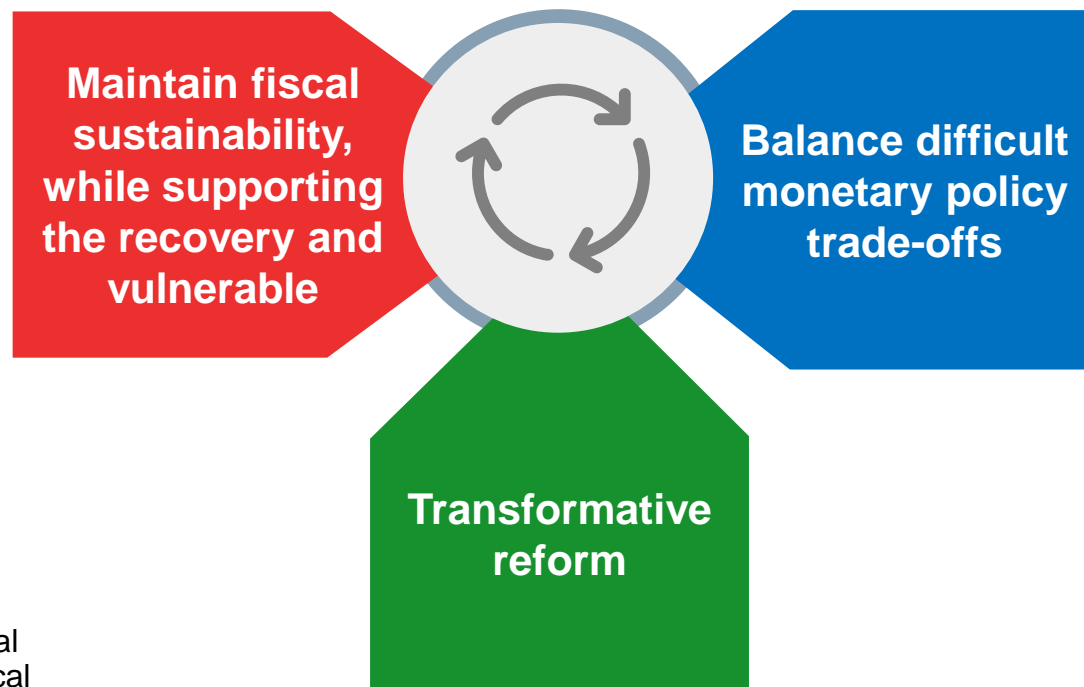
Oil exporters:

 Avoid procyclical spending and build fiscal buffers. Where recovery is weak, use fiscal space for social and productive investment


Fight inflation but avoid derailing the recovery


 Tighten if inflation becomes broad-based or risks of de-anchoring expectations emerge


 Allow exchange rate flexibility to absorb shocks, alternative liquidity management for peggers where recovery is fragile



Prepare for the future

 Strengthen regional and multilateral cooperation and secure fair access to a comprehensive COVID toolkit

 Enable private sector growth and youth employment; reduce bloated public administration (i.e., reform SOEs); leverage digitalization

 Invest in climate resilience; devise and implement a comprehensive climate strategy with adaptation, mitigation, and transition goals

Thank you!