



Executive
Perspectives

War in Ukraine Taking Stock | Two Years After Russia's Full-Scale Invasion

BCG Global Advantage and Corporate Finance & Strategy Practice Areas

Prepared: 24 Feb 2024

Introduction to this document

The war in Ukraine is above all a political, social, and humanitarian crisis

As we enter the third year of war, it is impossible not to reflect on the enormous loss and suffering it has brought. The top priority for all continues to be the safety and security of people.

The scale and duration of the war has had a profound economic impact, both within Ukraine and globally.

The two-year mark provides an occasion to reflect on the growing extent of physical and economic damage to Ukraine and the scale of rebuilding required.

1. Based on ISO standard

It is the duty of political, societal, and business leaders to navigate through this crisis. The intent of this edition is to document and analyze the impact of the war and to showcase select implications for business.

The situation surrounding Ukraine is dynamic and rapidly evolving. This document reflects information and analysis as of 24 February 2024. It is not intended as a prediction of future events and is shared only as a resource for BCG and client conversations.

Note on abbreviations¹:

- Ukraine - UA
- Russia - RU

Taking Stock | Two Years After Russia's Full-Scale Invasion

AGENDA

Executive Summary

Global impact of the war

- › Impact of the war on Ukraine
- › Economic impact
- › Deep dive | Energy & geopolitical implications

Perspective on future evolutions

- › Potential evolutions & momentum
- › Implications for businesses

Summary | Global impact - two years in

War impact on Ukraine

Frontlines have remained largely stable throughout 2023 after territorial shifts throughout 2022

- As Western military aid to Ukraine flattens, no decisive territorial advantage, though Ukraine has defended key cities

Humanitarian crisis ongoing in Ukraine - refugees, casualties, destruction, economic impact

- ~10M refugees/internally displaced Ukrainians, ~500k military casualties, ~\$485B for reconstruction, ~30% GDP drop in '22

Economic impact

Global & regional economies avoided recession and proved resilient; estimates forecast slowing growth

- GDP growth '23: World 2.6%, Euro Area 0.4%; forecasted growth '24: World 2.4%; Euro Area 0.7%

Global commodity prices have largely returned to pre-war levels after initial spike and slow stabilization

- Most agriculture, metals, energy prices now below pre-war levels; crude oil approaching pre-war levels

Russian economy has been resilient in '23, with trade shifting from West to East

- Despite Western sanctions and a price cap on oil, Russia's GDP increased by 2.6% in 2023

New Russian trade dynamics lead to sustained changes in trade in certain sectors

- Energy trade routes have shifted significantly and are not forecasted to revert in the short run

Ukraine war continues to have profound geopolitical consequences

- E.g., NATO expansion, EU accession talks for Ukraine, US aid to Ukraine

Potential evolutions & implications

Six potential evolutions of the war, with Protracted Stalemate showing highest current momentum

- Situation remains volatile and dynamic on the ground; business leaders should be prepared for other scenarios

Business leaders must plan for changes in trade, costs, and rebuilding of Ukraine

- Business leaders should develop strategies and supply chains robust across different scenarios, updating assumptions regularly

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War has progressed along five key factors driving the conflict

	Status in <u>early months</u> of conflict (Q2 '22)	Status in <u>recent months</u> of conflict (Q1 '24)
 Military	Russian gains in South & East	Stable frontlines ; momentum may shift
 Sanctions	Heavy Western sanctions on RU	Russian economy survives sanction shock
 Aid & support	Heavy Western support for UA defense	UA resilient; lagging Western UA support
 Peacemaking	Ineffective peace negotiation attempts	No formal peace negotiations
 Domestic conditions	Strong political support for Putin	Putin's power unchallenged

Rapidly shifting territorial gains through 2022; front line stalemate in 2023



Feb 2022
Before the invasion

Mar 2022
RU's rapid advance

Nov 2022
UA regains ground

Dec 2022 - Dec 2023
Stalemate of front line



- RU military control
- Limited RU military control
- RU separatist-held areas
- Held or regained by UA
- RU annexed Crimea in 2014

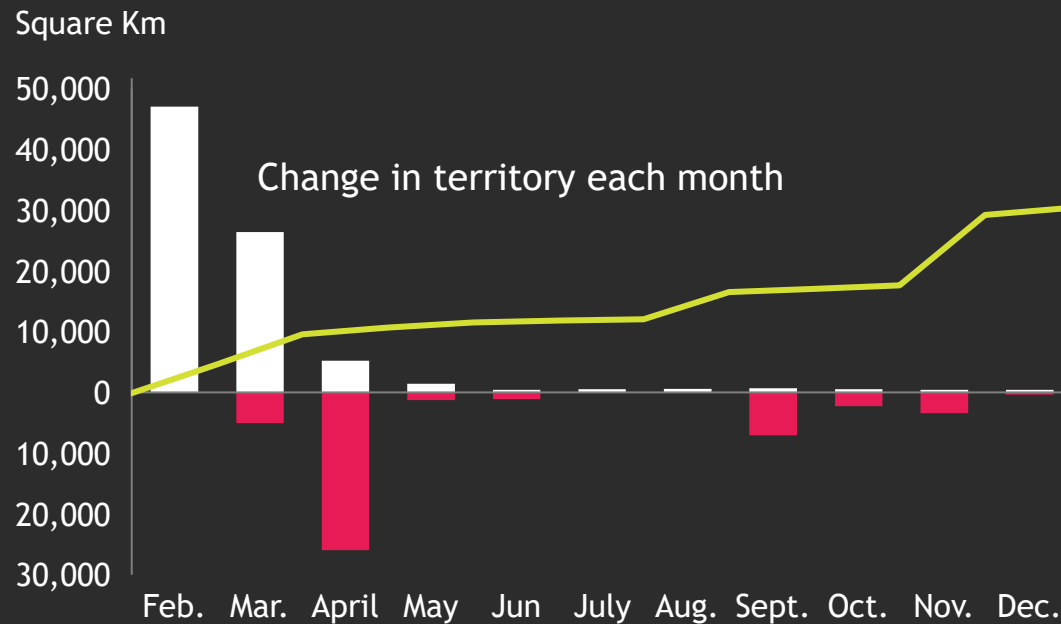
Source: Institute for the Study of War; BCG analysis

