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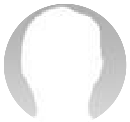
March 18, 2022 04:00 AM GMT

European Equities

Russia/Ukraine Conflict: Assessing the Impact Across Sectors

In this multifaceted report, our Research Analysts and Equity Strategists assess the cross-industry revenue, supply-chain and cost impacts from the Ukraine/Russia conflict. They identify additional key research on the topic and highlight idiosyncratic risks at the company level.

Contributors


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Morgan Stanley Research Europe
Equity Analyst
MorganStanley.Research@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Ross A MacDonald, CFA
Equity Strategist
+44 20 7425-0240
Ross.MacDonald@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Victoria A Greer
Equity Analyst
+44 20 7425-7944
Victoria.Greer@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Izabel Dobreva
Equity Analyst
+44 20 7677-5006
Izabel.Dobreva@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Alvaro Serrano
Equity Analyst
+44 20 7425-6942
Alvaro.Serrano@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Alistair M Woods
Research Associate
+44 20 7425-9583
Ali.Woods@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Miranda Shen
Research Associate
+44 20 7677-6982
Miranda.Shen@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Manfredi Bizzarri
Research Associate
+44 20 7425-0791
Manfredi.Bizzarri@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Charles L Webb
Equity Analyst
+44 20 7425-0234
Charlie.Webb@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Yubo Mao, CFA
Equity Analyst
+44 20 7425-3268
Yubo.Mao@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Tilly Eno
Research Associate
+44 20 7677-3662
Tilly.Eno@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Giorgio Magagnotti, CFA
Equity Strategist
+44 20 7425-1965
Giorgio.Magagnotti@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Chelsea E Tabe
Equity Strategist
+44 20 7677-2452
Chelsea.Tabe@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Shaqeal A Kirunda
Research Associate
+44 20 7425-0736
Shaqeal.Kirunda@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Giulia Aurora Miotto, CFA
Equity Analyst
+44 20 7425-5344
Giulia.Aurora.Miotto@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Vishal Shah
Research Associate
+44 20 7677-2743
Vishal.Shah6@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Edouard Aubin
Equity Analyst
+44 20 7425-3160
Edouard.Aubin@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Cedar Ekblom, CFA
Equity Analyst
+44 20 7425-4623
Cedar.Ekblom@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Anvesh Agrawal
Equity Analyst
+44 20 7425-4670
Anvesh.Agrawal@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Lisa H De Neve
Equity Analyst
+44 20 7677-0250
Lisa.De.Neve@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Rashad Kawan
Equity Analyst
+44 20 7677-3183
Rashad.Kawan@morganstanley.com


MORGAN STANLEY & CO INTERNATIONAL PLC (DIFC BRANCH)+
Nida Iqbal
Equity Analyst
+971 4 709-7103
Nida.Iqbal.Siddiqi@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Graham Secker
Equity Strategist
+44 20 7425-6188
Graham.Secker@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Harald C Hendrikse
Equity Analyst
+44 20 7425-6240
Harald.Hendrikse@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Magdalena L Stoklosa, CFA
Equity Analyst
+44 20 7425-3933
Magdalena.Stoklosa@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Antonio Reale
Equity Analyst
+44 20 7425-2138
Antonio.Reale@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Gulnara Saitkulova
Research Associate
+44 20 7677-0313
Gulnara.Saitkulova@morganstanley.com


MORGAN STANLEY EUROPE S.E.+
Elena Mariani
Equity Analyst
+39 02 7633-5434
Elena.Mariani@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Pam Liu
Equity Analyst
+44 20 7677-0978
Pam.Liu@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Madeleine Jobber
Research Associate
+44 20 7677-2441
Maddy.Jobber@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Pinar Ergun, CFA
Equity Analyst
+44 20 7425-6181
Pinar.Ergun@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Eli Kobzev, Ph.D.
Research Associate
+44 20 7677-0344
Eli.Kobzev@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Martijn Rats, CFA
Equity Analyst and Commodities Strategist
+44 20 7425-6618
Martijn.Rats@morganstanley.com

Contributors (cont.)


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Sasikanth Chilukuru, CFA
Equity Analyst
+44 20 7425-3016
Sasikanth.Chilukuru@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Miriam Josiah, CFA
Equity Analyst
+44 20 7677-8626
Miriam.Josiah@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Navina Rajan
Equity Analyst
+44 20 7677-2784
Navina.Rajan@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Adrija Chakraborty
Equity Analyst
+44 20 7425-6844
Adrija.Chakraborty1@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Tzer Siew
Research Associate
+44 20 7677-5846
Tzer.Siew@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Sandeep Peety
Equity Analyst
+44 20 7677-6242
Sandeep.Peety@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
George W Webb
Equity Analyst
+44 20 7425-2686
George.Webb@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Nawar Cristini
Equity Analyst
+44 20 7677-5571
Nawar.Cristini@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Nicolas J Mora
Equity Analyst
+44 20 7677-5376
Nicolas.Mora@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Arthur Sitbon, CFA
Equity Analyst
+44 20 7425-5371
Arthur.Sitbon@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Marina Fuentes Juan
Research Associate
+44 20 7425-2268
Marina.Fuentes.Juan@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Rachel Fletcher, Ph.D.
Equity Analyst
+44 20 7677-4089
Rachel.Fletcher@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Luke Holbrook
Equity Analyst
+44 20 7425-1882
Luke.Holbrook@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Jamie Rollo
Equity Analyst
+44 20 7425-3281
Jamie.Rollo@morganstanley.com


MORGAN STANLEY EUROPE S.E.+
Imogen Barker
Research Associate
+49 69 2166-2812
Imogen.Barker@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Alain Gabriel, CFA
Equity Analyst
+44 20 7425-8959
Alain.Gabriel@MorganStanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Adam Wood
Equity Analyst
+44 20 7425-4450
Adam.Wood@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Emmet B Kelly
Equity Analyst
+44 20 7425-6830
Emmet.Kelly@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Frederick T Brennan
Research Associate
+44 20 7425-4396
Frederick.Brennan@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Robert Pulleyn
Equity Analyst and Commodity Strategist
+44 20 7425-4388
Robert.Pulleyn@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Sarah E Lester, CFA
Research Associate
+44 20 7425-0551
Sarah.Lester@morganstanley.com

MORGAN STANLEY & CO. INTERNATIONAL PLC+
Ahmed Majid
Research Associate
+44 20 7677-3679
Ahmed.Majid@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Pete-Veikko Kujala
Equity Analyst
+44 20 7425-1626
Pete-Veikko.Kujala@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Ed Young
Equity Analyst
+44 20 7677-1761
Ed.Young@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Omar F Sheikh
Equity Analyst
+44 20 7677-5875
Omar.Sheikh@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Ioannis Masvoulas, CFA
Equity Analyst
+44 20 7425-0427
Ioannis.Masvoulas@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Alastair P Nolan
Equity Analyst
+44 20 7425-4620
Alastair.Nolan@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Terence Tsui
Equity Analyst
+44 20 7425-3095
Terence.Tsui@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Carolina Dores, CFA
Equity Analyst
+44 20 7677-7167
Carolina.Dores@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Christopher Laybutt
Equity Analyst
+44 20 7425-0392
Chris.Laybutt@morganstanley.com


MORGAN STANLEY & CO. INTERNATIONAL PLC+
Harrison Williams, CFA
Research Associate
+44 20 7425-6627
Harrison.Williams@morganstanley.com

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European Equity Strategy: Leveraging Our Global Exposure Guide

Giorgio Magagnotti, CFA, Graham Secker, Ross MacDonald, CFA, Chelsea Tabe

In this report, we combine top-down and bottom-up analysis to assess the cross-industry revenue, supply-chain and cost impacts from the Russia/Ukraine conflict. From a top-down perspective, we start with our European Strategy: Global Exposure Guide, a proprietary database that quantifies the regional revenue and cost exposure of European companies – see below for more details. Subsequently, and from a bottom-up perspective, our industry analysts discuss how they see recent events in Russia/Ukraine impacting their sector/companies in terms of revenues, cost exposure and supply-chain considerations. They also highlight key research they have published on these topics.

Overall, **European companies' revenue exposure to Russia is moderate at 1.6%** (Exhibit 6), with exposure to Emerging Europe ex Russia at 3.5% on aggregate. The Utilities (6.0%), Energy (3.7%), and Healthcare (1.6%) sectors have the highest exposure to Russia. At the industry group level, Media (4.0%) and HPC (2.7%) stand out in terms of revenue exposure. Looking at countries and associated exposure, Finland (11.6%) and Austria (7.6%) source the highest percentage of revenue from Russia among developed markets in Europe.

Key sector highlights

Autos – Supply-chain impact is limited to wire harnesses, but the situation is expected to be resolved relatively quickly (6-8 weeks). Potential risks to production stemming from raw materials sourcing (palladium, nickel and neon gas) are not holding back production currently. Revenue exposure to Russia is generally in the low single digits of sales, with only a few companies exposed through local businesses/JVs.

Banks – External claims on Russia look manageable, with c. €97bn of consolidated exposure of European banks to Russian residents, accounting for 73% of total foreign claims worldwide. Within this, exposures are split broadly evenly between local and international (offshore) positions, with overall figures highest in Austria, Italy and France. 2021 dividends look resilient and macro disruption, even in a bear case, is an earnings not a balance sheet issue.

Brands & Apparel Retail – Most companies have no direct sourcing exposure as c.90% of the finished goods of European luxury brands are manufactured in France and Italy, with the rest mostly located in Asia/US. Revenue exposure is limited across groups (2/3%). While negative sentiment resulting from the conflict among a broader consumer base, particularly in Europe, could be a major overhang, we have yet to see the trend materialising.

Building & Construction – Limited direct supply-chain issues and revenue exposure as companies generally operate as local businesses. The major overhang is on energy cost developments and indirect risk to volume trends in the region.

Business & Employment Services – The sector has mostly no or very limited direct supply-chain exposure stemming from the regions. In terms of revenue exposure, the greatest over-arching impact is a potential slowdown in economic growth.

Chemicals & Agriculture – In terms of direct supply chain, we do not see major risks to the traditional side of the sector beyond the need for energy (coal and gas procurement). Russia and Ukraine are in almost all instances small (<3%) in terms of direct sales and they are not material exporters of raw materials into the chemical value chain, with the exception of a few niche examples (e.g., palladium for auto catalysts).

Consumer Staples* – Geopolitical tensions have fuelled a spike in commodity prices, exacerbating the input cost pressures already felt across the sector, thus posing risks to consensus margins and earnings expectations. CCH (~20%) and Carlsberg (~15%) have the largest revenue exposure to Russia / Ukraine.

EEMEA Banks* – The CEE banks are most directly exposed to supply-chain disruptions from Russia/Ukraine. The key risks lie in higher inflation, increased cost inflation for corporates impacting profitability and slowdown in GDP growth. OTP Bank is most directly exposed through its local subsidiaries in Russia and Ukraine, which account for ~15% of PBT.

Energy & Energy Services* – Russia is a major producer and exporter of oil and gas and provides ~10% of the global supply of crude oil. It plays a particularly significant role in European gas supply, with ~35%

of natural gas imports into Europe coming from the country. The European oil majors have varying exposure to Russia and Russian oil and gas.

Internet* – The sector has limited direct supply-chain exposure. However, the repercussions on the economic environment, including the negative impact on consumer discretionary incomes, will affect companies across eCommerce, classifieds and food delivery. In terms of revenue exposure, Global Fashion Group (33%), Prosus/Naspers (11%) and ASOS (4%) are the most exposed names.

Leisure & Hotels – The main exposure is the indirect impact from rising food and fuel costs, and potential supply-chain disruption. TUI, Carnival Cruise Line and Royal Caribbean are most exposed to rising energy costs. For the broader sector, there is very little direct exposure to Russia or Ukraine (<2%).

Media – Direct exposure to Russia/Ukraine is immaterial for global advertising agencies, at ~1% of revenues for WPP and Publicis. If advertising spending is impacted by a squeeze on gross margins and/or a squeeze on consumer spending, we see agencies and media owners as exposed. For agency earnings, every 1% change in revenue growth typically moves EPS by ~1-1.5%. For media earnings, every 1% change in revenue growth typically moves EPS by ~2-4%.

Metals & Mining* – Russia makes a substantial contribution to global commodity markets. In production terms, it has the largest share in palladium and diamonds, both above 30%. Other key commodities are platinum (10%), nickel (7%) and aluminium (6%). In terms of exports, steel, thermal coal (20%) and metallurgical coal (10%) stand out. ArcelorMittal has direct exposure to Ukraine, where it produces c.5mt of crude steel and c.10-11mt iron ore mine; we estimate the total impact at ~5% of 2022 EBITDA. Glencore does not have operations in Russia and its trading exposure is not material.

Technology Software, IT Services & Payments – Our companies have relatively limited direct revenue exposure to affected geographies, with very low single-digit percentage end-customer revenue exposure (or zero) in most cases. Similarly, our coverage does not have physical supply chains tied into these regions, which suggests no material first-order impacts from this angle.

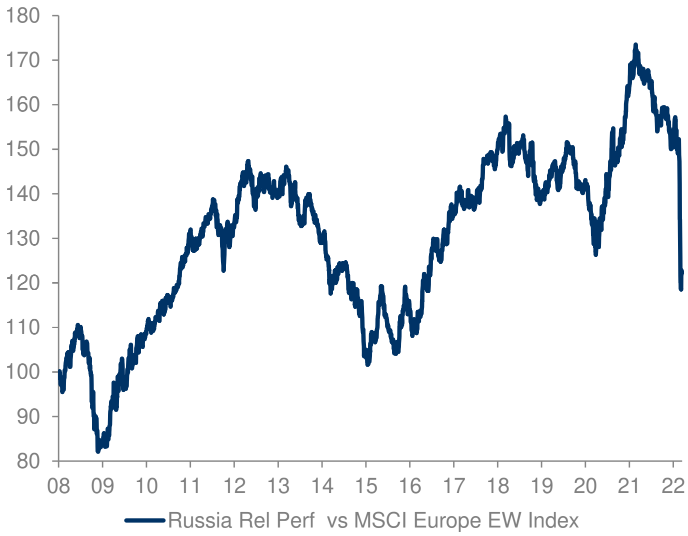
Telecommunications Services – European Telco operators do not have any direct supply-side exposure or direct revenue exposure to Russia and Ukraine.

Transport – Sanctions and reduced sailing to the Black Sea could put more constraints on sea freight, which is already at capacity. Moreover, higher oil prices could add to transportation costs, though this is a pass-through cost, so any margin squeeze should be temporary. Finally, the impact of the conflict on consumer confidence/demand (due to inflation or negative sentiment) could ease demand.

Utilities – The REPowerEU plan outlines measures to reduce Russian gas imports by 102bcm by the end of 2022, and 141-166bcm by the end of 2030 (versus Russian imports of 150-180bcm p.a.). It indicates that the EU could reach independence from Russian gas well before the end of the decade. Supporting documents highlight that gas storage is sufficient to fulfil current winter demand, even if gas supplies from Russia are interrupted. Enel is the only company under our coverage with direct revenues originating in Russia (we estimate <0.5% of revenues in 2022).

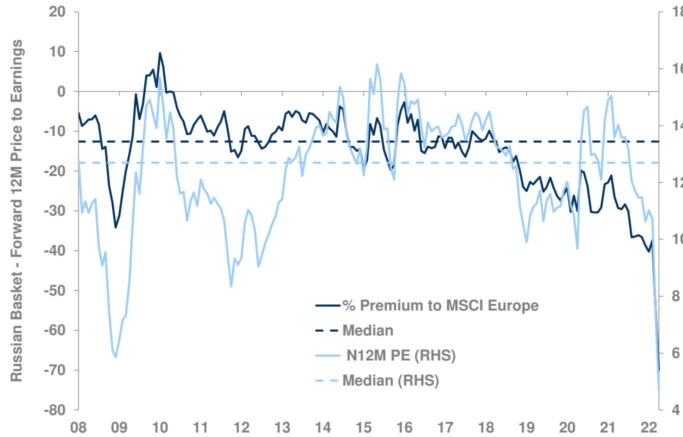
** Denotes industries that have relatively elevated supply-chain / revenue exposure to Russia/Ukraine.*

Exhibit 1: European companies with the highest Russia exposure (MSRERERU Index) have been significantly underperforming the broader market...