Despite general stalemate, possibility of frontline shifts remain

Relatively stable front line in 2023 despite significant Western aid



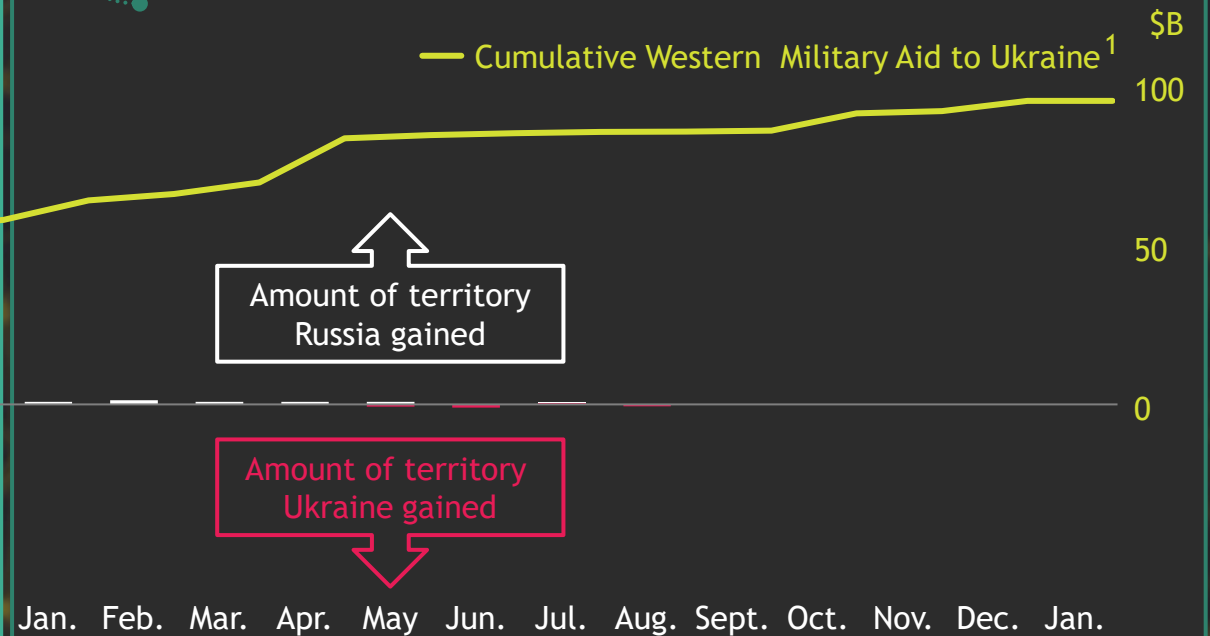
Significant territorial shifts in 2022



2022



Frontline stalemate in 2023



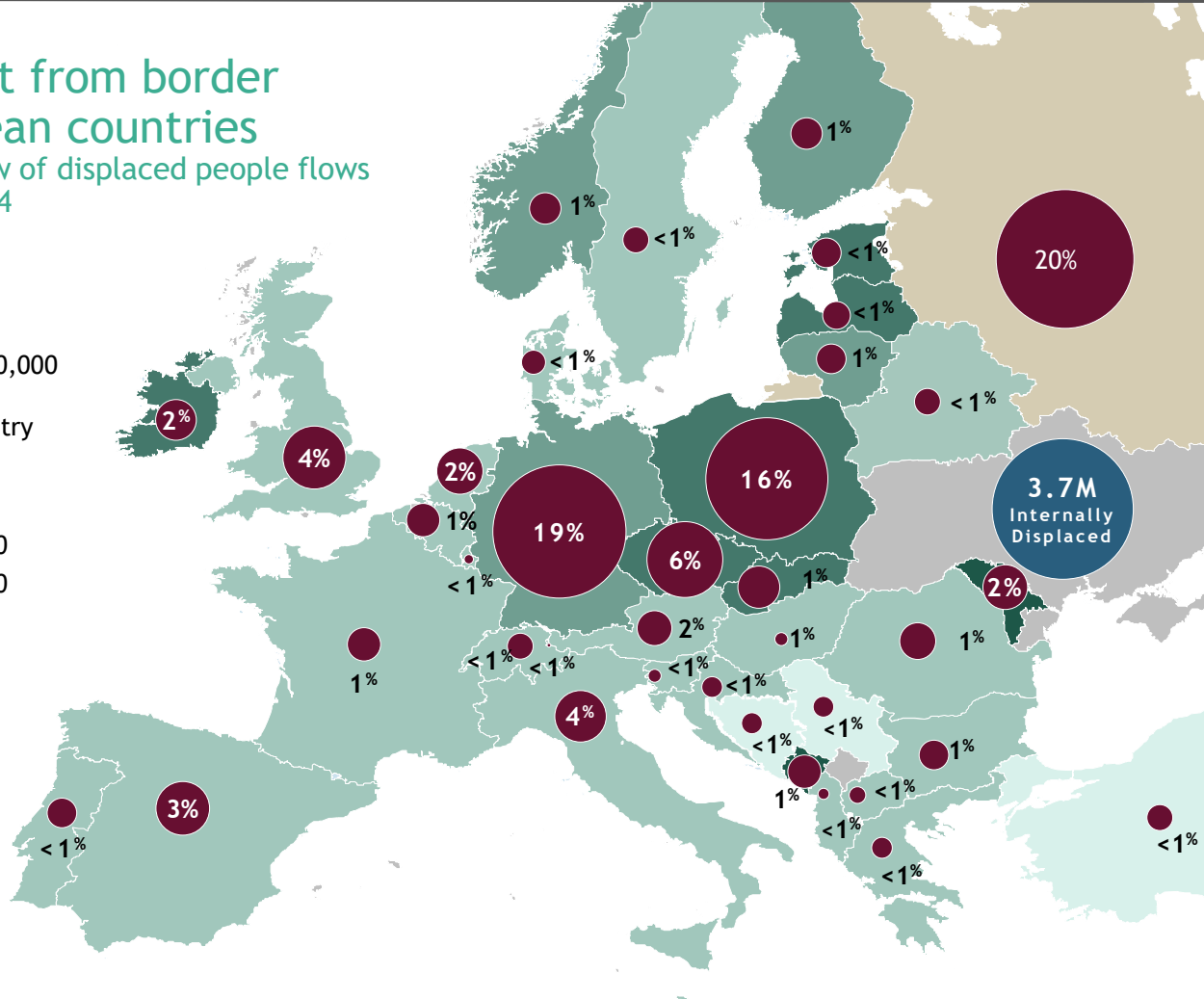
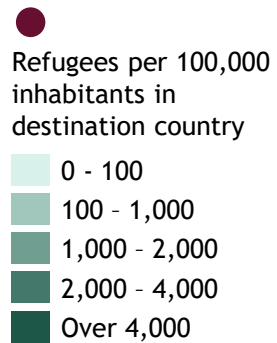
2023

Notes: After the Kakhovka Dam explosion in June and the resulting flooding, the Institute for the Study of War reduced the area it assessed as under Russia's control in Kherson. The New York Times adjusted July's data to ensure that change wasn't misconstrued as a Ukrainian territorial gain, given that the flooded area is not held by Ukrainian troops. 1. Following countries covered: NATO members + EU members + JP + ROK + ANZ. Source: New York Times analysis of data from the Institute for the Study of War's collaboration with the AEI's Critical Threats Project; IFW's Ukraine Support Tracker; Russia Matters "Report Card". Data as of 21 Feb '24; BCG analysis

~10M Ukrainians displaced; number stabilized since 2023

Movement from border to European countries

Indicative view of displaced people flows through Jan '24



- > ~10M displaced Ukrainians, ~3M less than in Feb '23 indicating return trend
- > ~6M refugees in Europe, with additional 500k beyond
- > ~3.7M displaced internally; with 70% for 1+ years
- > ~14% of displaced people in Europe plan to return in near term; 80% want to return one day
- > European Council extended temporary protection for Ukrainians to Mar '25

Significant human, infrastructure, and economic costs

~500K

Estimated military **casualties** since beginning of war¹

~\$485B

Expected **cost to rebuild** Ukraine²

~30%

Percent of **GDP Ukraine lost** in year following Russia's invasion³

1. Estimates from the New York Times in August 2023, Ukrainian civilian casualties are ~30k, 2. World Bank, United Nations, European Commission and the Ukrainian Government
3. World Bank; BCG analysis

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Summary snapshot | War impacts continue to be felt; beginning to stabilize

Macro Outlook

GDP Forecasts¹

	World Bank			Leading FIs
	2022	2023		2024F
	Actual ²	Jan'23 Forecast ³	Expected ²	Jan'24 Forecast
Global	3.0%	1.7%	2.6%	2.6%
Euro Zone	3.4%	0.0%	0.4%	0.5%
US	1.9%	0.5%	2.5%	1.3%
Russia	-2.1%	-3.3%	2.6%	1.4%
Ukraine	-29.1%	3.3%	4.8%	4.0%

Inflation⁴

	2022	2023	2024F	Interest rates ⁵
	Actual	Expected	Forecast	+/- vs pre-war ⁶
Global	9.8%	8.1%	6.2%	-
Euro Zone	8.4%	5.5%	2.6%	+3.9 pp
US	8.0%	4.1%	2.5%	+5.1 pp
Russia	13.7%	5.9%	6.5%	+5.5 pp
Ukraine	20.2%	12.9%	5.8%	+14.1 pp

Commodity Prices⁷

Commodity	Commodity price (actual, \$)			ΔCW-PreWar ⁸
	Jan 1 '22	Jan 1 '23	Jan 1 '24	
Crude Oil (\$/bbl)	79	86	77	-3%
Gas (TTF) (\$/MWh)	80	76	32	-60%
Coal (\$/t)	158	363	137	-13%
Wheat (€/bu)	274	309	223	-19%
Rapeseed (€/t)	729	588	438	-40%
Nickel (\$/t)	20,430	31,300	17,360	-15%
Palladium (\$/oz)	1,826	1,798	1,109	-39%