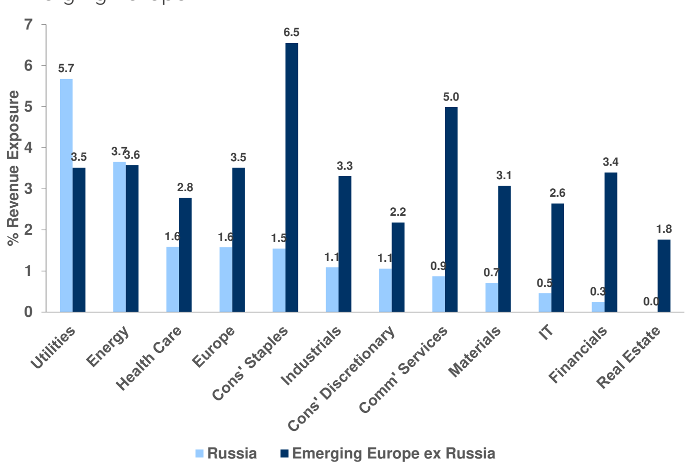
Source: MSCI, Morgan Stanley Research

Exhibit 2: ...pushing their relative valuations to new lows



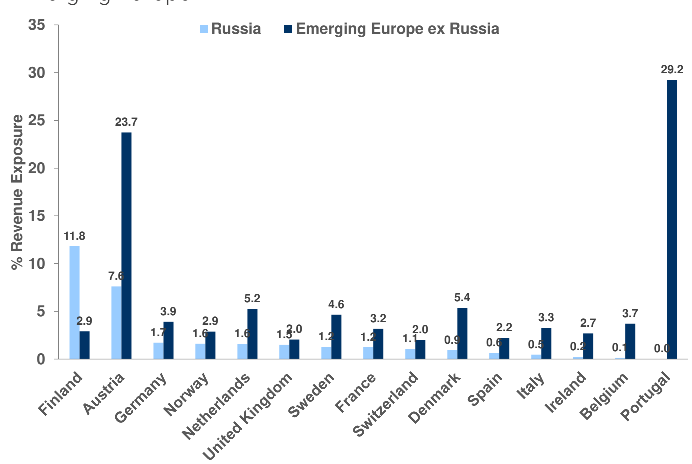
Source: MSCI, Morgan Stanley Research

Exhibit 3: Sector revenue exposure (2021e) to Russia and Emerging Europe



Source: MSCI, FactSet, Morgan Stanley Research

Exhibit 4: Country revenue exposure (2021e) to Russia and Emerging Europe



Source: MSCI, FactSet, Morgan Stanley Research. *Morgan Stanley has limited coverage of companies in Portugal; the substantial exposure to Emerging Europe ex Russia is linked to Jeronimo Martins, SGPS S.A.

Exhibit 5: West European companies with the highest revenue exposure to Central Europe & Russia

Company Name	Sector	Industry	Country	Market Cap $mn	Price (16-Mar-22)	MS Rating	% of 2021e revenues from CE Europe incl.Russia	% of 2021e revenues from Russia	Performance Since 24th Feb 2022: Returns	vs MSCI Europe	vs Sector Index
Jeronimo Martins, SGPS S.A.	Consumer Staples	Food & Staples Retailing	Portugal	13,455	€19.485	EW / I	**71.7**	-	4	6	8
Coca-Cola HBC AG	Consumer Staples	Beverages	Switzerland	7,638	£15.975	EW / I	**56.7**	**15.0**	-22	-20	-19
Wizz Air Holdings Plc	Industrials	Airlines	United Kingdom	3,711	£27.55	EW / A	**55.0**	-	-14	-12	-15
Erste Group Bank AG	Financials	Banks	Austria	13,932	€29.54	OW / A	**51.0**	-	-9	-7	-4
OMV AG	Energy	Oil Gas & Consumable Fuels	Austria	15,475	€43.09	EW / A	**50.9**	**14.9**	-6	-4	-5
Ferrovial, S.A.	Industrials	Construction & Engineering	Spain	19,973	€24.81	OW / I	**35.9**	-	7	9	6
KBC Group N.V.	Financials	Banks	Belgium	28,647	€62.62	EW / A	**35.1**	-	-5	-3	0
Uniper SE	Utilities	Independent Power and Renewable	Germany	8,690	€21.64	-	**35.0**	-	-24	-23	-24
Global Fashion Group S.A.	Consumer Discretionary	Internet & Direct Marketing Retail	Luxembourg	441	€1.825	EW / I	**33.0**	**31.0**	-35	-33	-29
Mondi plc	Materials	Paper & Forest Products	United Kingdom	9,054	£14.27	OW / I	**31.8**	**9.3**	-15	-13	-15
Carlsberg AS Class B	Consumer Staples	Beverages	Denmark	17,384	DKK771.4	EW / I	**30.8**	**10.9**	-21	-19	-18
Technip Energies NV	Energy	Energy Equipment & Services	France	1,935	€9.806	OW / I	**30.1**	**28.1**	-14	-12	-14
Outokumpu Oyj	Materials	Metals & Mining	Finland	2,258	€4.5030003	OW / I	**28.7**	-	-10	-8	-10
Fortum Oyj	Utilities	Electric Utilities	Finland	17,161	€17.605	-	**27.0**	-	-6	-4	-6
Worldline SA	Information Technology	IT Services	France	12,358	€40.155	EW / A	**26.0**	-	-14	-12	-11
Ipsen SA	Health Care	Pharmaceuticals	France	9,446	€102.7	UW / I	**23.0**	-	1	3	-2
NN Group N.V.	Financials	Insurance	Netherlands	14,940	€42.83	UW / A	**22.0**	-	0	2	5
E.ON SE	Utilities	Multi-Utilities	Germany	31,437	€10.846	UW / A	**21.0**	-	-6	-4	-5
Nokian Renkaat Oyj	Consumer Discretionary	Auto Components	Finland	2,542	€16.675	UW / I	**20.0**	**10.0**	-21	-19	-13
Swedbank AB Class A	Financials	Banks	Sweden	17,025	SEK144.62	EW / A	**19.1**	-	-6	-4	0
UniCredit S.p.A.	Financials	Banks	Italy	23,012	€9.63	OW / A	**19.1**	-	-21	-19	-16
ContourGlobal Plc	Utilities	Independent Power and Renewable	United Kingdom	1,608	£1.8759999	EW / A	**18.0**	-	5	7	5
Buzzi Unicem S.p.A.	Materials	Construction Materials	Italy	3,777	€17.87	UW / I	**17.8**	**5.7**	6	8	6
Rockwool International A/S Class B	Industrials	Building Products	Denmark	7,132	DKK2249	UW / I	**17.3**	-	-2	0	-4
Orkla ASA	Consumer Staples	Food Products	Norway	8,630	NOK77.64	-	**17.2**	-	-6	-4	-2
Elis SA	Industrials	Commercial Services & Supplies	France	3,160	€12.85	OW / I	**17.0**	-	-12	-11	-13
Warehouses De Pauw SCA	Real Estate	Equity Real Estate Investment Trus	Belgium	7,137	€34.98	EW / I	**17.0**	-	4	6	3
Kingfisher Plc	Consumer Discretionary	Specialty Retail	United Kingdom	7,432	£2.7779999	EW / I	**16.3**	-	-6	-4	3
HeidelbergCement AG	Materials	Construction Materials	Germany	11,963	€56.46	EW / I	**16.0**	-	-1	2	0
Aperam SA	Materials	Metals & Mining	Luxembourg	3,607	€41.09	EW / I	**15.9**	-	-14	-12	-13
Wienerberger AG	Materials	Construction Materials	Austria	3,524	€27.88	EW / I	**15.6**	-	8	10	8
Henkel AG & Co. KGaA Pref	Consumer Staples	Household Products	Germany	30,459	€64.44	EW / I	**15.2**	**6.5**	-7	-5	-3
DSV A/S	Industrials	Air Freight & Logistics	Denmark	45,095	DKK1274	EW / I	**15.0**	-	11	13	10
Boliden AB	Materials	Metals & Mining	Sweden	12,063	SEK424.1	EW / I	**14.3**	-	6	8	6
Saipem S.p.A.	Energy	Energy Equipment & Services	Italy	1,089	€0.9818	EW / I	**14.1**	**6.7**	-4	-2	-3
Renault SA	Consumer Discretionary	Automobiles	France	7,461	€22.99	OW / I	**14.0**	**5.0**	-21	-20	-14
Ryanair Holdings Plc	Industrials	Airlines	Ireland	17,261	€13.865	OW / A	**13.0**	-	-11	-9	-12
Gestamp Automocion S.A.	Consumer Discretionary	Auto Components	Spain	1,938	€3.068	EW / I	**13.0**	-	-17	-15	-9
ArcelorMittal SA	Materials	Metals & Mining	Luxembourg	28,167	€27.37	OW / I	**13.0**	-	10	12	10
Ontex Group N.V.	Consumer Staples	Personal Products	Belgium	634	€7.015	-	**13.0**	-	13	15	17
NIBE Industrier AB Class B	Industrials	Building Products	Sweden	17,611	SEK94.98	EW / I	**12.9**	-	23	26	22
GEA Group AG	Industrials	Machinery	Germany	7,477	€37.75	EW / C	**12.9**	**3.0**	-2	0	-3
Societe Generale S.A. Class A	Financials	Banks	France	21,174	€23.05	OW / A	**12.7**	-	-16	-14	-11
Epiroc AB Class A	Industrials	Machinery	Sweden	24,956	SEK207.8	EW / C	**12.0**	**7.2**	15	18	14
Telia Company AB	Communication Services	Diversified Telecommunication Ser	Sweden	15,551	SEK36.565	UW / A	**12.0**	-	5	7	6
Danone SA	Consumer Staples	Food Products	France	39,814	€52.76	EW / I	-	**6.0**	-2	0	2
British American Tobacco p.l.c.	Consumer Staples	Tobacco	United Kingdom	92,262	£30.865	OW / I	-	**5.0**	-4	-2	-1
Siemens Energy AG	Industrials	Electrical Equipment	Germany	16,865	€21.15	EW / C	-	**2.0**	9	11	7

Source: MSCI, Morgan Stanley Research. For important disclosures regarding covered companies that are the subject of this screen, please see the Morgan Stanley Research Disclosure Website at www.morgan-stanley.com/researchdisclosures. For important disclosures regarding non-covered companies that are the subject of this screen, please refer to the Disclosure Section, located at the end of this report.

Exhibit 6: Detailed 2021 revenue breakdown (% of total revenue) by region

2021e Revenue Breakdown (% of Total Revenue) by Region

	Developed Europe				Emerging Europe		Middle East & Africa		Asia Pacific					North America		Latin America	
	Developed Europe	UK	GIIPS	Developed Europe ex UK ex GIIPS	Emerging Europe ex Russia	Russia	Middle East	Africa	China	Japan	India	Australasia	Asia Pacific ex Japan ex China ex India ex Australasia	US	Canada	Brazil	Latin America ex Brazil
Europe	**46.1**	**9.8**	**7.1**	**29.2**	**3.5**	**1.6**	**2.5**	**2.0**	**7.7**	**2.1**	**1.3**	**1.2**	**5.7**	**19.1**	**1.4**	**2.4**	**3.5**
Sector																	
Communication Services	61.1	11.2	10.2	39.7	5.0	0.9	1.1	2.9	0.6	0.1	0.1	0.4	2.1	19.8	0.3	2.7	2.9
Consumer Discretionary	45.0	9.9	7.1	28.0	2.2	1.1	1.6	0.6	10.9	2.2	0.2	0.8	5.7	22.5	2.0	3.3	1.9
Consumer Staples	45.3	18.3	6.6	20.5	6.5	1.5	1.6	2.0	4.0	0.8	1.5	1.2	4.9	18.8	1.1	3.9	6.7
Energy	16.2	1.8	2.9	11.4	3.6	3.7	9.3	7.2	11.7	3.2	4.4	1.3	11.3	17.1	2.1	3.8	5.2
Financials	65.6	17.0	12.4	36.3	3.4	0.3	1.0	0.6	1.6	1.2	0.5	1.1	5.7	14.0	0.9	1.2	3.0
Health Care	28.4	4.6	3.6	20.2	2.8	1.6	1.0	1.1	6.6	4.7	1.4	1.8	4.8	38.4	2.2	1.9	3.3
Industrials	45.3	7.4	5.4	32.5	3.3	1.1	3.7	1.8	6.5	1.8	1.8	2.1	4.1	21.7	2.0	1.8	3.0
Information Technology	37.4	6.7	3.3	27.5	2.6	0.5	2.0	1.0	9.4	3.2	1.8	1.3	13.1	22.0	1.6	1.0	3.2
Materials	32.5	2.0	1.2	29.2	3.1	0.7	1.3	2.7	22.0	4.6	1.4	0.7	7.3	18.8	1.0	1.4	2.5
Real Estate	95.5	17.9	10.7	67.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0
Utilities	75.7	14.0	15.8	45.9	3.5	5.7	0.7	0.6	0.2	0.1	0.2	0.6	0.5	5.0	0.0	2.3	4.7
Industry Groups																	
Automobiles & Components	42.9	5.0	7.6	30.2	2.1	1.1	1.5	0.6	10.5	2.3	0.1	0.2	4.9	25.7	2.0	4.1	2.0
Banks	67.2	16.5	18.4	32.2	5.8	0.6	1.5	1.3	0.9	0.4	0.7	0.3	7.4	6.9	0.0	2.4	4.6
Capital Goods	43.7	7.7	5.3	30.8	3.7	1.3	4.0	1.6	7.1	1.6	1.7	2.3	3.9	22.4	2.4	1.5	2.7
Commercial & Professional Services	50.1	7.9	7.0	35.2	0.7	0.7	1.5	1.1	2.6	2.2	0.8	3.5	3.3	27.2	1.6	1.1	3.4
Consumer Durables & Apparel	29.4	11.5	5.9	12.0	1.3	1.0	1.7	0.6	25.0	4.0	0.6	1.8	9.7	19.2	2.2	1.5	2.1
Consumer Services	48.9	19.7	4.9	24.4	1.6	0.0	0.8	0.8	1.5	1.0	0.2	4.2	1.8	31.3	3.2	3.6	1.1
Diversified Financials	67.1	37.9	2.0	27.2	1.0	0.3	0.7	0.1	3.4	1.2	1.8	0.6	4.2	18.8	0.2	0.2	0.5
Energy	16.2	1.8	2.9	11.4	3.6	3.7	9.3	7.2	11.7	3.2	4.4	1.3	11.3	17.1	2.1	3.8	5.2
Food & Staples Retailing	68.5	34.5	6.6	27.4	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	12.9	0.0	3.4	5.3
Food Beverage & Tobacco	29.5	7.6	6.8	15.0	4.3	2.6	2.2	4.2	5.5	1.2	1.5	2.0	7.3	24.4	2.1	4.8	8.4
Health Care Equipment & Services	32.9	5.1	0.5	27.4	1.5	0.2	0.5	0.7	6.7	1.8	0.5	2.5	7.8	40.3	1.5	0.2	3.0
Household & Personal Products	27.2	4.5	6.0	16.7	4.9	2.7	4.0	1.6	9.7	1.8	5.0	2.2	9.5	20.1	1.7	3.2	6.1
Insurance	64.3	12.3	11.2	40.9	2.5	0.0	0.7	0.3	1.7	1.8	0.0	1.8	5.0	17.2	1.5	0.7	2.6
Materials	32.5	2.0	1.2	29.2	3.1	0.7	1.3	2.7	22.0	4.6	1.4	0.7	7.3	18.8	1.0	1.4	2.5
Media & Entertainment	55.2	9.8	5.9	39.5	1.9	4.0	1.3	1.4	3.0	0.5	0.6	1.6	2.7	22.6	1.3	3.3	0.7
Pharmaceuticals Biotechnology & Life Sciences	26.4	4.3	4.9	17.2	3.3	2.2	1.3	1.3	6.6	5.9	1.8	1.6	3.6	37.6	2.4	2.7	3.4
Real Estate	95.5	17.9	10.7	67.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0
Retailing	71.5	28.9	6.6	36.0	3.9	1.1	2.5	0.3	1.7	0.4	0.2	1.7	6.9	6.2	1.1	0.9	1.5
Semiconductors & Semiconductor Equipment	14.9	0.7	0.0	14.2	1.7	0.0	0.2	0.2	25.6	5.1	0.4	0.0	36.9	14.7	0.0	0.0	0.4
Software & Services	55.4	11.5	6.5	37.4	3.9	0.7	0.9	0.7	2.1	1.9	1.2	1.3	2.4	23.2	1.9	1.9	2.5
Technology Hardware & Equipment	29.6	4.4	1.3	23.9	1.6	0.5	5.3	2.1	6.5	3.5	3.9	2.4	8.4	26.6	2.5	0.6	6.6
Telecommunication Services	62.7	11.5	11.4	39.8	5.8	0.0	1.1	3.4	0.0	0.0	0.0	0.0	2.0	19.0	0.0	2.5	3.5
Transportation	48.3	6.5	4.8	37.1	3.1	0.5	3.8	2.6	6.3	2.6	2.7	0.7	5.3	16.1	1.0	3.0	4.0
Utilities	75.7	14.0	15.8	45.9	3.5	5.7	0.7	0.6	0.2	0.1	0.2	0.6	0.5	5.0	0.0	2.3	4.7
Countries																	
Austria	38.5	0.7	0.2	37.6	23.7	7.6	4.4	1.6	6.6	0.0	0.0	3.1	6.1	6.1	0.0	0.0	2.2
Belgium	37.7	1.9	1.1	34.7	3.7	0.1	0.8	3.8	6.4	0.8	0.8	0.2	4.7	19.6	1.7	5.5	14.1
Denmark	39.3	7.1	2.3	29.9	5.4	0.9	2.1	3.5	6.5	1.1	0.7	2.3	7.8	23.5	1.5	2.2	3.3
Finland	61.4	1.4	0.6	59.4	2.9	11.8	1.3	0.5	3.9	0.6	1.4	0.7	3.3	9.0	0.8	0.4	1.9
France	51.2	4.4	5.9	40.9	3.2	1.2	3.2	2.0	6.6	2.0	1.3	1.0	5.1	15.3	1.2	2.4	4.2
Germany	49.1	5.2	5.6	38.3	3.9	1.7	1.7	0.7	7.4	3.1	0.8	0.9	4.9	20.4	1.5	1.7	2.3
Ireland	45.5	18.6	10.5	16.4	2.7	0.2	0.3	0.3	0.4	0.3	0.5	3.3	2.4	40.5	1.6	1.2	0.9
Italy	51.3	1.5	29.0	20.8	3.3	0.5	1.8	6.0	2.2	0.4	0.2	0.4	1.9	25.8	0.3	3.6	2.4
Netherlands	40.7	3.0	3.3	34.5	5.2	1.6	0.8	0.7	4.1	1.6	0.5	1.3	10.8	28.6	0.8	1.1	2.2
Norway	37.3	2.6	2.6	32.2	2.9	1.6	4.9	2.6	7.8	2.2	3.3	0.7	13.3	13.5	1.4	4.4	3.9
Portugal	27.3	0.0	12.4	14.9	29.2	0.0	0.0	3.1	0.0	0.0	0.0	0.0	0.0	5.9	0.0	32.5	2.0
Spain	48.4	7.3	26.5	14.6	2.2	0.6	2.3	1.0	2.8	0.9	1.1	2.0	3.1	14.6	1.0	7.9	12.0
Sweden	46.6	4.5	2.5	39.5	4.6	1.2	2.1	1.3	7.8	1.7	1.3	1.9	5.2	18.7	2.4	1.6	3.6
Switzerland	35.2	4.0	4.1	27.1	2.0	1.1	1.6	2.2	16.6	2.3	1.1	1.2	6.0	25.6	1.0	1.3	2.8
United Kingdom	43.6	28.7	3.7	11.1	2.0	1.5	3.8	2.4	9.4	2.5	2.5	1.4	7.5	17.4	1.9	1.4	2.6