Supply Chain Metrics⁹

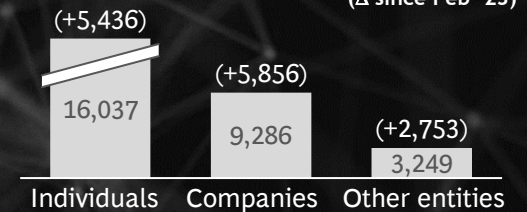
	Deep Sea Cargo Port Calls			Deep Sea Cargo Bosphorus			
	(Avg. #/day)			Straits Transits (Avg. #/day)			
	LY	Current	ΔCW-PreWar ⁹	LY	Current	ΔCW-PreWar ⁹	
	(Jan '23)	(Jan '24)		(Jan '23)	(Jan '24)		
Ukraine	1.1	1.4	-55%	N-bound	7.6	7.9	-4%
Russia	22.4	20.6	-4%	S-bound	7.9	7.6	-7%

Sanctions & Policy Actions

Sanction highlights

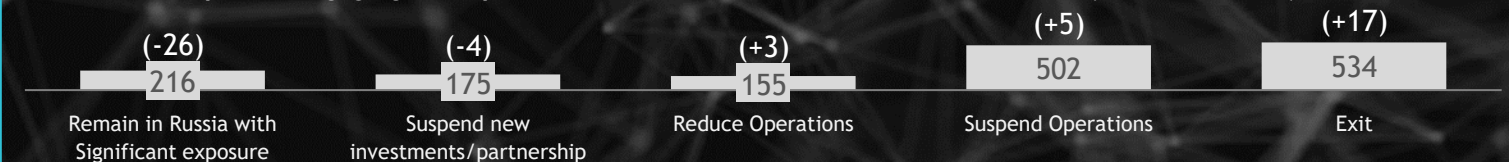
- US, UK, and EU issue most important sanctions against Russia
- EU adopted 12th package of sanctions on oil, gas and 140 individuals and entities, 18 Dec '23
- US expands scope of Export Administration Regulations (EAR) Russian and Belarusian Industry Sector Sanctions; new sanctions on 23 Feb '24
- Continue to tighten sanctions due to resilience of Russian economy

Cumulative # WW Sanctions in-place as of Feb '24¹⁰ (Δ since Feb '23)



Corporate Actions in Russia Market

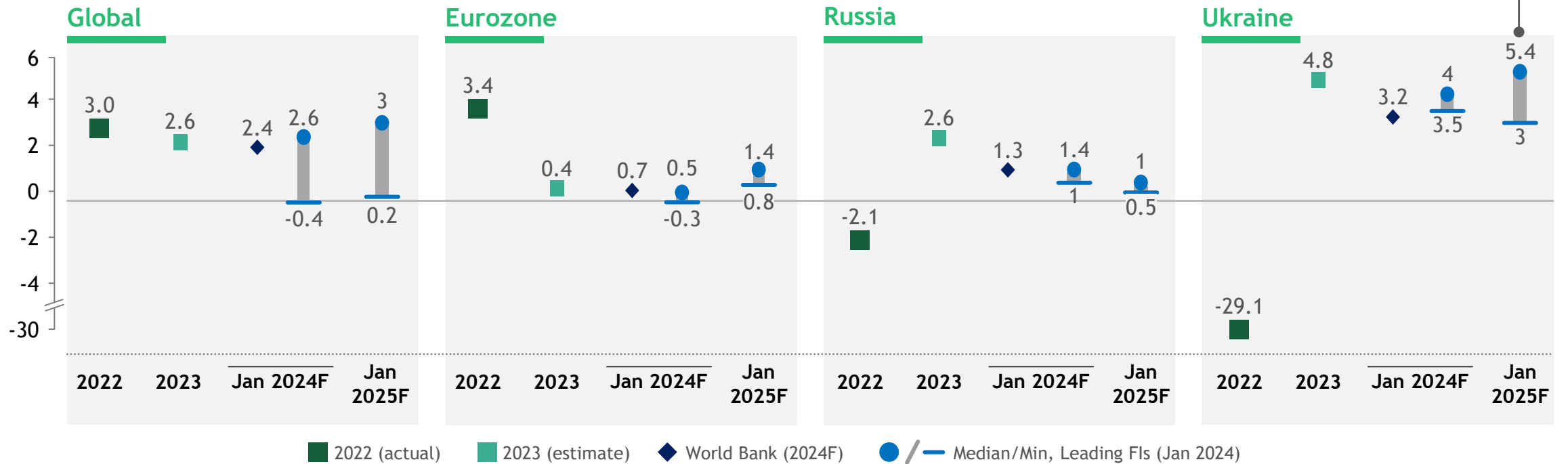
Number of companies engaging in corporate actions in Russian Market as of Feb '24¹¹ (Δ since Feb '23)



1. GDP forecasts from World Bank and FIs per Bloomberg database (15-56 FIs per forecast period). 2. GDP Actual and GDP Expected taken from World Bank, Jan '24 data. 3. GDP forecast as of Jan '23 taken from World Bank, Jan '23 data. 4. Consumer price % change, pa, average – Economist Intelligence Unit. 5. Average rate on short-term borrowing between financial institutions, market-traded short-term treasury bills or central bank paper; Economist Intelligence Unit. 6. Change in short term interest rates (average) between 2021 and 2023; 7. S&P Capital IQ; 8. PreWar = Jan 2022 (data not included in this view for simplicity) 9. Clarkson Shipping Intelligence Network; 10. Total sanctioned actions worldwide, excl. Russia, incl. duplication. Source: corrective.org. 11. Yale Chief Exec Leadership Institute; BCG analysis

Backup | Economy resilient in 2023; forecasted resilience despite slowing growth

Real GDP Growth (%), Selected Regions, 2023 - 2025F



Military expenditure (% of GDP, 2022)

2.3%

1.5%

4.1%¹

33.5%²

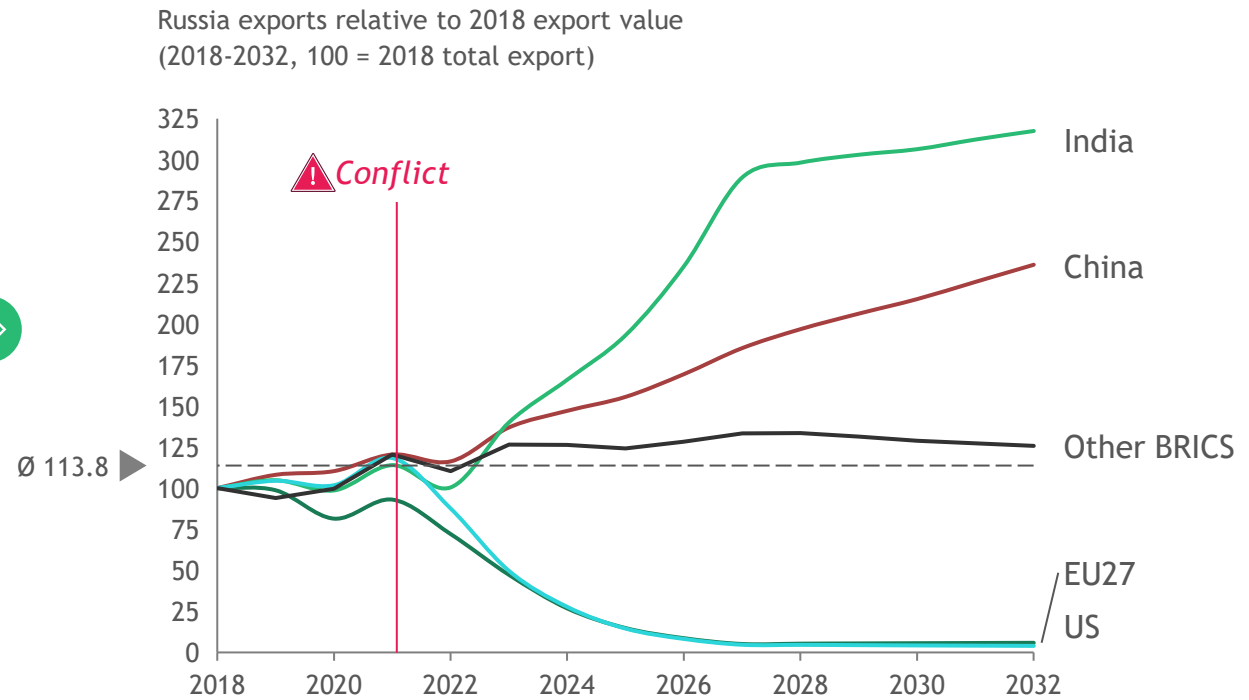
1. Spending expected to be 7.1% of GDP in '24 according to RU government budget proposal; 2. Spending expected to be 22.1% of GDP in '24 according to UA government budget proposal
Sources: World Bank; Bloomberg; Stockholm International Peace Research Institute; Ministry of Finance of Ukraine; BCG Analysis

Backup | Russia's economy remained resilient in 2023 partly due to export shifts

Sanctions against Russia and GDP development



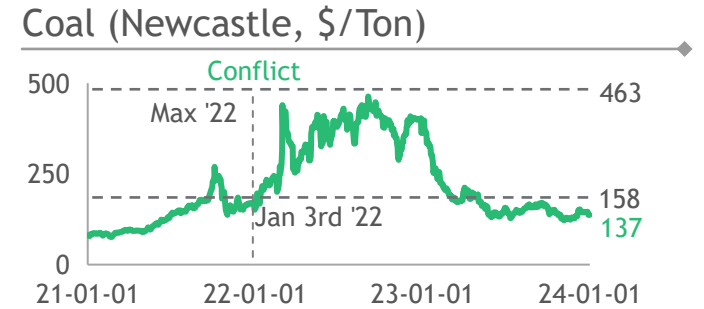
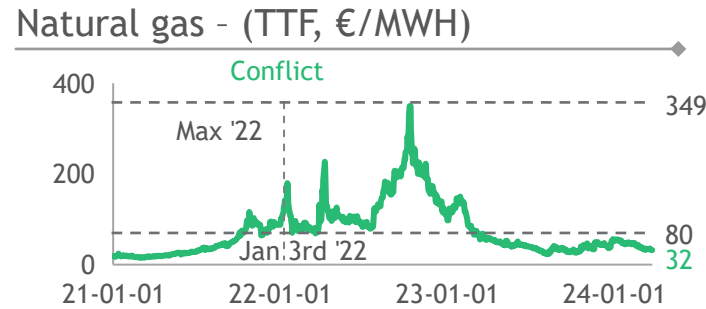
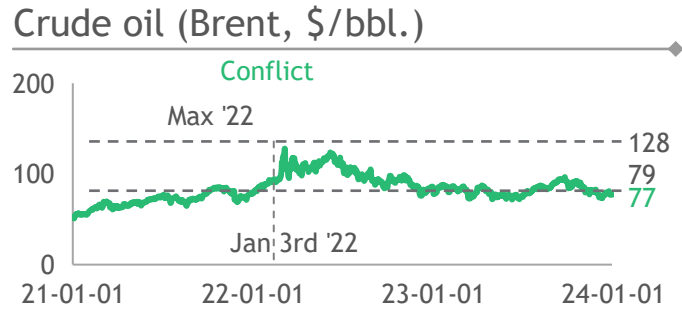
Russia export forecast by major partners



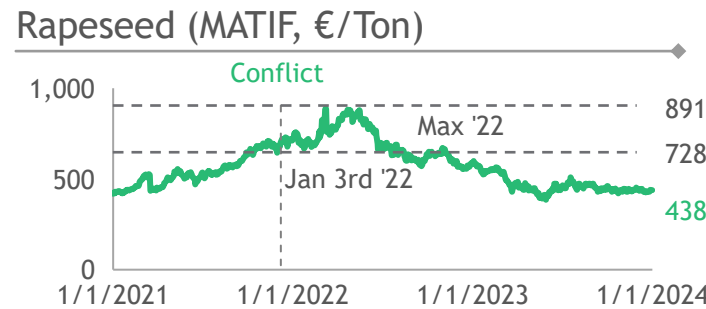
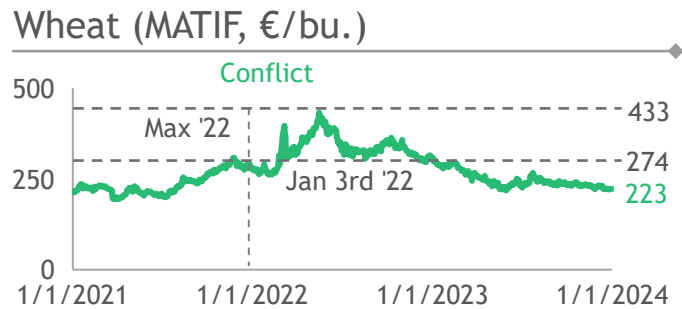
Note: Real GDP numbers in constant 2015 USD; Trade data based on China, EU, India, UK and US's reported trade with Russia from Jan 2021 to June 2022; inflation is not captured in the analysis; Source: IHS Markit; The World Bank; Stockholm International Peace Research Institute; BCG analysis

Backup | Evolution of key commodity prices, most at or below pre-crisis levels

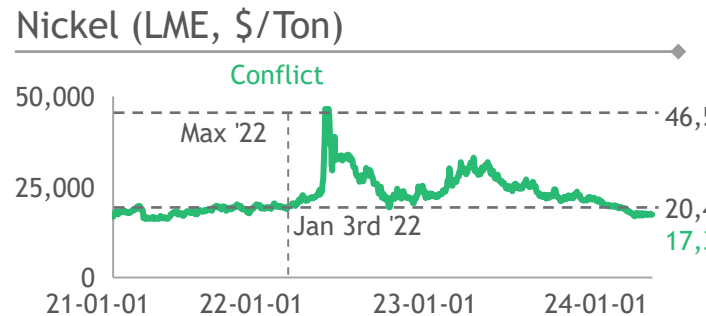
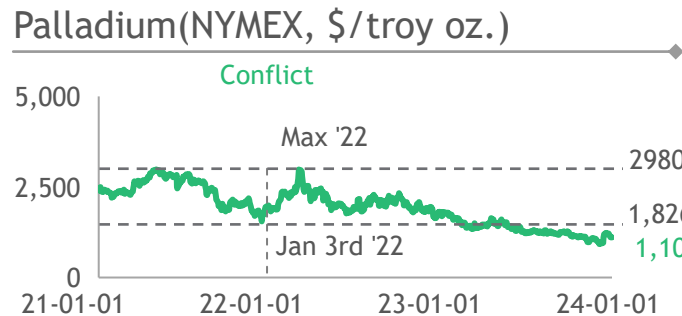
Hydrocarbons