Source: Morgan Stanley Research. Note: Data refer to our analysts' 2021 estimates, based on company information in combination with their estimates where disclosure is insufficiently detailed.

Summarising the Impact by Sector

In this section, our industry analysts highlight the revenue, supply-chain and cost impacts from the Ukraine/Russia conflict at a high level. They focus on direct exposure to Ukraine and Russia, as well as more indirect exposure to broader European consumer/corporate demand. In the sections that follow, which span ~20 individual industries, our analysts discuss these dynamics in more detail, dive into associated risks at the company level, and reference key research they have published on these topics.

Autos

- **Key takeaways:**
    - Wire harnesses for cars and carbon black for tyres are the key supply constraints, although both should be resolved relatively quickly, we believe. Further supply uncertainties around key metals such as palladium and nickel, as well as neon gas for semiconductors, could be a risk to production in time. Ultimately, the impact on demand is the key question – we think the sector is pricing in a move to ~50 PMIs, but not (yet?) a deeper recession.
- **Associated reports:**
    - Autos & Shared Mobility: Big Auto Data – cheaper, but uncertainty remains high. Reduce car sales forecasts.
    - Michelin: Backing pricing power
    - Autos & Shared Mobility: Production - VW/BMW announce some shutdowns
    - Autos & Auto Parts: Oversold, but too much uncertainty for now

Banks

- **Key takeaways:**
    - The Russia-Ukraine conflict has triggered economic disruptions on many levels. Banks as macro proxies have been tested by the market for direct exposures, for stagflationary risks. With the sector down c. 20% since the February peak, we watch a few potential risk channels: market, liquidity, credit and operational. In short term, operational risks stand out as banks implement their responses to sanctions. Wider credit risk, in our mind, is macro path dependent and longer dated, and direct exposures are now clearer. Market discussion is moving toward understanding and assessing the nature of second-order impacts.
    - Exposures look manageable for banks under our coverage. At the system level, the BIS reports c. €97bn of consolidated exposure of European banks to Russian residents, accounting for 73% of total foreign claims worldwide. Austria, Italy and France are most exposed.
    - Capital looks resilient: on our sector coverage, banks currently have c. 500bps of excess capital over minimum requirements. Stress testing for bear case scenarios, we see c. 60-100bps of capital impacts for most exposed banks, leaving a healthy 400-300bp headroom to MDA for European banks. Our stress test also shows 2021 dividends to be resilient. In terms of buybacks, we expect flexibility, particularly for banks with larger exposures.
- **Associated reports:**
    - Banks: Assessing Capital Resilience
    - Banks: Balancing the Risks

Brands & Apparel Retail

- **Key takeaways:**
    - European Brands and Apparel Retail companies have limited top-line/supply-chain exposure to Russia and Ukraine. On the top line, most of the companies we cover have less than 3% exposure; the most exposed names are Inditex (c.5% exposure to Russian and Ukrainian nationals) and Dufry (c.5%). Crucially and somewhat counter-intuitively, the overall importance of Russia and Russian nationals for the Luxury Goods sector has gone down over the year and is relatively immaterial today. On supply chains, companies under our coverage tend to concentrate their supply chain either around their headquarters (for example, France/Italy for luxury names and Spain for Inditex) or in Asia (Vietnam and China for sportswear brands and general retail companies).
    - The key risk to watch would be the spill-over effect of the geopolitical conflict to broader consumer sentiment in Europe. So far, we see a limited impact. Meanwhile, for Apparel Retail names, we think rising cost inflation resulting from the conflict may put further pressure on margins due to lack of pricing power.
- **Associated reports:**
    - Russian exposure - Luxury Goods and Sporting Goods
    - Apparel Retail: Shein Threat Persisting, Cost Inflation Biting

Building & Construction

- **Key takeaways:**
  - On direct supply chains, we do not see major risks. Companies we cover operate as local businesses. This means that, even for those with exposure to Russia/Ukraine, costs and revenues are generated in local markets, with local buyers and sellers.
  - We see risks coming from indirect links to Russia in the form of higher energy costs: geopolitical tensions have fuelled a spike in energy prices, exacerbating the input cost pressures already felt across the sector. We think this will have the most negative impact on companies with the highest exposure to energy costs, such as Rockwool and Buzzi.
  - Overall, we see risks on energy supply, costs and overall growth in Europe. Hence, an indirect risk to volumes trends in the region for the most exposed.
- **Associated reports:**
  - Building & Construction: EU targets improved energy efficiency to deliver energy security
  - Building & Construction: Price/cost - it's got a lot tougher

Business & Employment Services

- **Key takeaways:**
  - Direct exposure across the sector to Russia and Ukraine is very limited (sub 2%). However, if the current events lead to dislocation of supply chains and/or a global trade and economic slowdown, it would affect a number of companies in our sector. Temp staffing demand is vulnerable to production cuts; testing & inspection companies could experience headwinds from dislocation in global trade and commodities exports. From a cost perspective, Elis and DCC have exposure to higher gas prices and Rentokil to higher fuel/chemical costs. Structurally higher defence spend would be positive for Babcock. Growth for the likes of Bunzl and Securitas could prove relatively defensive.
- **Associated reports:**
  - Business Services: Staffers scenario
  - Business Services: Big Debate #16 - Inflation, Supply Chains and China

Chemicals & Agriculture

- **Key takeaways:**
  - In terms of direct supply chain, we do not see any major risks to the traditional side of the sector beyond the need for energy, i.e. coal and gas procurement. Russia and Ukraine are in almost all instances small (<3%) in terms of direct sales; similarly, they are not material exporters of raw materials into the chemical value chain, with the exception of a few niche examples such as palladium for auto catalysts.
  - The key risks are therefore indirect, in the form of higher energy costs, which have elevated the European chemical cost curve. While this has not yet become an issue – companies have largely been able to pass on these higher costs to their customers – it does raise the question of how competitive EU chemical production can be and what returns companies will be able to generate from their European assets through the next cycle, especially when the consumer backdrop dissipates.
  - Overall, we see the biggest risk to the sector coming from a potential slowdown in economics growth and consumer triggered by elevated inflation in Europe – posing an indirect risk to volume trends in the region for the most exposed companies.
- **Associated reports:**
  - European Fertilizers: Gauging the exposure to Eastern Europe and Agriculture: Russia to halt fertilizer exports
  - European Fertilizers vs Oil Prices
  - Yara: Raw material sourcing review and Yara: Second round of curtailments

Consumer Staples

- **Key takeaways:**
  - Geopolitical tensions have fuelled a spike in commodity prices, exacerbating the input cost pressures already felt across Consumer Staples. If this persists, we see input cost pressures lingering for the rest of 2022 and into 2023, posing risks to consensus margins and earnings expectations.
  - A sharp rise in cost of living for consumers is likely to drive both demand destruction and downtrading. We are particularly concerned about consumer purchasing power in EMs, where the share of consumer expenditure on food is significantly higher.
  - For companies with exposure to Russia and Ukraine, the operational and trading conditions have sharply deteriorated. A number of companies (CCH, BAT, Imperial Brands) have suspended operations in Russia.
  - Among our coverage, CCH (~20%) and Carlsberg (~15%) have the highest revenue exposure to Russia and

Ukraine. We recently wrote on their challenging operating conditions, incoming earnings downgrades and low visibility.

- **Associated reports:**
  - Consumer Staples: Commodity Cost Tracker - February 2022
  - Food Producers: Rising Food Prices: Implications
  - Carlsberg A/S: No smooth sailing
  - Coca Cola HBC AG: Navigating the Unknown

EEMEA Banks

- **Key takeaways:**
  - The CEE banks within our EEMEA banks coverage are most directly exposed to supply-chain disruptions from Russia and Ukraine. Among the companies under our coverage, OTP Bank is the most directly exposed through its local subsidiaries in both countries, accounting for ~15% of PBT. On a broader level, we see the following impact from disruptions on the CEE banks 1) higher inflation via energy prices and supply-chain disruptions impacting household consumption and demand for household lending, due to tighter monetary policy as well as precautionary savings, and weaker consumer confidence; 2) increased cost inflation for corporates and risk to profitability if they are unable to pass on to consumers; 3) risk of asset quality deterioration if GDP growth slows down, although unemployment levels are at record lows; and 4) ripple effects from a slowdown in Europe.
- **Associated reports:**
  - EEMEA - Banks & Fintech: OTP: What we heard and what's priced in
  - EEMEA - Banks & Fintech: Polish banks: What we heard and what's priced in

Energy & Energy Services

- **Key takeaways:**
  - Russia is a major producer and exporter of oil and gas and provides ~10% of the global supply of crude oil. It plays a particularly significant role in European gas supply, with ~35% of natural gas imports into Europe coming from Russia.
  - The European oil majors have varying exposure to Russia and Russian oil and gas. Over the past few weeks, companies have made announcements concerning this exposure, with some companies deciding to exit the country.
- **Associated reports:**
  - The Oil Manual: Tightening Balances

Internet

- **Key takeaways:**
  - The internet sector is generally less exposed to a direct supply-chain impact than other sectors. However, the repercussions on the economic environment, including the negative impact on consumer discretionary incomes, will have implications for all of our names across eCommerce, classifieds and food delivery.
  - Exposed companies include (i) Global Fashion Group (around one-third of NMV from Russia and CIS); (ii) Prosus/Naspers (11% of revenue from Russia) and (iii) ASOS (4% of revenue from Russia).
- **Associated reports:**
  - Feedback from call with management on impact of conflict in Ukraine
  - Shein Threat Persisting, Cost Inflation Biting

Leisure & Hotels

- **Key takeaways:**
  - For the Leisure & Hotels sector, there is very little direct exposure to Russia or Ukraine (<2%). The main exposure is the indirect impact from rising food and fuel costs, and potential supply-chain disruption. TUI, Carnival and Royal Caribbean are most exposed to rising energy costs. For contract / concession caterers (Compass, Sodexo, SSP), food makes up 20-25% of revenues, but contract caterers are typically able to pass this on to clients, so any impact on margins is likely to be temporary. In addition, as shown in our recent report, there are varying degrees of exposure to Europe and discretionary spending within our coverage, where there could be an indirect impact from weak consumer confidence or economic pressure.
- **Associated reports:**
  - Top Picks and Oversold Stocks Post Sell-off

Media

- **Key takeaways:**
  - Direct exposure to Russia and Ukraine is immaterial for global advertising agencies, at ~1% of revenues for WPP and Publicis. However, we see higher commodity prices feeding through into lower advertising spending via: (i) a

squeeze on gross margins for advertisers for whom fuel and commodity prices are significant input costs, which could reduce available marketing budgets; and (ii) a squeeze on consumer spending, as higher fuel, food and commodity prices combine with already elevated inflation to reduce household disposable income, which could reduce the incentive to advertise, with "call to action" marketing (including performance marketing) most likely to be impacted.
    - If advertising spending is impacted by a squeeze on gross margins and/or on consumer spending, we see agencies and media owners as exposed. Agencies have the broadest exposure, as they work with clients across all platforms, including digital and traditional media as well as for brand, direct and performance marketing, eCommerce, CRM and PR. However, agency earnings typically display low operating leverage, as ~60% of costs are variable – every 1% change in revenue growth typically moves EPS by ~1-1.5%. Media owners, including TV networks, billboard owners, radio stations, newspapers and magazines, are only impacted if advertising on their platform is reduced, but they tend to have more operating leverage – every 1% change in revenue growth typically moves EPS by 2-4%.
- **Associated reports:**
    - Advertising Agencies: Another External Shock

Metals & Mining

- **Key takeaways:**
    - Russia makes a substantial contribution to global commodity markets. In production terms, it has the largest share in palladium and diamonds, both above 30%. Other key commodities are platinum (10%), nickel (7%) and aluminium (6%). We think it is also important to look at Russia's share of exports (where data are available): steel, thermal coal (20%) and metallurgical coal (10%) sit towards the top of that list.
    - Among the companies under our European Metals & Mining coverage, ArcelorMittal has direct exposure to Ukraine as it produces c.5mt of crude steel from its operations there and c.10-11mt from its iron ore mines. We estimate the total impact to be ~5% of 2022 EBITDA. Glencore does not have an operational footprint in Russia and, per management, its trading exposure is not material. However, the company has equity stakes in En+ and Rosneft. The total value of its equity investment in those two operations stood at US$1.3bn as at 31st December 2021.
    - Overall, suppliers of energy commodities – like Glencore – should be able to generate windfall profits in a world where thermal coal prices are higher for longer and where their marketing business thrives in environments of price volatility. On the other hand, we believe metals processing businesses such as aluminium, copper and zinc smelters, as well as steel mills, will see sharp increases in their costs. This is already causing capacity shutdowns among assets that are exposed to energy costs and putting them at a disadvantage relative to those with access to renewable sources and/or with assets that are in regions with much lower energy cost pressure.
- **Associated reports:**
    - European Metals & Mining Tracker: Rat Race
    - metal&ROCK: Energy price impacts
    - Russia - Metals & Mining: Navigating the volatility
    - ArcelorMittal SA: A stoppage in Ukraine?