Food



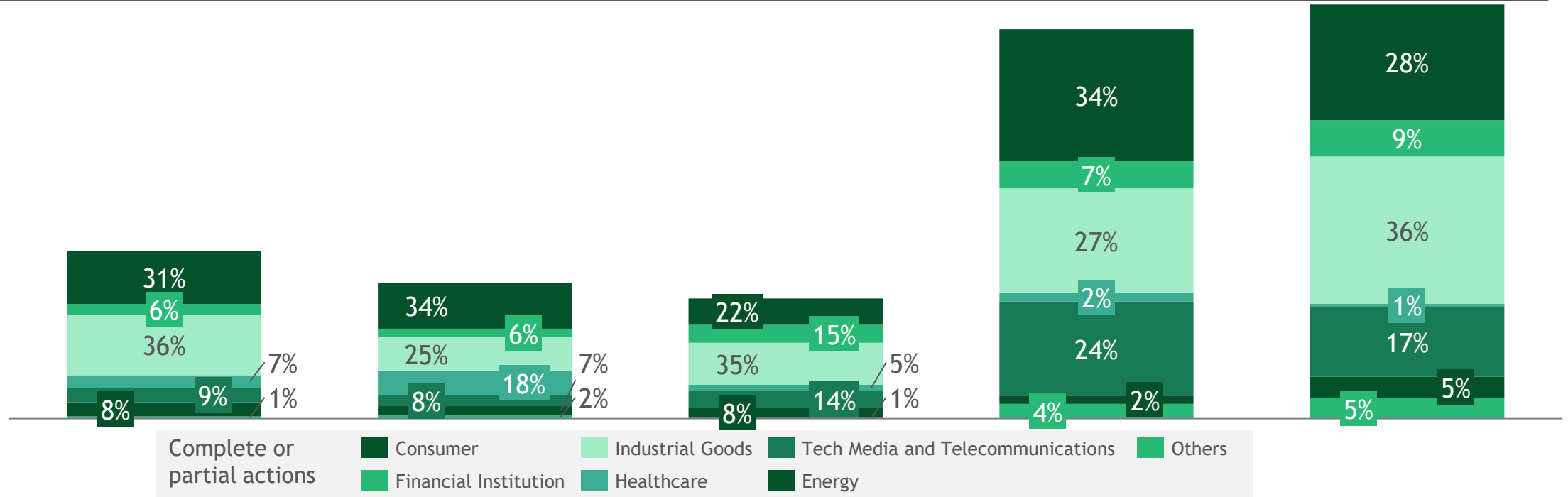
Metals



Backup | Global corporations taking continued action against Russia

Company announcements re: Russia market per Yale School of Management tracking (Feb '24)

	Remain in Russia w/ Significant Exposure	Suspend New Investments / Partnerships	Reduce Operations	Suspend Operations	Exit
# Companies	216	175	155	502	534
(Δ since Feb '23)	-26	-4	+3	+3	+17



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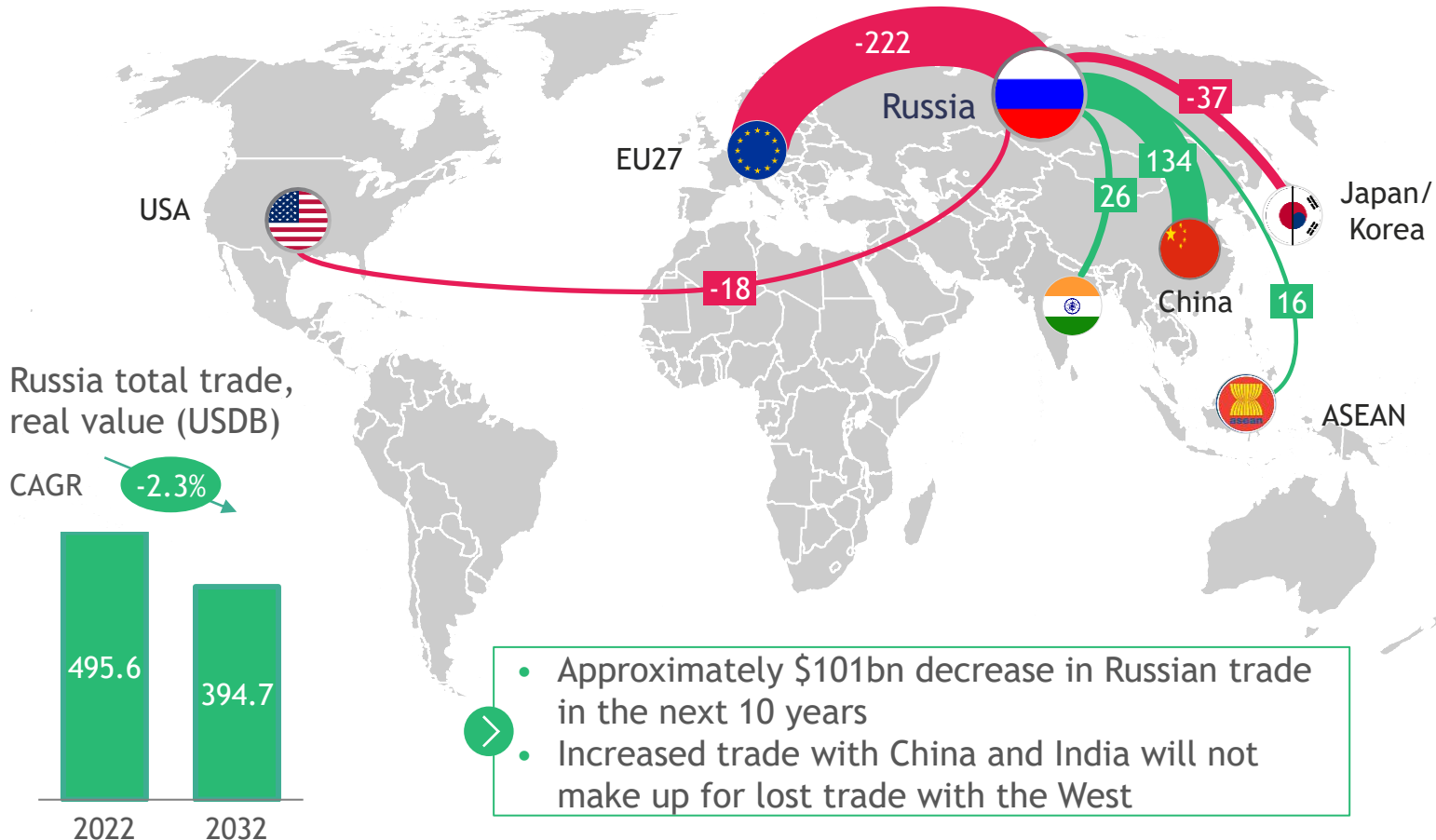
- › **Deep dive | Energy & geopolitical implications**

Perspective on future evolutions

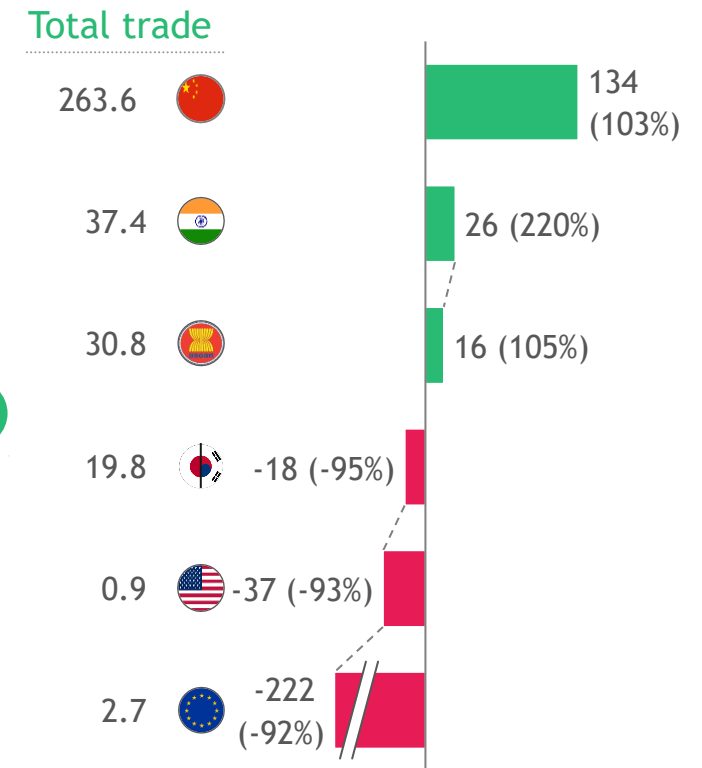
- › Potential evolutions & momentum
- › Implications for businesses