Technology Software, IT Services & Payments

- **Key takeaways:**
    - Our sub-sectors (Software, IT Services, Payments) have relatively limited direct revenue exposure to affected geographies (Russia, Ukraine, Belarus), with a very low single-digit percentage of end-customer revenue exposure (or zero) in most cases. Similarly, our coverage does not have physical supply chains tied into these regions, which suggests no material first-order impacts from this angle.
    - Within our coverage, however, we see the most notable potential impact at IT services company TietoEVRY, as c. 9% of the FY21 workforce was located in Ukraine (mainly in Kyiv, Odessa and Lviv), and utilisation rates there will likely be impacted.
- **Associated reports:**
    - N/A

Telecommunications Services

- **Key takeaways:**
    - European Telco operators do not have any direct supply-side exposure or direct revenue exposure to Russia and Ukraine. There is some indirect exposure for satellite operators SES and Eutelsat, which do not use Russian launch vehicles but, with these vehicles no longer viable for international satellite companies, there is a growing

backlog for launching on other vehicles (for instance, Arianespace). This is causing delays in launching satellites for the industry as a whole. While European Telcos have no direct revenue exposure to Russia and Ukraine, we note that they are indirectly exposed, both positively and negatively, to the exacerbation in inflationary pressures seen across Europe following the start of the conflict.

- **Associated reports:**
  - European Telcos: Mapping Inflation Risk

Transport

- **Key takeaways:**
  - The sanctions imposed on Russia and reduced sailing to the Black Sea could put more constraints on sea freight, a market that is already at capacity. Moreover, higher oil prices could add to transportation costs, though these can be passed through, so any squeeze in margins should be temporary. Finally, the impact of the conflict on consumer confidence/demand (due to inflation or negative sentiment) could ease demand. Freight companies stand to benefit from more complex supply chains and constraints in ports, road and air; so asset owners in particular – Maersk, Hapag and Deutsche Post DHL – could benefit from this environment through higher rates.
  - For the airline companies, the conflict could have two effects: 1) reduced capacity resulting from direct exposure to Ukraine and Russia, as well as 2) lower demand and/or margins due to higher oil prices (c20% of industry costs). These are likely to be most negative for Wizz and Air France-KLM.
- **Associated reports:**
  - Transport Chartbook: March 2022: More disruption ahead?
  - Airlines: 03/22 EU Flight Scanner: Sell-Off Overdone
  - Container Shipping: Postcard from LA/Long Beach
  - Airlines: Higher oil, longer Asia routes likely more negative for Wizz and AF-KLM

Utilities

- **Key takeaways:**
  - We expect Clean Energy companies to be long-term beneficiaries, including SSE, Iberdrola and Orsted, reflecting their bias towards clean energy and/or UK exposure (given the lower risk of power market intervention and lower exposure to Russia gas imports).
- **Associated reports:**
  - REPowerEU: Key Aspects of EU Energy Market Plan
  - Power & Gas Implications for European Utilities: #2
  - Implications of Russia-Ukraine for European Utilities

Autos

Harald Hendrikse, Victoria Greer, Shaqeal Kirunda

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. **Auto production:** The only thing disrupting auto production as of now is wire harnesses (c.30% of European wire harnesses are assembled there). We expect this to be resolved relatively quickly, perhaps within 6-8 weeks. There are also potential risks to production if **palladium** (used in auto catalysts), **nickel** or **neon gas** (used for semiconductors) are impacted, but as of today none of these things is holding back production – see Autos & Shared Mobility: Production - VW/BMW announce some shutdowns.
      ii. **Tyres:** Around 30% of European **carbon black** comes from Russia, which has caused some production stoppages for Michelin (its logistics usually run through Ukraine), although not for others so far. We see this as a volume risk in the near term, but expect that Russian volumes may be largely replaced from elsewhere in the global supply chain within 1-2 quarters. This could have cost implications, but we would expect the tyremakers to pass these on to consumers – see Michelin: Backing pricing power.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. **Auto supply chains have not yet fully recovered from COVID disruption**, particularly for semiconductors where structural issues as well as lockdowns meant that 2021 auto production did not recover from 2020 levels. Supply chains are fragile, so any knock-on impacts, for example on freight costs, could cause further production disruption.
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. **OEMs/suppliers: Both would experience margin pressure from higher input costs**, although OEMs might be able to pass on some of this pressure (particularly at the premium end); suppliers would look to recover raw material inflation from OEMs via indexation contracts, but this would take time. Cutting off supply would disrupt auto production, impacting sales volumes for OEMs and suppliers, although as we saw in 2021, OEMs may have some offsetting benefit from price/mix, depending on the demand outlook.
      ii. **Tyres: Cost inflation should be passed on to consumers.** Completely cutting off carbon black would cause a temporary European production issue; some volume would be lost from auto production (OE is ~25% of volumes, although less of revenue and EBIT).
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. BMW, VW and Mercedes have all announced some shutdowns from wire harness supply issues; Michelin has had some downtime also. In a full shutdown, we would expect Continental and Pirelli's tyre businesses to be affected too; removing metals supply could impact global, not just European, auto production. All the OEMs and suppliers would have some exposure in this scenario – it doesn't matter which part is short on a car, if it stops the car being made (as we saw from the semiconductors shortages in 2021).
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. **Renault**, with its Avtovaz business, has a c.30% market share in Russian car sales – almost 20% of group sales although <€1 of group EPS including the Nissan contribution. **Daimler Truck** has its Kamaz Truck JV; **Pirelli** has c. 10% of its capacity in

Russia. Otherwise, revenue exposure to Russia is generally in the low single digits of group sales – see Autos & Auto Parts: Oversold, but too much uncertainty for now.

    ii. Consumer sentiment – we recently **cut our global auto sales forecasts by 1.5m units (2%)**, all from Europe, to reflect weaker demand assumptions in our note Autos & Shared Mobility: Big Auto Data – cheaper, but uncertainty remains high.

b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?

    i. Weakening consumer disposable income, as well as credit cost and availability, are significant risks for auto demand. In our view, the **sector is now pricing in a fall in global PMIs to approximately 50-52**, from the current 58-60 – well ahead of any actual economic slowdown. However, this is not yet fully recessionary (given all-time high EPS consensus); and we question whether auto share prices will recover during a period when actual PMIs and/or consensus EPS fall to meet such sentiment. Thus, although we could see a sharp reversion or short-term squeeze higher if geopolitical news improves – and such news remains tough to forecast – we would be more cautious post any such move higher as global economic and credit risks remain. From here, we see **three plausible scenarios**: 1) improved geopolitical news and limited economic impact leading to a sharp sector rally as peak EPS holds; 2) continued geopolitical worries and 20% EPS impact through slower demand and higher raw materials prices – likely largely priced in now; or 3) continued geopolitical fears, weaker consumer, higher rates, and reduced credit availability – which would impact SXAP EPS consensus much harder, leading to renewed price competition, and taking SXAP (and markets) down further. Thus, whilst we appreciate the improved value in SXAP, we remain cautious on the timing of any recovery.

Banks

Magdalena Stoklosa, Izabel Dobreva, Giulia Miotto, Antonio Reale, Alvaro Serrano, Vishal Shah, Gulnara Saitkulova, Alistair Woods

External claims on Russia look manageable for the banks under our coverage. At the system level, BIS reports c. €97bn of consolidated exposure of European banks to Russian residents, accounting for 73% of total foreign claims worldwide. Within this, exposures are broadly evenly split between local and international (offshore) positions, with overall figures highest in Austria, Italy and France. Derivatives/guarantees are c.30% of the amount and Russian banks/central bank/government another 17%. For exposures by bank, the disclosures continue to evolve. Please see our note Banks: Assessing Capital Resilience for more detail on exposures by bank.

What's in the price? Banks as macro proxies have been tested by the market for direct exposures, for stagflationary risks. The sector is down c. 20% and the banks we cover have lost €128bn in market cap, of which €107bn can be explained by our bear case revenue scenario. This leaves €21bn in residual write-downs at 1x P/TBV, ahead of the worst-case capital impacts from disclosed equity + offshore EAD (exposure at default) invested in Russia/Ukraine. Overall, to reconcile the move, we think we would need to assume no ECB rate hikes (vs +50bps expected by us), -2pp lower loan growth at sector level, -5% lower fees and a recurring increase in the cost of risk to 30% above through-the-cycle levels.

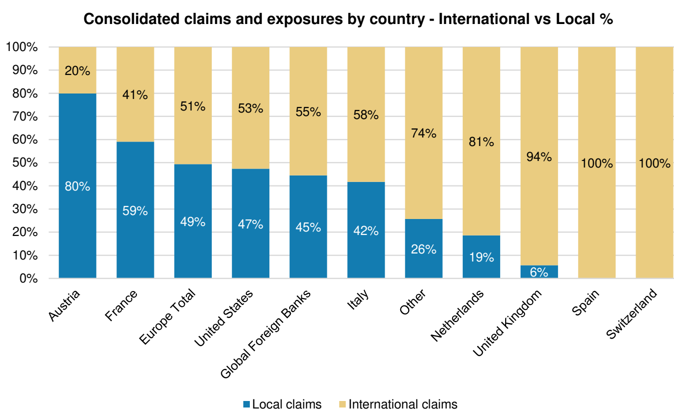
Exhibit 7: Summary of European banks' exposure to Russian residents

BIS Consolidated Claims & Exposure to Russian residents by foreign HQ banks in bn

European Banks	USD	EUR	%
Gross claims	90.2	77.8	100%
o/w Local positions	44.6	38.5	49%
o/w International positions	45.7	39.4	51%
TOTAL (net) exposure	112.5	97.1	100%
o/w Net claims	80.3	69.3	71%
o/w to Banks	6.6	5.7	6%
o/w to Official sector	12.5	10.8	11%
o/w to Private sector	60.8	52.4	54%
o/w Guarantees & other	32.2	27.7	29%
o/w Derivatives	1.6	1.4	1%
o/w Guarantees	20.7	17.8	18%
o/w Credit commitments	9.9	8.5	9%

Source: BIS, Morgan Stanley Research

Exhibit 8: For European banks in the sample as a whole, the exposures are broadly evenly split between local claims and international / cross-border operations



Source: BIS, Morgan Stanley Research.

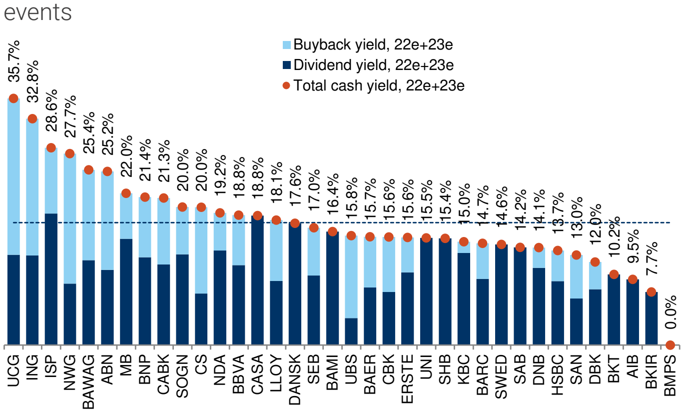
Exhibit 9: Market cap erosion of c. €128bn, of which we think ~€107bn can be explained by bear case revenue analysis, implying that the market is pricing in €21bn of write-downs and second-order impacts at 1x P/TBV or a permanent increase of c. 30% vs base case cost of risk if valued at P/E

		[1]	[2]	[3]	[4]=[2]+[3]	[5]	[6]=[4]x[5]	[7]=[1]-[6]	[8]	[9]=[7]-[8]	Increase	Increase	
Bank Name	Decline since 18th Feb 2022	MV change latest vs 18th February 2022	50bp ECB rate hike loss	Lower activity*	Revenue loss FY23	Multiple pre sell-off (MSe FY23)	Valtn loss from lower revenues	Residual market cap loss	Capital impact worst case (bps x RWA)	Net market cap loss, as % starting MV	Implied spike in loan loss provisions at pre-sell off PE	Implied spike in provisions as % loans	Spike vs base COR
Austria													
Erste Bank	-20%	-3,527	-122	-321	-444	8.7	-2,690	-837		4.8%	-138	0.07%	27%
Bawag	-5%	-254	-48	-48	-96	8.1	-547	292		6.3%	--	--	--
France													
BNP Paribas	-13%	-10,100	-273	-909	-1,182	8.4	-6,933	-3,167	-1,073	2.7%	-357	0.04%	11%
Societe Generale	-23%	-6,288	-142	-514	-656	6.1	-2,785	-3,503	-4,053	2.0%	130	-0.02%	-8%
Credit Agricole	-20%	-8,103	-78	-579	-657	7.9	-3,647	-4,456	-3,533	2.3%	-166	0.03%	10%
Benelux													
ING	-24%	-11,887	-254	-549	-803	8.6	-4,813	-7,074	-4,400	5.4%	-446	0.07%	34%
KBC	-11%	-3,405	-56	-120	-175	12.1	-1,486	-1,919		6.2%	-226	0.09%	61%
ABN AMRO	-9%	-1,051	45	-140	-95	8.8	-584	-466		3.9%	-76	0.03%	15%
Switzerland													
UBS	-8%	-5,417	0	-1,139	-1,139	9.3	-7,441	2,024	-544	3.9%	--	--	--
Credit Suisse	-8%	-1,781	0	-705	-705	6.4	-3,146	1,365	-555	9.1%	--	--	--
Julius Baer	-10%	-1,218	0	-153	-153	8.8	-942	-275		2.2%	-45	0.08%	115%
Germany													
Commerzbank	-24%	-2,764	-203	-290	-493	8.5	-2,924	160	-1,083	10.7%	--	--	--
Deutsche Bank	-19%	-5,323	-186	-926	-1,112	6.6	-5,131	-191	-1,018	2.9%	179	-0.04%	-22%
Italy													
Intesa Sanpaolo	-22%	-11,642	-1,076	-598	-1,674	7.9	-9,269	-2,373	-3,582	2.3%	218	-0.04%	-12%
UniCredit	-32%	-10,576	-479	-480	-959	6.3	-4,253	-6,323	-6,129	0.6%	-44	0.01%	3%
Mediobanca	-11%	-979	-49	-83	-132	9.1	-837	-142		1.6%	-22	0.04%	8%
Banco BPM	-21%	-1,120	-192	-124	-317	7.8	-1,739	618		11.3%	--	--	--
BMPS	2%	20	-144	-89	-233	5.2	-846	866		n/m	--	--	--
Nordics													
Nordea	-3%	-1,305	0	-285	-285	9.7	-1,925	620		1.5%	--	--	--
Svenska Handelsbanken	0%	-1	0	-91	-91	8.7	-557	556		3.2%	--	--	--
Swedbank	-9%	-1,586	0	-163	-163	9.2	-1,050	-536		3.0%	-83	0.05%	72%
SEB	-7%	-1,792	0	-136	-136	10.4	-989	-802		3.3%	-111	0.06%	68%
DNB	-3%	-929	0	-159	-159	11.7	-1,297	368		1.2%	--	--	--
Danske Bank	-10%	-1,446	0	-103	-103	7.5	-544	-903		6.2%	-172	0.07%	95%
Spain													
Santander	-6%	-3,263	-280	-892	-1,172	7.0	-5,729	2,465		4.3%	--	--	--
BBVA	-6%	-2,267	-230	-634	-864	7.6	-4,575	2,308		6.1%	--	--	--
Caixabank	0%	-104	-731	-331	-1,061	8.5	-6,297	6,193		23.7%	--	--	--
Sabadell	-16%	-818	-177	-136	-313	6.1	-1,340	521		10.2%	--	--	--
Bankinter	-6%	-303	-76	-73	-149	10.1	-1,055	752		14.8%	--	--	--
Unicaja	-6%	-159	-121	-40	-161	6.3	-706	547		20.8%	--	--	--
UK													
Lloyds	-7%	-3,197	0	-447	-447	8.3	-2,604	-593		1.4%	-102	0.02%	7%
Barclays Bank	-10%	-3,760	0	-708	-708	7.5	-3,716	-44		0.1%	-8	0.00%	0%
Natwest Group	-7%	-2,307	0	-380	-380	8.0	-2,140	-167		0.5%	-30	0.01%	3%
Ireland													
Bank of Ireland	-6%	-425	-32	-55	-86	7.7	-466	41		0.6%	--	--	--
Allied Irish Bank	-23%	-1,655	-78	-35	-113	10.4	-824	-831		11.7%	-114	0.19%	62%
UK / Asia													
HSBC	-11%	-14,422	0	-1,486	-1,486	9.0	-9,311	-5,111		3.9%	-816	0.08%	27%
Standard Chartered	-16%	-3,469	0	-488	-488	7.4	-2,533	-936		4.4%	-180	0.06%	18%
Sector	**-12%**	**-128,624**	**-4,982**	**-14,411**	**-19,393**	**7.9**	**-107,671**	**-20,953**	**-25,969**	**0.5%**	**-2,609**	**0.02%**	**28%**
Eurozone	**-14%**	**-85,994**	**-4,982**	**-7,967**	**-12,949**	**7.7**	**-69,475**	**-16,519**	**-24,870**	**1.5%**	**-1,063**	**0.01%**	

Source: Morgan Stanley Research. Note: Priced as of 16th March 2022

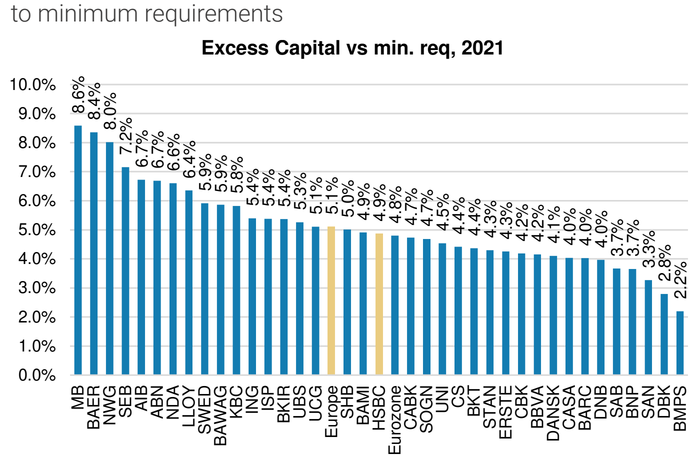
Resilience of dividends an capital. Based off our stress test in Banks: Assessing Capital Resilience, 2021 dividends look resilient for all banks in our sample. However, we expect more buyback flexibility going forward, particularly for banks with larger exposures to Russia/Ukraine. For the sector overall, even post stress testing for bear case capital impacts, we see a healthy 400-300bps capital headroom to MDA. **Bottom line to us: macro disruption, even in a bear case, is an earnings not a balance sheet issue.**

Exhibit 10: Capital returns forecasts by bank, pre-geopolitical risk events



Source: Eikon, Morgan Stanley Research estimates. Note: Priced as of 16th March 2022

Exhibit 11: Sector is well capitalised with c. 500bps excess capital to minimum requirements



Source: Company Data, Morgan Stanley Research

Brands & Apparel Retail

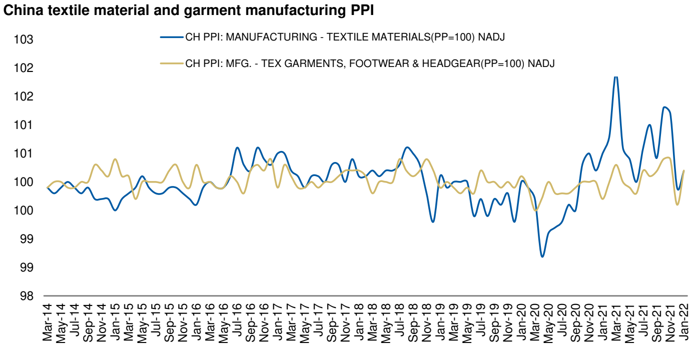
Edouard Aubin, Elena Mariani, Miranda Shen

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
    a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
        i. N/A
    b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
        i. **Most of the companies we cover have no sourcing exposure to Russia/Ukraine.** We estimate that 90% of the finished goods of European **luxury** brands are manufactured in France and Italy, with the rest mostly located in Asia/the US. **Moncler** is the only luxury name that is exposed to sourcing from Eastern Europe, although it has no manufacturing in Ukraine/Russia. Specifically, the company sources most of its products from Romania and a few from other East European countries such as Moldavia. For sporting goods brands **Puma** and **Adidas**, c.90% of products are manufactured in Asia (e.g. Vietnam, Indonesia and China). Hence, their supply chains are relatively immune to the geopolitical conflict. **Lifestyle Brands/ Apparel Retail** companies mostly concentrate their sourcing in Asia/Western Europe. On Europe specifically, Inditex follows a "proximity sourcing" strategy, with c.60% of key manufacturing facilities located in markets close to Spain, such as Portugal, Morocco and Turkey, while c.40% of its sourcing is from Asia. Hugo Boss sources 49% of its products from Europe, among which the majority from Turkey (c.24%). Although the company has some manufacturing capacities in Poland, the scale is limited, to our knowledge. Nearly all of H&M's sourcing comes from Asia. Pandora sources most of its materials from Thailand. Dr. Martens has no sourcing exposure to Eastern Europe; 99% of its products come from Asia. **Eyewear** company Essilorluxottica manufactures mostly in Italy, China and North America, so is relatively immune to impacts from the conflict.
    c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
        i. **Luxury companies are well shielded from cost inflation with their pricing power.** Since the beginning of 2022, we have noted a series of price hikes by major luxury brands (see our 2022 price tracker for Dior, Vuitton, Chanel and Gucci). So did brands like Prada and Ferragamo. A number of companies have indicated that they will also follow suit later in 2022. For instance, Moncler will be raising prices in the coming Fall/Winter by 10%, as per management. In fact, luxury companies have been increasing price since the beginning of the COVID pandemic and many have confirmed that they have not seen any push-back on demand. We believe that pricing power of the luxury brands should enable them comfortably to navigate through cost inflation.
        ii. **Sporting goods/lifestyle brands companies also appear to have pricing flexibility to offset cost pressure.** Adidas, Puma, Dr. Martens, Hugo Boss and Pandora have all guided for price increases in CY22 to offset cost inflation. Based on our channel checks, sportswear retailers remain positive on volume growth in FY22 despite price hikes by major sportswear brands (see more here).
        iii. **Apparel retail names have less pricing power relative to luxury names, and are facing rising cost inflation.** Retailers are facing increasing raw material, transportation and wage costs, and the cost implications of the Russia/Ukraine conflict have exacerbated an already challenging picture. Unlike luxury brands, which can fully offset adverse conditions with substantial price increases, we think general apparel players do not enjoy the same pricing power and are more vulnerable to cost inflation. Particularly, we see H&M as susceptible to potential cost increases given its more 'middle of the road' offering, limiting its ability to increase prices without facing a retreat of customers to more 'price friendly' competitors. Similarly, since value is the core proposition of ABF, we believe the company has more limited pricing flexibility to

offset further cost inflation (see more here). Whilst Inditex does not enjoy as much pricing flexibility as the luxury names, it has more power than other apparel names given its more premium and fashion-forward product offering. As stated by management during its FY22 results conference, the mid-single-digit price increases implemented did not encounter any material pushback in demand from consumers. The company has already implemented price increases in its Spring-Summer 22 collections.

Exhibit 12: China textile material and garment manufacturing PPI

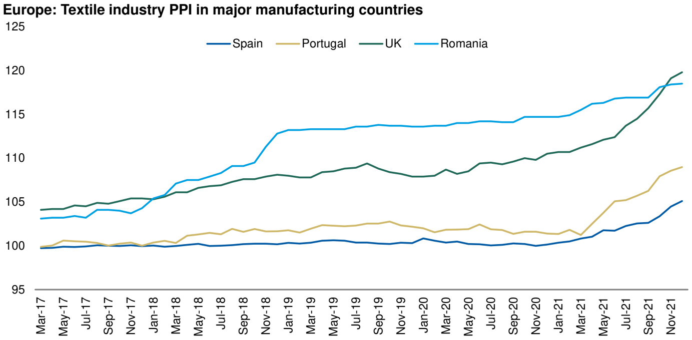
China textile material and garment manufacturing PPI



Source: Datastream, Morgan Stanley Research

Exhibit 13: Europe textile industry PPI in major manufacturing countries

Europe: Textile industry PPI in major manufacturing countries



Source: Datastream, Morgan Stanley Research

iv. The combination of cost inflation and a lack of pricing power is putting pressure on margins; consequently, we recently lowered the margin outlook for H&M, ABF and Inditex (see more here).

v. **As an eyewear company, EssilorLuxottica also enjoys more pricing power, mostly from its R&D capabilities.** Given the essential nature of eyewear, brand portfolio under the company and, crucially, product innovation (e.g. myopia solutions), we think the company has relatively strong pricing power. In addition, the company is able to manage its production efficiently through its diversified sourcing/manufacturing capabilities.

d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
   i. N/A

2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. On 11 March, we published our estimates on exposure to Russian nationals of luxury and sporting goods companies (see here).
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
      i. The key risk to watch would be further negative sentiment arising from the geopolitical conflict across a broader consumer base, particularly in Europe. However, so far we do not see the trend materialising.
   c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. We recently fine-tuned our estimates on exposure to Russian/Ukrainian nationals, based on incremental disclosure by some companies (see Exhibit 14). In short, the top-line impact is limited for most names under our coverage, with general retail/travel retail players most exposed. Specifically, exposure to Ukraine and Ukrainian nationals is negligible whereas exposure to Russia and Russian nationals is more relevant. However, the overall importance of Russia and Russian nationals has declined over the years and is relatively immaterial today. For **luxury** groups such as LVMH and Kering, Russian nationals now account for 1-2% of worldwide sales. None of the luxury companies under our coverage has Russian nationals accounting for more than 3% of sales. The top line of **sportswear/lifestyle brand** companies is also more immune to volatility in Russia/Ukraine than some might have

expected. Exposure of the market has declined to low single digit percentages in the region. For **travel retail** player Dufry, while exposure to Russia and Ukraine is higher than for other names under our coverage, it is still in the mid-single-digit camp and relatively immaterial. In 2019, Russian nationals contributed the company's second-largest duty-free spend (after the Chinese), impacting c.2% of sales (c.5% to Russian nationals). **Apparel retail** companies are on average more exposed to Russia, with a big variation across companies, ranging from c.5% for Inditex to <0.1% for JD Sports. Inditex has the highest percentage of sales exposure to Russia under our coverage, with 502 stores located in the country (13.6% of its total worldwide store base – even if only 4.2% Zara). By comparison, at JD Sports the impact is negligible due to heavy eCommerce utilisation. Lastly, for **eyewear**, the top-line impact for the likes of EssilorLuxottica from exposure to Russia and Ukraine is limited, accounting for less than 1% of global sales.

ii. Although the EBIT impact of companies operating with a direct-to-consumer (DTC) model in Russia is larger than that on the top line, the magnitude is still not significant. For instance, Hugo Boss has two-thirds of its business in Russia operated under a DTC model. Nonetheless, the EBIT contribution from Russia stays at mid-single digits versus a 3% impact on the top line.

Exhibit 14: European luxury, sportswear & apparel retail: Exposure to Russia/Ukraine conflict

Luxury	Russian & Ukrainian nationals %	Russia & Ukraine %
Burberry	c.1%	c.0.5%
Hermès	<1.5%	<1.5%
Kering	<2%	c.1%
LVMH	<2%	1-2%
Moncler	c.2%	2%
Prada	c.3%	c.2%
Richemont	<3%	<3%
Salvatore Ferragamo	c.3.5%	c.1%
Swatch Group	c.2%	<2%
Tod's	c.1%	0.4-0.6%
Sportswear	**Russian & Ukrainian nationals %**	**Russia & Ukraine %**
Adidas	c.2%	2%
Puma	c.3.5%	c.3.5%
Travel retail	**Russian & Ukrainian nationals %**	**Russia & Ukraine %**
Dufry	5%	1.5-2%
Eyewear	**Russian & Ukrainian nationals %**	**Russia & Ukraine %**
EssilorLuxottica	c.1%	<1%
General retail	**Russian & Ukrainian nationals %**	**Russia & Ukraine %**
Associated British Foods	c.3%	c.3%
H&M	3-4%	3-4%
Inditex	c.5%	c.5%
JD Sports	<0.1%	<0.1%
Lifestyle brands	**Russian & Ukrainian nationals %**	**Russia & Ukraine %**
Dr Martens	c.1%	c.1%
Hugo Boss	3-4%	3%
Pandora	c.1%	c.1%

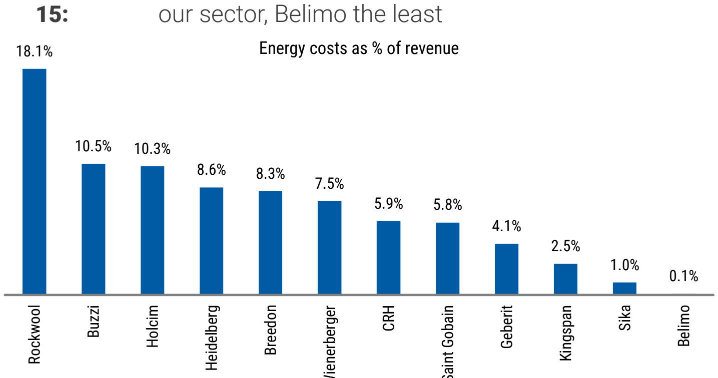
Source: Company data, Morgan Stanley Research estimates. Note: Numbers highlighted in grey are as per our estimates. The rest is as per company reporting.

Building & Construction

Cedar Ekblom, Pam Liu, Manfredi Bizzarri

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. **Building & Construction: Price/cost - it's got a lot tougher:** In light of recent energy cost developments due to the situation in Ukraine, we looked at energy cost exposure for our cement names in Europe and worked around different scenarios on energy cost inflation to understand the pricing required to defend the margin. We found Buzzi to be the most exposed to energy costs and CRH least exposed.
      ii. **Building & Construction: EU targets improved energy efficiency to deliver energy security:** We looked into the European's Commission announcement to cut dependance on Russian gas. Longer-term, the Commission plans to prioritise boosting energy efficiency gains of buildings and homes as part of the solution to reduce dependence on fossil fuels. Companies exposed to the energy renovation theme are Sika, Saint-Gobain, Kingspan, Nibe, Belimo and Rockwool.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. On direct supply chains we do not see major risks. Companies we cover operate as local businesses. This means that, even for those with exposure to Russia/Ukraine, costs and revenues are generated in local markets, with local buyers and sellers. Repatriating cash may be a question, but this does not present meaningful operating disruption risks to the companies.
      ii. We see risks coming from indirect links to Russia in the form of higher energy costs, and eventually discussions around growth which could impact volumes.
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. In 2021, companies in our sector were, on average, able to pass through cost increases by negotiating further price increases. As costs of energy supplies keep increasing, we would expect further price increases across our coverage, albeit defending the margin will be somewhat tougher for most exposed companies. For those with the highest exposure to energy costs and Europe, we would expect flat to negative volumes for 2022.
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Rockwool's energy cost as a percentage of revenues is c.18%. We know anecdotally that 50% of the company's energy costs are electricity related and 50% are primarily fuels, gas and coal. At the moment, the company is buying spot on electricity.
      ii. Buzzi's energy cost as a percentage of revenues is c. 11%. The company is slightly more exposed to electricity (c.6% of sales) than fuels (c.5%). Fuels include natural gas, coal and petcoke.