Russian export shift from West to East expected to continue

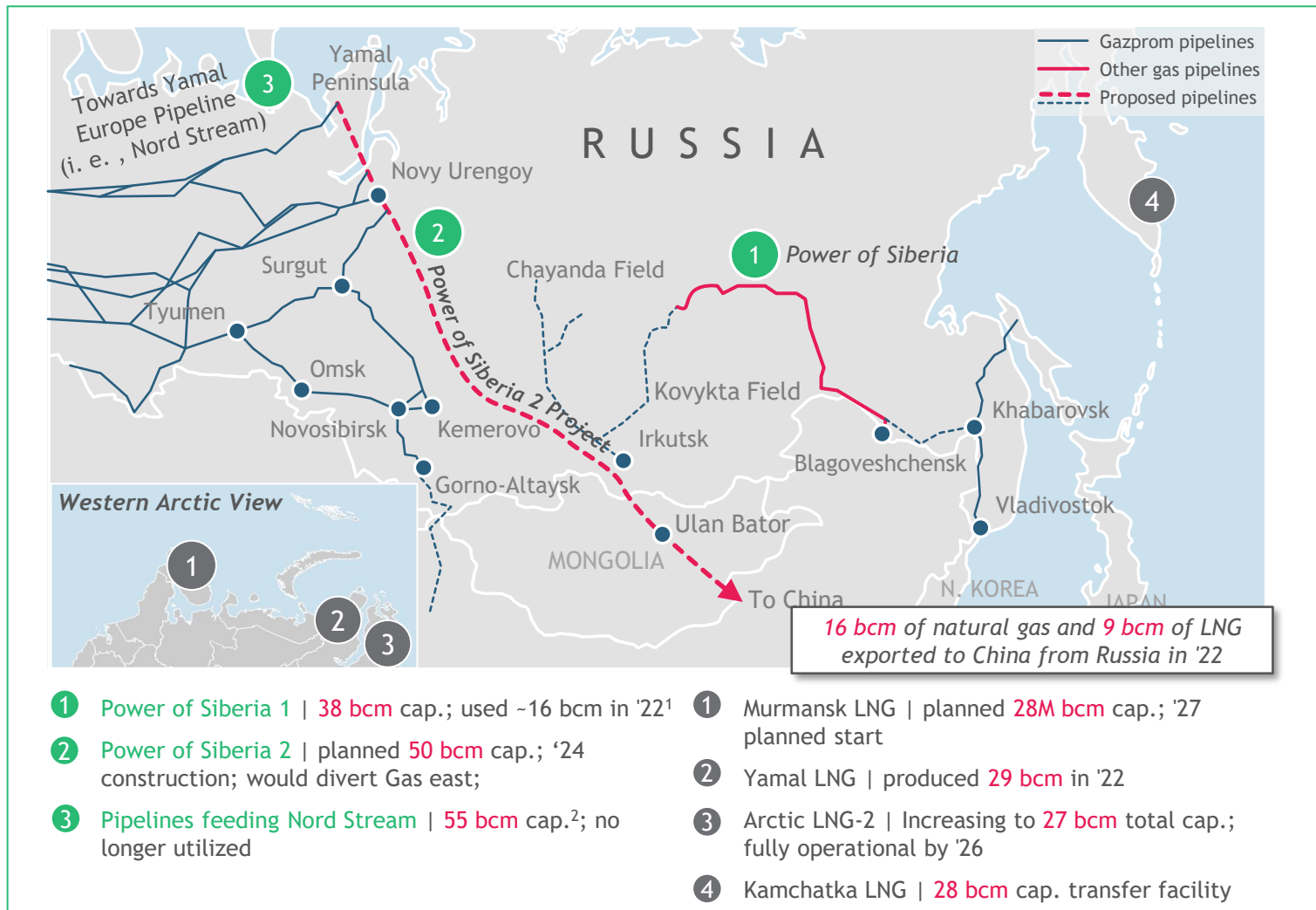
Russia change in goods trade 2022 vs. 2032 (2010 real USDbn)



Change in trade of goods 2022 vs. 2032, real USDB & % growth



Spotlight | Russian gas exports moving from West to East



Additional details

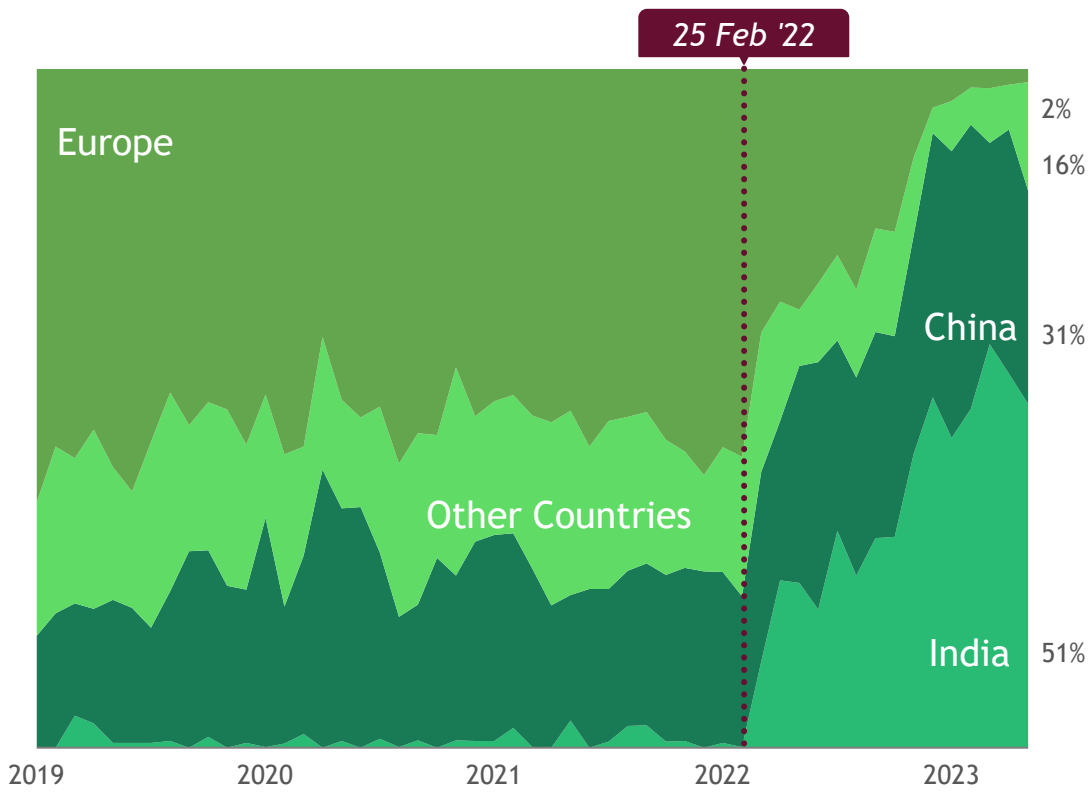
- ◆ China consumed 370 bcm gas in '22 w/ 41% foreign import dependency
- ◆ Chinese natural gas imports from Russia rose 54% in '22 to 16 bcm
- ◆ Interest in securing more gas capacity than needed for leverage
- ◆ Energy security w/ safer supply lines over land than sea routes
- ◆ Reduce reliance on the West by diversifying energy imports
- ◆ Strengthen Sino-Russian bilateral trade

1. Projections that 23 bcm used in '23 & full capacity reached in '25 2. Nord Stream 2 was completed in 2021 with 55 bcm capacity but never entered service
 Source: Financial Times; Petroleum Economist; Gazprom; Columbia University; Asia Society; Reuters; Interfax; High North News; BCG analysis