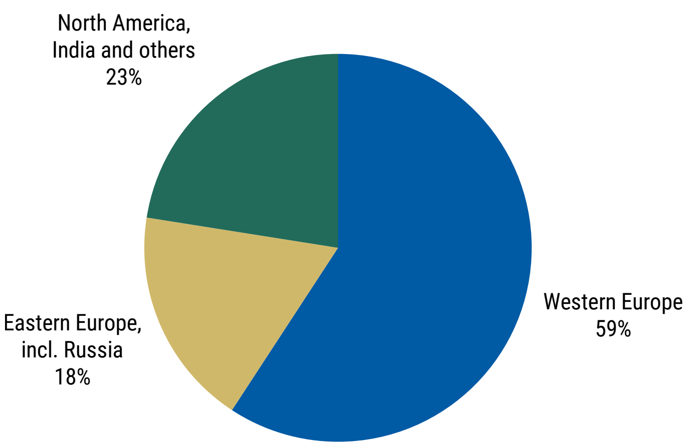
Exhibit 15: Rockwool is most exposed to energy costs within our sector, Belimo the least



Source: Company data, Morgan Stanley Research. Note: Kingspan estimate based on company detailing this to e in low single digits. CRH's energy cost is relative to revenues ex. contracting. Saint-Gobain's energy costs are relative to revenues ex. distribution.

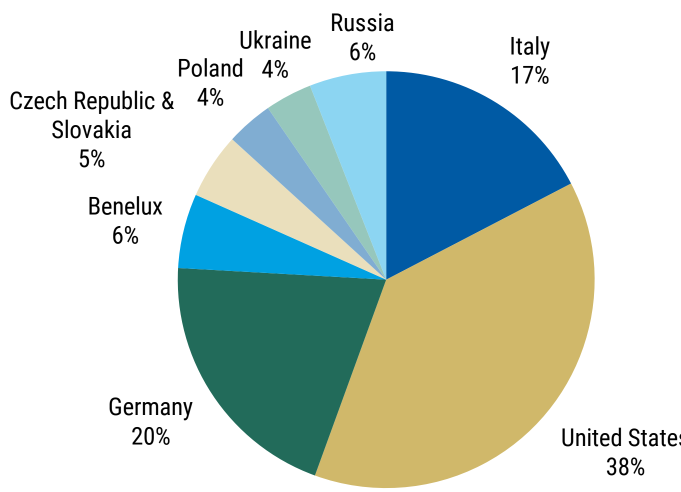
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. **Building & Construction: Price/cost - it's got a lot tougher:** In light of recent energy cost developments due to the situation in Ukraine, we looked at energy cost exposure for our cement companies in Europe and worked around different scenarios on energy cost inflation to understand the pricing required to defend the margin. We found Buzzi to be the most exposed to energy costs and CRH least exposed.
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
      i. Overall, we see risks on energy supply, costs and overall growth in Europe. Hence, an indirect risk to volume trends in the region for the most exposed companies.
   c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. **Rockwool:** We estimate exposure to Russia is c.10% of sales. The company is running the local Russian business as usual. Capacity expansion plans in Russia were planned and have been momentarily halted.
      ii. **Buzzi:** In terms of sales, exposure to Russia and Ukraine is 6% and 4%, respectively. We keep Russia in our earnings estimates, forecasting a sharp volume drop in 2022. However, we exclude Russia when valuing the company.

Exhibit 16: Rockwool revenue split, 2021



Source: Company data, Morgan Stanley Research. Russia sits within "Eastern Europe" region

Exhibit 17: Buzzi revenue split, 2021



Source: Company data, Morgan Stanley Research.

Business & Employment Services

Anvesh Agrawal, Maddy Jobber

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine? **Our sector has mostly no or very limited direct supply-chain exposure to Russia/Ukraine.** However, we highlight below the impact by subsector from the broader supply-chain issues, which are further aggravated by the current situation.
      i. **Temp staffers sensitive to production levels:** Supply-chain shortages, leading to a cut in production rates, would have a direct impact on those staffers most exposed to industrial temporary roles. We saw this even in 2021, when Adecco's US business was impacted by supply-chain bottlenecks. About 20-30% of Adecco/Randstad revenues are exposed to manufacturing and a further c.5% are exposed to Autos (our Autos team cut their global car sales by 1.35m units for FY22 here).
      ii. **Sanctions exposure for TIC companies:** Across the three main TIC players, SGS, Bureau Veritas and Intertek, there is small exposure to Russia and Ukraine, which could be significantly impacted if sanctions remain in place – even more so if they are broadened. **SGS** has 2% combined revenue exposure to Russia and Ukraine, predominantly related to commodities trade. While, so far, sanctions are having little impact on divisions such as Food & Agriculture, the company expects the 2% of revenue exposure to be significantly impacted by commodity-related sanctions. **Bureau Veritas** has <1% combined Russia and Ukraine exposure on group revenue, with Eastern Europe overall below 2% of the group. The Agrifood & Commodities business generated 21% of group revenue (18% group profit) in FY21, of which Oil & Petrochemicals made up 31% and Metals & Minerals 32%. **Intertek** also has <1% group revenue exposure to Russia and Ukraine combined. Management has commented that, so far, sanctions are not affecting operations, but the group has a special taskforce in place to manage the risks.
   b. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. **Broad raw material availability and commodities prices: Elis** has notable exposure to energy price inflation (gas, electricity, fuel costs c.5% of revenue) given its energy-intensive business model. Depending on progression of gas prices over the coming quarter, the company could face a significant risk to margins this year if there is a sustained lag between rising gas prices and implementing price increases. The company's recent guidance of a 110bps lower EBITDA margin in FY22 was mostly driven by higher energy costs. Similarly, for **DCC**, roughly 2% of the company's grid gas supply and 1% of LPG profitability is sourced from Russia. But more than that, there can be a lag between the higher gas price and pass-through, which makes the company vulnerable to the recent hike in gas prices. Oil supply is harder to trace geographically; however, the company believes that its exposure to Russian oil is minimal. Also in Retail & Oil, the company has straight price pass-through, as it typically holds the product for less than 24 hours. For **Travis Perkins**, timber supply has been flagged as potentially at risk from disruption, although the company is well stocked for now. It does not directly source anything from Ukraine.
   c. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Across the sector, direct exposure is negligible.
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. **Business Services: Staffers scenario:** Risk-off

trade is driving material moves among the staffers. Share prices now sufficiently discount a pause in recovery due to geopolitical events. However, signs of recession would lead to further downside. We explore various scenarios in our note. Our work suggests Hays would be well placed even in a recessionary scenario.

b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
   i. **Global growth slowdown implications:** The greatest over-arching impact we see for our coverage is a potential slowdown in economic growth. We explored this in more detail in our Staffers note, but for the other sectors we explain their exposure below.
   ii. **For TIC companies:** Organic revenue growth is based on a GDP+ model with capex and opex levels driving demand for testing, inspection and certification services. We see two potential impacts: 1) a dislocation in global trade could reduce demand for certain services – for example, a reduction in wheat exports; and/or 2) if these issues persist through to year-end, they could begin to impact new product cycles as well as customers' supply chains, acing as a drag on growth for the TICs.
   iii. **For construction/RMI exposed companies:** We see companies with indirect GDP growth exposure, such as the equipment rental and building material distributor names, as facing headwinds to growth during a recession. US non-residential construction spending, the main driver of **Ashtead**'s earnings and multiple historically, has an 87% correlation with GDP growth on a 1-year lag. During the last US construction cyclical downturn in 2008-09, Ashtead's 12-month forward EPS fell from around 14p in early 2008 to less than 1p by early 2010. We note, though, that a slightly weaker construction market combined with tight financing conditions is typically good for equipment rental companies, as it can accelerate the trend to increased rental penetration. **Ferguson**, however, has c.60% group sales exposure to North American RMI (Repair, Maintenance and Improvement) and only 40% exposure to new construction and civil infrastructure combined. US RMI has a lower correlation to US GDP growth, only 50% correlated. Similarly, **Travis Perkins** has a c.65% sales exposure to UK RMI vs 35% exposure to UK new construction and infrastructure combined.
   iv. **For facilities management companies: Elis**'s Hospitality business could be impacted. As for its Industry, Trade & Services division, where the company charges per employee for uniforms, so a small cut in production should not impact the business, a prolonged slowdown would ultimately impact volumes. **Rentokil** growth should prove more defensive.
   v. **Rest of the sector:** For **Experian**, if an economic slowdown is triggered by current events, combined with existing high inflation and rising rates, that could result in an organic growth slowdown. **Teleperformance** growth should be resilient; **Securitas**'s growth could prove more defensive than the rest of the cyclical/low-growth; and **Babcock**'s organic growth could benefit from structurally higher defence spend by governments..

c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
   i. Across the sector, direct exposure is negligible.

Chemicals & Agriculture

Charlie Webb, Lisa De Neve

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. **Energy security:** Generally speaking, the sector faces limited disruption as it relates to raw materials with Russian exports to EU chemicals producers somewhat limited. The biggest risk we see, however, is coal and natural gas procurement. A portion of the sector (the traditional side) is energy intensive and reliant on gas for a large part of its power generation, much of which comes indirectly from Russia, especially **Yara** (which has recently announced some temporary curtailments) and **Solvay**. This is likely most pronounced as it relates to the more energy-intensive Germany-based chemical producers, such as **BASF**, **Covestro**, **Lanxess**, **K+S** and **Wacker Chemie**.
      ii. **Nobel gases (neon):** Neon production is associated with steel production in the separation of air into its constituents. Ukraine supplied ~10% of the world's neon in 2021 (note, the proportion was significantly higher in 2015, at ~50%). Neon supply has diversified significantly in the last five years, limiting the risk to the supply chain; but given that the market was already tight, we would not be surprised to see prices moving higher. This would be favourable to the industrial gas companies **Linde** and **Air Liquide**, which sell and source neon largely outside Ukraine.
      iii. **Palladium:** Russia supplies 35% of the world's palladium production, a critical component in the production of gasoline automotive catalysts. While logistically trade flows can be redirected, this poses a risk to the supply chain, but it should also enable companies that recycle and refine the PGMs from secondary materials (spent auto catalysts), **Johnson Matthey** and **Umicore**, to benefit from tight market dynamics as well as advantaged sourcing.
      iv. **Fertilisers:** Next to energy, Russia also makes up an important part of European fertiliser imports, supplying about 28% of urea imports, ~25% of phosphate-based material imports and, together with Belarus, close to 50% of MOP potash imports into Europe. This is particularly important for **Yara**'s NPK production (detailed here): Russia is Yara's #2 potash supplier and #1 phosphate raw material supplier. Russia has temporarily suspended the export of fertilisers, mostly because of logistical issues (see our note here).
   b. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. Throughout 2021, companies in our sector were, on average, able to pass through cost increases owing to tight chemical markets, or indexed price contracts (and in some cases even surcharges). As costs of energy supplies keep increasing, we would expect further price increases across our coverage, with the aim of defending absolute profit, not margins. In the event of gas supply being cut off from Russia, this could result in broad-based plant closures across Europe and, consequently, demand destruction.
      ii. We see demand destruction as perhaps a bigger risk, with the potential to expose the increasingly unfavourable cost curve position of European Chemical production. This has the potential to put material pressure on margins and profitability, and over time could force plant closures (with so far some temporary curtailments) as capacity moves outside Europe to regions with a more favourable cost curve position, for example the Middle East.
   c. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. The more industrial geared and energy-intensive companies are most at risk, in our view, including **BASF**, **Covestro**, **Solvay**, **Wacker** and **Lanxess**.
      ii. The most exposed company, in our view, is **Yara**, which has ~55% of its asset base in Europe and the key input to nitrogen production being natural gas,

which it does not hedge. Elevated gas prices and/or supply disruption could materially impact Yara's margins and production (we set out exposures here).

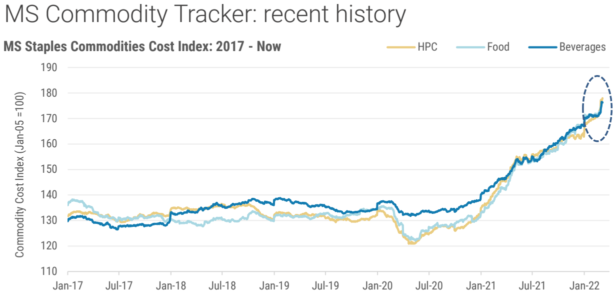
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
      i. This is limited, with covered companies having at most ~3% of group sales (and likely less of profits) generated from Ukraine and Russia. In most instances this is <1%.
   b. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Given limited direct exposure, we instead see risks on energy supply, costs and the implications this could have on overall growth in Europe, posing an indirect risk to volume trends in Europe that would have a broader impact on the sector as a whole.

Consumer Staples

Pinar Ergun, Yubo Mao, Rashad Kawan, Eli Kobzev, Tilly Eno

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. Consumer Staples: Commodity Cost Tracker - February 2022: Geopolitical tensions in recent weeks have fuelled a spike in commodity prices from already elevated levels. We expect all sub-sectors within Consumer Staples to be impacted, with rising risks to 2022 (and possibly 2023) sector margin forecasts.
      ii. Food Producers: Rising Food Prices: Implications: We believe the severity of the input cost increases and the impact on consumer demand from substantially higher prices (should they persist) may have longer-term consequences for a wide range of consumer industries.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      - **Rising input cost inflation.** Russia and Ukraine are major exporters of agricultural commodities (wheat and barley), industrial metals (aluminium) and energy. Many of these are important raw materials for the Consumer Staples sector, which was already facing cost inflation pressures through 2021. The sharp rally in commodities over the past few weeks has exacerbated the impact (Exhibit 18). Considering the timing lag due to hedging / forward buying, we see input cost pressures lingering for the rest of 2022 and into 2023, posing risks to consensus margins and earnings expectations.

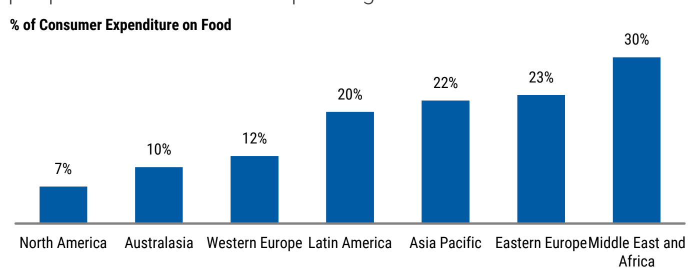
Exhibit 18: MS Commodity Tracker: recent history



Source: Datastream, Morgan Stanley Research. Prices as of 7th March.

- **Risks to consumer spending.** The companies in our coverage have been raising pricing, with more to come in the months ahead. We believe management teams have been hoping for limited volume impact, since demand in 4Q21 remained resilient. This could prove optimistic amid a sharp rise in cost of living for consumers, which is likely to drive both demand destruction and downtrading. We are particularly concerned about consumer purchasing power in Emerging Markets, where the share of consumer expenditure on food is significantly higher, representing ~30% of consumer expenditure in Middle East & Africa, and 20-23% in Eastern Europe, Latin America and Asia. Higher food prices could have a knock-on impact on consumers' spending power on non-food items, with implications for a wider range of Consumer industries.