Spotlight | Russian crude exports shifting from West to East

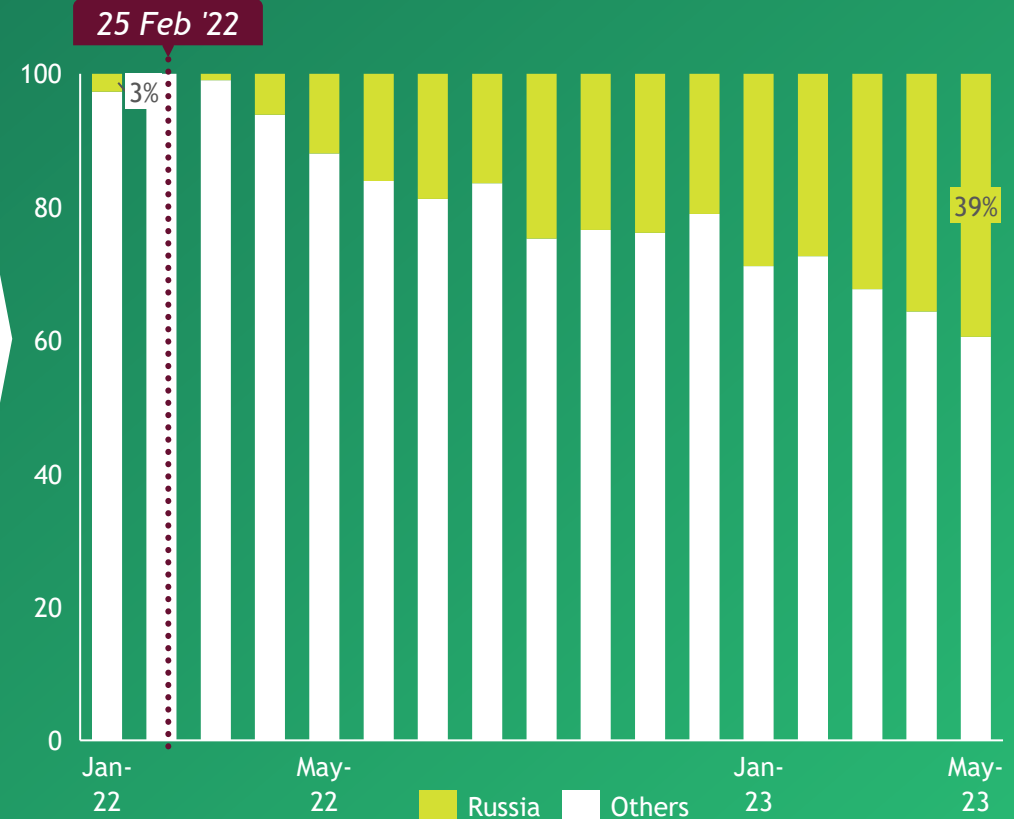
Shift in Russian oil exports towards India

Destination of Russian seaborne oil exports (%)



India increases share of Russian crude imports

% of Indian crude imports from Russia



Source: New York Times; Kpler; Ministry of Commerce; BGC analysis

Note: "Destination of Russian seaborne oil exports" graph replicated from New York Times graph which used Kpler data; data for both graphs through May '23

Ukraine war continues to have profound geopolitical consequences

	 <h2>NATO expansion</h2>	 <h2>Ukraine EU Accession</h2>	 <h2>US Support for Ukraine</h2>	 <h2>Russian Migration</h2>
What has happened	<ul style="list-style-type: none"> • Finland joined NATO in April '23 • Sweden expected to join mid-'24 	<ul style="list-style-type: none"> • EC opened accession negotiations, Dec '23 • Ukrainian reforms required to join 	<ul style="list-style-type: none"> • \$75B since Feb '22 • Focus military, gov, humanitarian needs 	<ul style="list-style-type: none"> • ~1M Russian emigrants since start of war • Most to Kazakhstan, Serbia, Armenia • Many to UAE, Türkiye, Georgia, etc.
What to watch out for	<ul style="list-style-type: none"> • Ukraine, Bosnia and Herzegovina, Georgia declared aspirations to join NATO 	<ul style="list-style-type: none"> • Concern at costs of reconstruction and integration • Hungarian opposition • EU reforms needed 	<ul style="list-style-type: none"> • Senate passed \$61B aid, Feb '23 • House vote uncertain 	<ul style="list-style-type: none"> • Economic impacts in destination countries (e.g., real estate) • Russian labor shortages in key sectors (e.g., IT)

Note: Select examples, not exhaustive. Other examples include shifts in Russian gold exports (to Dubai, then to India), trading hubs shifting (e.g., Dubai becomes major Russian oil trading hub), shifts in global maritime routes (e.g., length of trip), Central Asian Countries export patterns (e.g., semiconductors) shifting to help Russia dodge sanctions
 Source: NATO; New York Times; The Economist; Silk Road Studies; Financial Times; International Banker; Wall Street Journal; IMF; BCG Analysis

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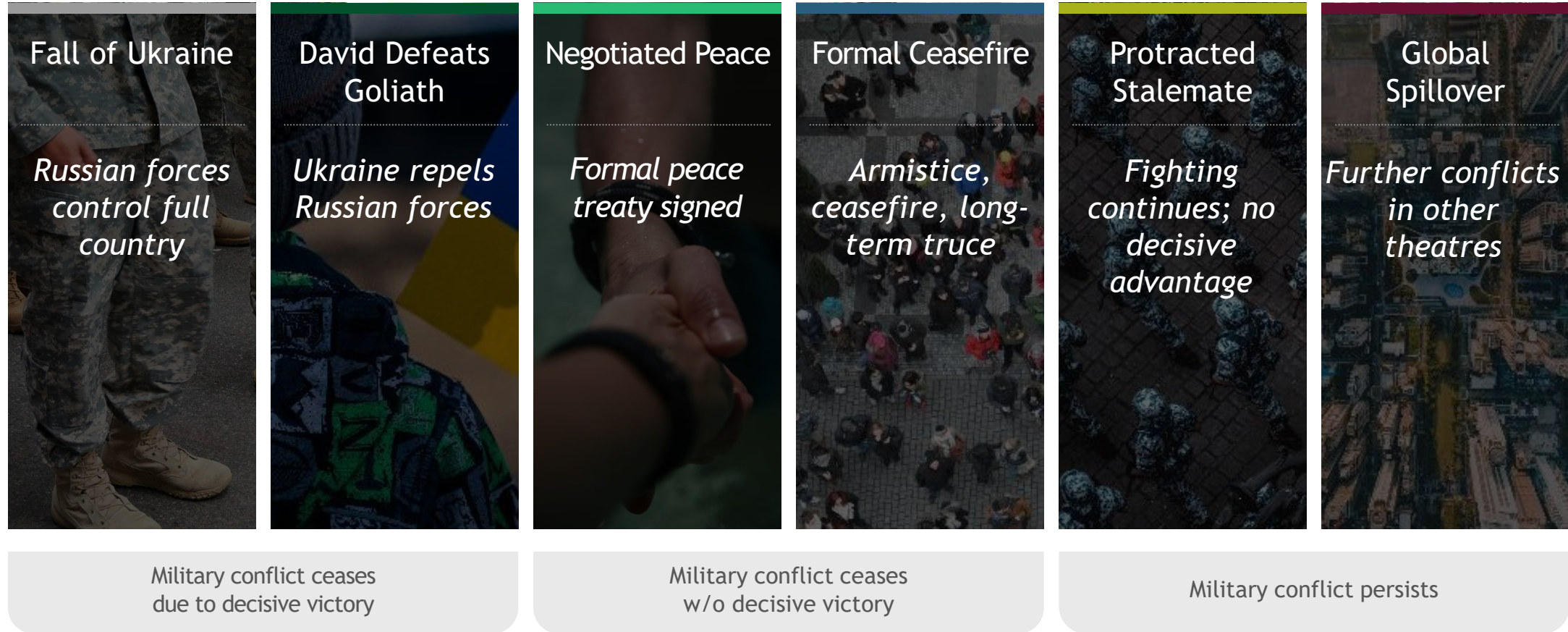
- › **Potential evolutions & momentum**
- › Implications for businesses

Evolutions are meant to enable thoughtful and expansive strategic discussions

What these evolutions <u>are</u>	What these evolutions <u>are not</u>	How to use them
 <p>Representative of a range of possible futures</p>	<p>Comprehensive or exhaustive</p>	 <p>Use the full set of evolutions as a basis for further reflection, and build them into your organization's decision making</p>
 <p>Stretched-but-plausible pictures of different potential worlds</p>	<p>Predictions of what the future will be</p>	 <p>Imagine what no-regret, contingent, or other reactions may be most appropriate for your business to build resilience and strengthen strategy</p>
 <p>A set of permutations of uncertainties; possible situations in which we might have to operate</p>	<p>A linear extrapolation of current trends and uncertainties</p>	 <p>Evolutions can be used as inputs to enable competitive simulation to explore a range of assumptions and dynamics</p>

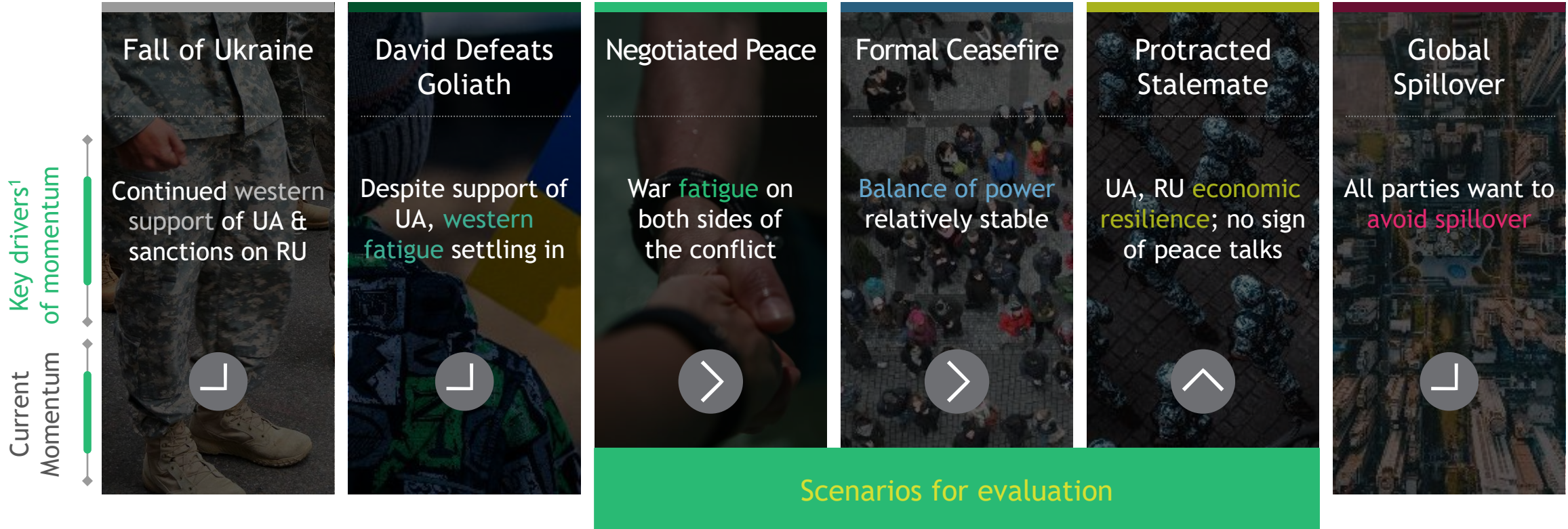
 *BCG does not endorse any of the laid-out evolutions in this document. They are meant as a thought exercise to help business leaders plan for uncertain future. The situation in Ukraine is volatile and changes on a daily basis*

Six potential evolutions to the war in UA



Current momentum of evolutions

Momentum as of Feb '24, 2024
Momentum may shift quickly



1. Categories of drivers of momentum are Military, Sanctions, Aid & Support, Peacemaking, and Domestic Conditions. The key drivers are representative drivers with a disproportionate effect on momentum of a given evolution.

Developments indicate momentum towards protracted stalemate

Momentum as of Feb '24, 2024
Momentum may shift quickly



Recent developments driving momentum



Military

- **Balance of power** remained relatively stable through late '23
- Recent **RU battlefield advances** (e.g., Avdiivka); UA drone strikes
- **Bilateral security agreements** signed between UA & NATO members



Sanctions

- **RU economy survived** sanctions & remained resilient
- West continuing to impose **additional rounds of sanctions (12 to date)**



Aid & support

- Continued **Western support of UA** (e.g., Feb '24 EU package)
- Western fatigue & **funding delays** (e.g., US aid held up in Congress)



Peace-making

- **Growing war fatigue** on both sides (e.g., UA appetite for all-out victory decline)
- All parties want to **avoid spillover**
- Persistent **lack of interest** by UA or RU in peace talks



Domestic conditions

- **RU, UA economic resilience**
- RU suppressing dissent; general **popular support of war**
- Continued **UA domestic support** for military & president (but some infighting)

Potential evolutions vary across these drivers

	Negotiated Peace	Formal Ceasefire	Protracted Stalemate
Military	Fighting ceases	Fighting ceases ; troops in position; no kinetic warfare	Fighting continues ; war of attrition
Sanctions	Certain sanctions lifted	Limited sanctions lifted	Sanctions remain
Aid & support	Aid towards extensive rebuilding	Limited military aid ; partial rebuilding begins	Western military aid to maintain UA positions
Peace-making	Formal peace treaty with extensive conditions	Formal agreement to suspend military conflict	No peacemaking in sight; evolving frontlines
Domestic conditions	RU leadership intact ; "normal" life returns to UA	Tension remains	RU "surviving" war; UA continues suffering

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- › **Implications for businesses**

Business impacts vary across evolutions and across dimensions

Business implications

	 <p>Negotiated Peace</p>	 <p>Formal Ceasefire</p>	 <p>Protracted Stalemate</p>
Global supply chains	Certain sanctions removed ¹ Supply chains stabilize	Limited sanctions removed Supply chains remain disrupted	Sanctions remain Commodity prices volatile Supply chain new normal
Cost of doing business	Dramatic drop in risk premiums ¹ (e.g., insurance, cost of capital)	Slight drop in risk premiums (e.g., insurance, cost of capital)	Institutional instability Risk premiums remain high (e.g., insurance, cost of capital)
Reconstruction & reengagement	Rebuilding & re-entry opp. in UA Limited RU re-entry opp. (for West)	Some rebuilding & re-entry opp. No RU re-entry opp. (for West)	Limited rebuilding opp. No re-entry into RU (for West)

1. Sanctions unlikely to be removed immediately - medium time horizon; Sources: expert interviews; BCG analysis

Four key current realities



Shocks have been absorbed

Supply chains have rearranged themselves to reflect new economic and geopolitical realities



Inflationary pressure down

Global commodity prices returned to pre-war levels; interest rate decreases planned



Reconstruction & reforms will begin

Western governments are planning for UA's reconstruction and pushing reforms needed for EU accession



Uncertainty will remain

Despite some stability, reality could shift rapidly based on evolving events

Leaders should consider



Embed scenarios into capital and strategic planning that encompass Ukraine conflict evolution



Model supply chain implications linked to scenarios and evolutions



Overlay geopolitical risk considerations into corporate-wide capital and strategic plans



Define signposts to monitor evolutions and adjust capital and strategic plans as required



Determine if your firm can harness Ukrainian talent displaced by the conflict



When appropriate, evaluate potential for your firm to participate in reconstruction of Ukraine

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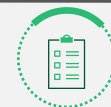
AGENDA

Experts involved

Consulting team members involved



Experts consulted include ...



Additional sources include



Georgina Baker
Senior Advisor
Washington, D.C.



Qahir Dhanani
Managing Director & Partner
Washington, D.C.



Tim Figures
Partner and Associate
Director, EU & Global Trade
and Investment
London



Pawel Godek
Partner
Warsaw



Marc Gilbert
Managing Director & Senior
Partner
Montreal



Alan Iny
Partner and Director,
Creativity & Scenarios
New York



Jacob Koch-Weser
Associate Director, Global
Trade & Investment
Boston



Nikolaus Lang
Global Leader—Global
Advantage Practice
Munich



Kasey Maggard
Global Practice Management
Executive Director—Global
Advantage
New York



Michael McAdoo
Partner and Director,
Global Trade & Investment
Montreal



Mark Poffley
Senior Advisor
London























Pattabi Seshadri
Managing Director & Senior
Partner
Dallas



Arturs Smilkstins
Managing Director & Partner
London



Jamie Webster
Partner and Associate
Director, Center for Energy
Impact
Seattle

-  **Asia Group**
-  **Bloomberg**
-  **Columbia University**
-  **Eurasia Group**
-  **Financial Times**
-  **Foreign Affairs**
-  **Foreign Policy**
-  **IMF**
-  **Times of India**
-  **Institute for the Study of War**
-  **The Indian Express**
-  **The New York Times**
-  **Petroleum Economist**
-  **S&P Capital IQ**
-  **The Economist**
-  **United Nations**
-  **Vortexa**
-  **The Wall Street Journal**
-  **The World Bank**
-  **Yale School of Management**