Exhibit 19: The share of consumer expenditure on food is significant across EMs. Rising food costs could put pressure on non-food spending



Source: Euromonitor, Morgan Stanley Research

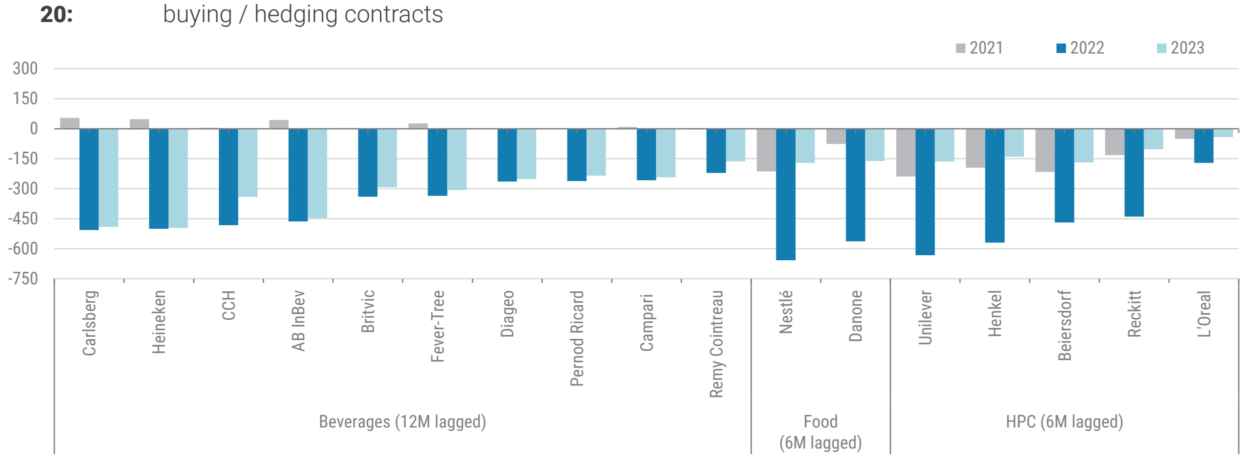
- **Supply-chain security.** The potential risks of supply-chain security are hard to assess at this point, but should not be ignored. For example, in September 2021, the UK's food and beverages industry was at imminent risk of a CO_2 shortage after a major supplier halted production due to a surge in natural gas prices. Higher costs also contributed to the glass shortage in the US in 2021. As cost pressures ripple through the supply chain, we remain concerned about the potential knock-on effect on raw materials supply, which may disrupt production and hinder companies' ability to respond to demand.

c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
   i. See above.
d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
   i. We expect all companies in our coverage to face incremental input cost pressures. Spirits and Beauty are better positioned, given these companies' high gross margins (e.g. Diageo ~60%, L'Oréal ~74%) and strong pricing power. We see particularly strong headwinds in Home Care, Food and Brewers. Since February, the cost outlook for 2022 has deteriorated the most for Danone, Nestlé and Beiersdorf's cost baskets, owing to a sharp rise in dairy, agricultural commodities and plant oils. We are also concerned about Brewers: taking into account their hedging / forward buying practices (assuming a 12-month lag), the rally in barley and aluminium prices could dampen margin recovery in 2023 if commodity prices stay at elevated levels. In Exhibit 20 we estimate the theoretical commodity cost impact in basis points of sales for each company, without considering the impact of FX, pricing and cost savings.

2. Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):

a. What have you published on revenue exposure to the Russia/Ukraine situation?
   i. Carlsberg A/S: No smooth sailing: Russia and Ukraine accounted for ~13% of group sales and ~9% of EBIT in 2021. We recently cut our 2022/23 EPS forecasts to reflect our expectation of: (i) volume declines in Russia and Ukraine; (ii) impact of rising inflation on consumer demand; and (iii) increasing input cost pressures hurting profitability. Since our publication, Carlsberg has announced the suspension of its 2022 guidance, supporting our view that the downgrade cycle is only just starting; and suggests downside to our base case forecasts if volumes in Russia decline by more than we have factored in (we assume -17% pa in 2022/23, +5% pa in 2024/25).
   ii. Coca Cola HBC AG: Navigating the Unknown: Russia and Ukraine accounted for ~20% of group volume / EBIT in 2021. We recently cut our 2022/23 EPS estimates to reflect the impact from geopolitical conflicts, and higher and longer-lasting cost inflation weighing on consumer demand. Since then, CCH has announced the decision to suspend its operations in Russia. While the timeline on the suspension and what then follows remain unclear, we think the development points to further downside to CY23 EPS.

Exhibit 20: Theoretical commodity headwind (-ve) or tailwind (+ve) (basis points of sales), lagged to reflect forward buying / hedging contracts



Source: Datastream, CLAL, CDIC, Company Data, Morgan Stanley Research estimates. Note: These estimates ignore the effect of FX, pricing, cost savings or mix benefits and only measure the theoretical impact on margins from changes in commodity prices for each company. The analysis includes an assumption for scale discounts and ignores any hedging or forward supply contracts, which could delay or mitigate the impact on margins.

b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?

  i. **Operating challenges leading to business suspension.** The operational and trading conditions in Russia have significantly deteriorated following the imposition of sanctions. CCH has announced that it will suspend operations in Russia, while "thoughtfully considering the interests of its employees, customers, and suppliers" in the country. Carlsberg has announced that it will stop producing and selling its flagship Carlsberg brand in Russia, while reviewing "a full range of strategic options" of its Russia business. BAT and Imperial Brands have both suspended operations in Russia while beginning a process to transfer the respective businesses to Russian ownership.

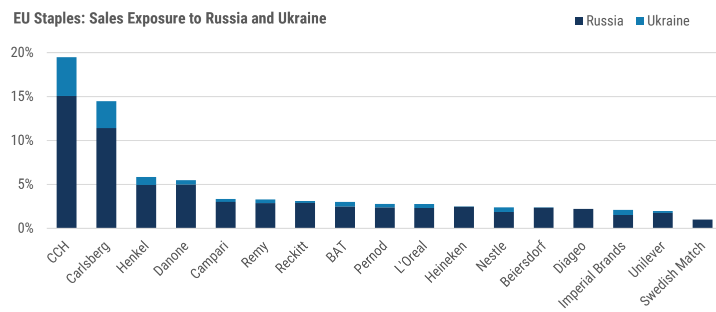
  ii. **Deteriorating consumer sentiment**. For Consumer Staples companies that continue to operate in Russia, we expect sales to be impacted by weakening consumer sentiment, driven by a challenging macro backdrop, currency depreciation, and higher inflation. For those with a large fixed cost base (e.g. Carlsberg), we expect volume declines to lead to operational deleveraging and potential losses in the near term, with uncertainty over the businesses' medium-term outlook.

  iii. **Potential asset write-downs.** Companies with a sizeable asset base in Russia and Ukraine could face non-cash impairments, as flagged by Carlsberg recently, for which Russia represents ~19% of the book value of group non-current assets.

c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?

  i. Within our coverage, CCH (~20%) and Carlsberg (~15) have the largest revenue exposure to Russia and Ukraine, followed by Henkel (~6%) and Danone (~5%). More detail in Exhibit 21 .

Exhibit 21: EU Staples estimated sales exposure to Russia and Ukraine as of 2021



Source: Company data, Global Data, IWSR, Morgan Stanley Research estimates

EEMEA Banks

Nida Iqbal Siddiqi

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. **Polish banks: What we heard and what's priced in:** Banks have indirect exposure to supply-chain concerns via 1) corporate lending exposure to companies that are reliant on supplies from Russia/ Ukraine, which could impact the asset quality of such loans; 2) increase in inflation due to supply-chain disruptions, which could dampen household consumption and consumer sentiment; and 3) higher cost inflation impacting corporates via margin pressure if they are unable to pass on the costs to consumers.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. The key risks to our coverage broadly come from higher inflation, which could impact household consumption; increased cost inflation for corporates impacting profitability; and slowdown in GDP growth.
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. Worse than expected GDP growth outlook, which would translate into weaker loan growth and worsening of asset quality driven by increase in unemployment levels.
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Within our coverage, **OTP Bank** is the most directly exposed to Russia/Ukraine, as follows: 1) Net loans (7.8% of total): Russia HUF621bn (3.9% of total), Ukraine HUF614bn (3.9% of total). 2) Total assets (6.5% of total): Russia HUF800bn (2.9% of total), Ukraine HUF984bn (3.6% of total). 3) Adjusted profit (15.5% of total): Russia HUF38bn (7.6% of total), Ukraine HUF39bn (7.9% of total). 4) Shareholders' equity (13.2% of total): Russia HUF241bn (7.9% of total), Ukraine HUF160bn (5.3% of total). 5) Risk-weighted assets (11.6% of total): Russia HUF822bn (4.9% of total), Ukraine HUF1,115bn (6.7% of total). 6) Intra-group funding: Russia HUF73bn (0.5% of total assets), Ukraine HUF72bn (0.5% of total assets). As per OTP, the capital impact on CET 1, taking into account equity, intra-group funding and risk-weighted assets from Russia and Ukraine, would be ~143bps. OTP had a CET 1 ratio of 16.9% as of FY21 (minimum regulatory requirement of 8.8%). In addition, it has exposure to Russian sovereign bonds worth ~HUF101bn (0.4% of assets), and exposure of €500mn in loans to clients (1.1% of total loans) that have strong business connections to Russia.
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. OTP: What we heard and what's priced in
      ii. Polish banks: What we heard and what's priced in
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/ Ukraine?
      i. Broadly, the key risks to our coverage lie in 1) higher inflation, which could impact household consumption and demand for new loans due to weaker consumer confidence and tighter monetary policy; 2) risk of slowdown in investment decisions due to geopolitical uncertainty by corporates, impacting corporate loan growth; and 3) asset quality risks if there is a slowdown in GDP growth.
      ii. In Hungary, direct goods exports exposure to Russia and Ukraine is fairly small but it uses a relatively larger proportion of gas for production than Poland and the Czech Republic do, and thus is more likely to be

impacted by the higher gas prices in Europe, according to our CEE economists (see CEEMEA Economics: From Choices to Actions). In the event that the sharp rise in uncertainty results in an increase in precautionary savings of households, it may become more difficult for companies to pass on the higher input prices to consumers, resulting in slower consumption growth. Our economists estimate that the net combined non-energy trade shock with Russia and Ukraine amounts to 1.5% of GDP (see Exhibit 22 and Exhibit 23) which, given the open structure of the Hungarian economy, can be magnified by ripple effects from the growth impact in Europe (see CEEMEA Economics: Growth Down, Inflation Up).

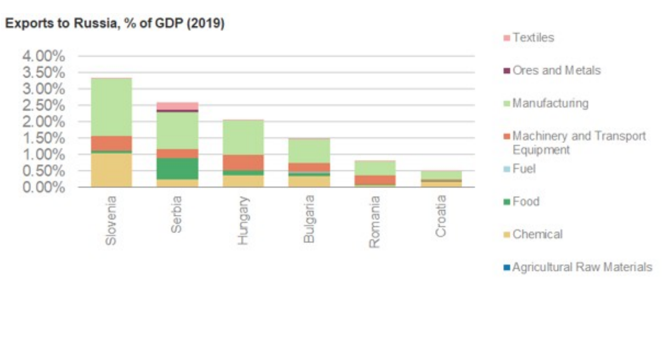
iii. The Polish economy's direct exposure through the goods trade channel is relatively low. Exports of goods to Russia and Ukraine amount to 1.4% and 1.1% of GDP, respectively (Exhibit 24 and Exhibit 25). Imports are larger at 2.6% and 0.7% and, similar to the rest of the region, are mostly composed of commodities, as per our economists. According to Pekao Bank management, a drop in exports to Russia/Ukraine/Belarus could lower Polish GDP by ~1ppt. The Russia/Ukraine conflict is expected by the company to affect Poland via higher inflation through rising commodity prices, zloty weakness, and supply-side disruptions. Management notes uncertainty on the outlook as investment decisions could get delayed on the corporate side, whilst high inflation and tightening monetary policy are likely to weigh on consumption.

c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?

   i. Among our coverage, OTP has the highest exposure to Russia and Ukraine, at ~15% of PBT (Exhibit 26).

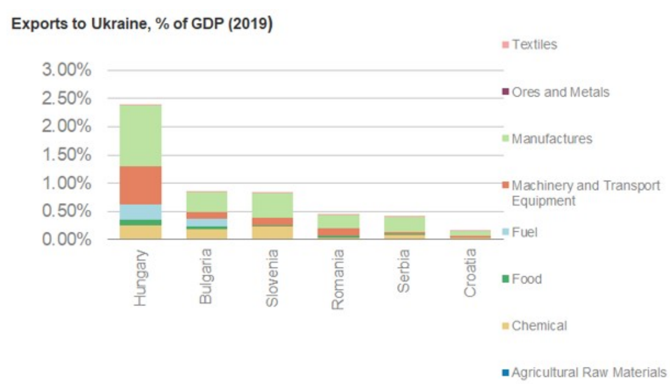
   ii. OTP has rebounded from its recent lows of ~HUF10,000 per share and a recessionary outlook now appears priced in (Exhibit 27).

Exhibit 22: Exports to Russia: Between 0.5% and 3% of GDP for CEE countries



Source: World Bank, IMF, Morgan Stanley Research

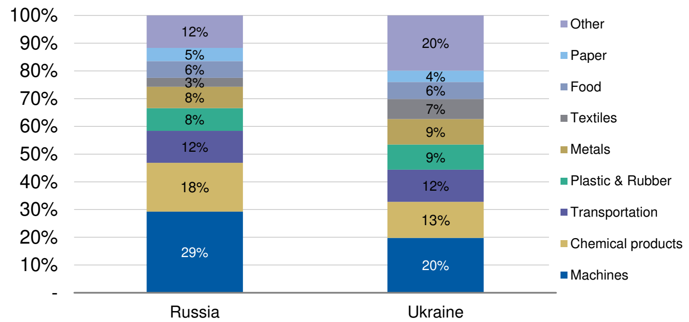
Exhibit 23: Exports to Ukraine: Between 0.1% and 2.4% of GDP for CEE countries



Source: World Bank, IMF, Morgan Stanley Research

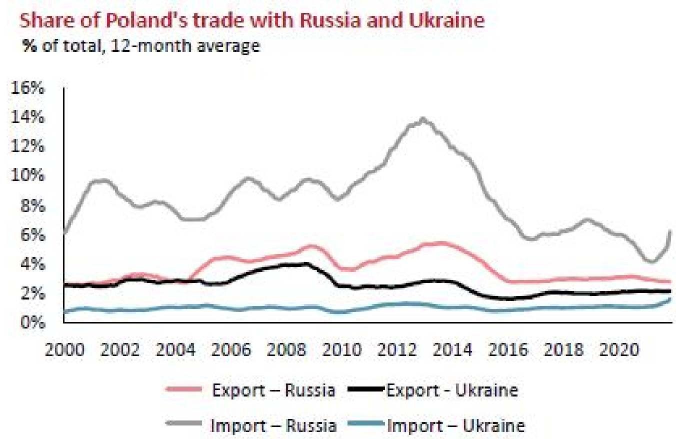
Exhibit 24: Poland: Exports to Russia and Ukraine

Poland exports by category (2019)



Source: OEC, Morgan Stanley Research

Exhibit 25: Trend of share of Poland's trade with Russia and Ukraine



Source: Pekao Company Report, Morgan Stanley Research

Exhibit 26: OTP exposure to Russia and Ukraine

	Russia		Ukraine		Total	
	HUF bn	% of Group	HUF bn	% of Group	HUF bn	% of Group
Adj Net Profit (2021)	38	7.6%	39	7.9%	497	15.5%
Total Assets(2021)	800	2.9%	984	3.6%	27,553	6.5%
Net Loans(2021)	621	3.9%	614	3.9%	15,744	7.8%
Shareholders Equity (2021)	241	7.9%	160	5.3%	3,037	13.2%
Risk Weighted Assets(2021)	822	4.9%	1,115	6.7%	16,691	11.6%
Consolidated Capital Effect (on CET1, based on 4Q 2021 data)		-116bp		-27bp		16.9%

Source: Company Reports, Morgan Stanley Research

Exhibit 27: OTP sensitivity analysis: what's in the price

OTP Group	FY22	FY23	FY09	FY13-15	FY20
Loan growth %	-3.7%	5.9%	-5.4%	-5.7%	10.5%
Net F&C growth %	-5.3%	2.2%	-5.5%	3.4%	3.8%
Cost of risk %	-1.7%	-1.0%	-3.8%	-3.5%	-1.4%
EPS growth %	-45.6%	31.6%	-49.2%	-52.1%	-37.1%
ROE %	8.7%	10.5%	10.9%	9.1%	8.7%

Source: Morgan Stanley Research estimates. Note: EPS growth for FY13-15 shows only 2013. As FY14 reported net loss was -HUF102bn. FY13-15 ROE is also adjusted ROE for one offs.

Energy & Energy Services

Martijn Rats, Sasikanth Chilukuru, Rachel Fletcher, Ahmed Majid

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. Russia is a major producer and exporter of oil and gas and provides ~10% of the global supply of crude oil. Tanker tracking data suggest that loadings at Russian ports continue. However, the share with 'destination unknown' is rising and oil-on-the-water for Russian crudes has increased markedly as well. Combined, this suggests that Russia's oil exports are starting to struggle to find a market. Given the US import ban and a high degree of 'self-sanctioning' by European oil & gas companies, we expect flow to the US and Europe to diminish, possibly sharply. With little domestic storage capacity, we estimate that this will eventually lead to a reduction in Russia's production by ~1 mb/d, visible from April onwards (see The Oil Manual - Tightening Balances). Russia also plays a particularly significant role in European gas supply, with ~35% of natural gas imports into Europe coming from Russia.

1. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. The European oil companies have varying exposure to Russia and, over the past few weeks, companies have made announcements concerning this exposure:

- BP has announced it will exit its 19.75% shareholding in Rosneft. Additionally, BP CEO Bernard Looney and former BP CEO have resigned from the Rosneft board. BP has also changed its accounting treatment of its Rosneft shareholding and expects to report a material non-cash charge with its first quarter 2022 results. As a result of the accounting changes, BP now expects EBITDA from resilient hydrocarbons and group to be ~$2bn lower in 2025, at around $31bn and $38bn respectively. BP has removed Rosneft dividend payments from its financial frame, but noted that its distribution guidance remains unchanged.
- Shell has announced its intention to exit its joint ventures with Gazprom and its related entities, including its 27.5% stake in the Sakhalin-II LNG facility, its 50% stake in the Salym Petroleum Development and the Gydan energy venture. Shell also intends to end its involvement in the Nord Stream 2 pipeline project. In addition, it has announced its intent to withdraw from its involvement in all Russian hydrocarbons, stating that it will stop all spot purchases of Russian crude oil.
- TotalEnergies has exposure to Russia through its stake in Novatek, alongside its stakes in LNG projects Yamal LNG and Arctic LNG 2. The company has said it will no longer provide capital for new projects in Russia.
- Eni's exposure to Russia is predominantly through gas offtake agreements. Russia supplies ~20 bcm p.a. of natural gas to Eni, representing around one-third of the gas available for sale in Europe.
- Equinor has decided to stop new investments into Russia, and to start the process of exiting its Russian joint ventures. At the end of 2021, Equinor had $1.2bn in non-current assets in Russia. In addition, the company has said it will stop trading in Russian oil.
- OMV has highlighted that will impair ~€1bn related to the finance provided to the Nord Stream 2 pipeline project. The company has also announced it will make no future investments in Russia and a strategic review of its 24.99% interest in the Yuzhno Russkoye gas field will be initiated – options under consideration include possibilities to divest or exit. Yuzhno Russkoye contributed ~100kboe/d or ~20% to the group production and 2% of the company's group cash flow in 2021. Management expects production to decline to 80kboe/d by 2025 and 40kboe/d by 2030. OMV has also decided not to pursue negotiations with Gazprom on the potential acquisition of a 24.98% interest in the Achimov 4A/5A phase development in the Urengoy gas and condensate field and to terminate the Basic Sale Agreement.
- Galp has no joint ventures with any Russian entities and has suspended Russian oil product purchases.
- Repsol has limited exposure to Russia.

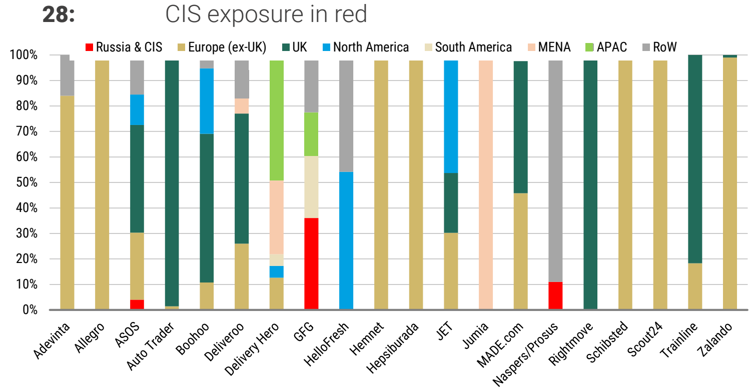
- Technip Energies said that at the end of December, ~€3.8bn billion, representing 23% of its backlog, was related to Russian projects in execution. It added that the backlog is scheduled to be executed over a five-year period from 2022 to 2026. For 2022, the company has highlighted an estimated €1.4bn revenue contribution and a €70m EBIT contribution from projects under execution in Russia. The company added that it has ceased to work on future business opportunities in Russia.

Internet

Miriam Josiah, Luke Holbrook, Pete-Veikko Kujala, Navina Rajan

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. Our coverage is generally less exposed to a direct supply-chain impact than other sectors. A more indirect impact could be felt on eCommerce companies (Boohoo, ASOS and Zalando) if it results in further global shortages of cotton (prices already up c.70% since early 2020), nylon (prices up c.30%) and polyester (prices up c.20%). See Shein Threat Persisting, Cost Inflation Biting, 11 March 2022.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. There is not a significant direct impact on our coverage. If, however, supply-chain constraints tend to worsen the global situation of shortages of supply for eCommerce platforms, that could constrain demand. Marketplaces such as Allegro and Jumia could be indirectly impacted if merchants are out of stock of some items.
      ii. A knock-on impact for all our eCommerce, classifieds and food delivery names will be more at the macro level. Our companies are consumer-focused by nature, so changes to discretionary income and consumer confidence can impact demand. From a merchant level, a deteriorating climate could also reduce their propensity to spend on advertising.
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. The sector is not directly impacted by high cost of supplies from Russia/Ukraine.
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. The sector is not directly impacted by high cost of supplies from Russia/Ukraine.
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. NA
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
      i. NA
   c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Based on company disclosures: (1) **Global Fashion Group** has around one-third of net merchandise value generated from Russia and CIS countries; (2) **Prosus/Naspers** derive 11% of revenue from OLX Ukraine, PayU and Avito in Russia in 1H FY22 (and have said they could lose the Avito dividend). According to management, these businesses in total make up c.5% of accounting value and a smaller percentage of fair market value. Prosus will fully write down its c.$769m book value in VK Group; elsewhere in Eastern Europe, it has stakes in OLX Poland and eMag (Romania) – see our Feedback from call with management on impact of conflict in Ukraine (7 March); (3) **ASOS** derived c.4% of FY21 revenues and £20m of Group profit from Russia; and (4) **Allegro** is not exposed to Russia, deriving nearly all its revenue from neighbouring Poland.

Exhibit 28: Gross merchandise value by geography – Russia and CIS exposure in red



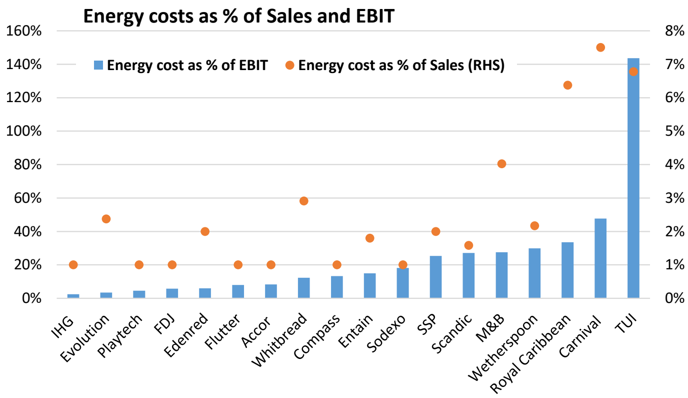
Source: Company data, Morgan Stanley estimates; Note: Net merchandise value used for GFG; MS estimates for Deliveroo's European-RoW Gross Transaction Value split

Leisure & Hotels

Jamie Rollo, Ed Young, Adrija Chakraborty, Imogen Barker

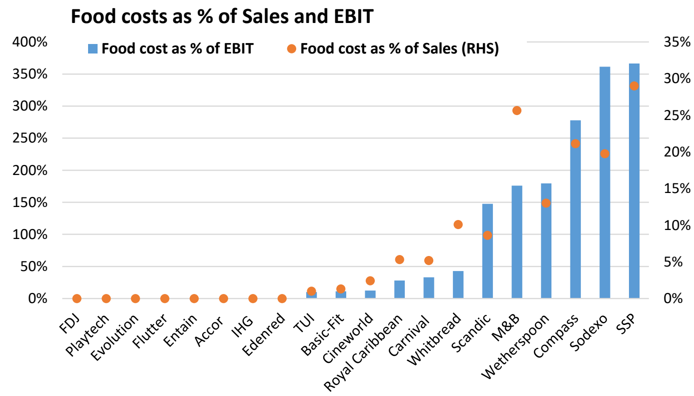
1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. In our recent report Top Picks and Oversold Stocks Post Sell-off, we screened companies by a number of parameters, such as geographical exposure, local versus international demand, defensive versus discretionary demand, and food and fuel as a percentage of the cost base.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. There is very little direct exposure to Russia or Ukraine at our covered companies (<2%). The main exposure is the indirect impact from rising food and fuel costs, and potential supply-chain disruption.
      ii. TUI, Carnival Cruise Line and Royal Caribbean are most exposed to rising energy costs. Fuel was 6-8% of revenues for the three companies pre-COVID, versus margins of 5-18%. TUI is ~30% hedged for its key Summer season, RCL is 54% hedged for 2022 and CCL is completely unhedged.
      iii. For contract/concession caterers (Compass, Sodexo, SSP), food accounts for 20-25% of revenues. However, contract caterers are typically able to pass on inflation to clients via their cost-plus model and/or price increases, so any impact of rising food costs on margins is likely to be temporary.
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. Those companies with the highest exposure to energy/food costs (see charts below) will likely see margins negatively impacted in the short term.
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. There is no company with material risk on this front, but TUI, Carnival Cruise Line and Royal Caribbean are most exposed to rising energy costs.
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. Russia is immaterial for most of our coverage, but as explained in our report Top Picks and Oversold Stocks Post Sell-off, there are varying degrees of exposure to Europe/discretionary spending where there could be an indirect impact (see charts below).
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
      i. For the cruise lines, the Baltics and Black Sea itineraries form 10-20% of Summer deployment, and our channel checks (read here) show an impact on demand. While cruise lines are typically able to change itineraries and avoid destinations, we note that there will be a negative mix impact of this given itineraries to the Baltics/Black Sea are typically higher yielding compared to shorter itineraries, for example to the Caribbean.
      ii. Some Hotels and Gambling companies within our coverage derive a low-single-digit percentage of their revenues from Russia.
      iii. There could be spill-over effect of higher cost inflation and economic/geopolitical uncertainties on consumer confidence and subsequently discretionary spending.
   c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Cruise lines – RCL and CCL look most exposed in terms of direct revenue impact, but with moderate impact so far.

Exhibit 29: Energy cost exposure highest for Cruise Lines and Tour Operators…



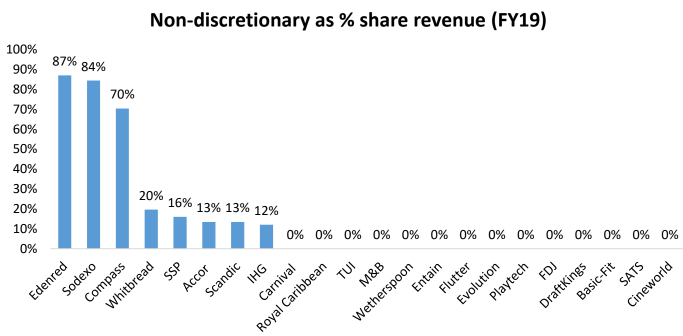
Source: Company data, Morgan Stanley Research estimates. Note: Based on 2019 financials.

Exhibit 30: …while Foodservice and Pub operators have higher food cost exposure



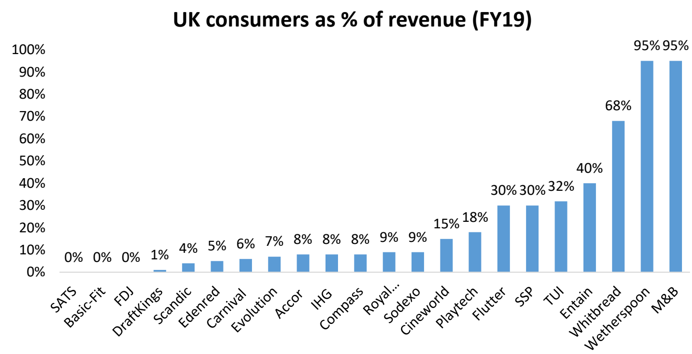
Source: Company data, Morgan Stanley Research estimates. Note: Based on 2019 financials.

Exhibit 31: Non-discretionary share of revenue: contract caterers are most defensive >70% revenue non-discretionary



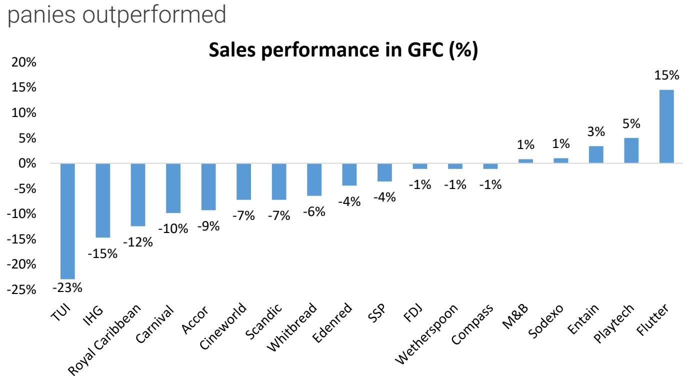
Source: Company data, Morgan Stanley Research estimates. Note: Non-discretionary defined as support services, education, healthcare, public sector, some B2B/corporate business.

Exhibit 32: UK consumer share of revenue: Pubs and Whitbread most reliant on the UK consumer



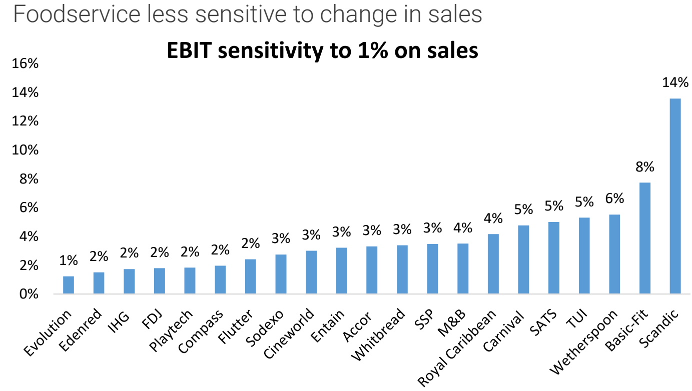
Source: Company data, Morgan Stanley Research estimates. Note: UK consumer does not include corporate demand, solely UK leisure/consumer demand.

Exhibit 33: Revenue drops during the 2008/09 Great Financial Crisis were highest for TUI, IHG, CCL and RCL, while gambling companies outperformed



Source: Company data, Morgan Stanley Research. Note: Organic or LfL sales, constant currency, in the worst 4Q period over 2008-10.

Exhibit 34: EBIT sensitivity to a change in sales: Gambling and Foodservice less sensitive to change in sales



Source: Company data, Morgan Stanley Research estimates. Note: Based on observed post-COVID performance of the companies and compares to a 2019 normalised base EBIT.

Media

Omar Sheikh, Tzer Siew

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. **Advertising Agencies: Another External Shock:** We provided our initial views on how the recent spikes in commodity prices might impact advertising spending for the European ad agencies. We estimated that every 10% average annual inflation in commodities-related costs for FMCG and Autos advertisers (~40% of revenues for WPP and Publicis) could reduce agency organic revenue growth by 320bp in 2022, and trimmed earnings forecasts for WPP and Publicis in 2022/23 to ~4% below consensus.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. **Impact of rising commodity prices on advertising spend:** We see higher commodity prices feeding through into lower advertising spending via: (i) a squeeze on gross margins for advertisers for whom fuel and commodity prices are significant input costs, which could reduce available marketing budgets; and (ii) a squeeze on consumer spending, as higher fuel, food and commodity prices combine with already elevated inflation to reduce household disposable income, which could reduce the incentive to advertise, with "*call to action*" marketing (including performance marketing) most likely to be impacted.
      ii. **Sector exposure of agencies:** Our European Staples team (led by Pinar Ergun) has argued (see here) that commodity-related input costs represent ~40% of sales for large European food and beverages companies; and our European Autos team (led by Harald Hendrikse) estimates that commodity-related input costs represent ~60% of sales for autos manufacturers. If the impact of higher input costs of these verticals cannot be passed on to consumers in higher prices, and if efficiency savings cannot be made, ultimately advertising and promotional (A&P) spend is one area that could be reduced to compensate.
   c. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. **Advertising agencies and media owners are all exposed:** If advertising spending is impacted by a squeeze on gross margins and/or a squeeze on consumer spending, we see agencies and media owners as exposed. Agencies have the broadest exposure, as they work with clients across all platforms, including digital and traditional media as well as for brand, direct and performance marketing, eCommerce, CRM and PR. However, agency earnings typically display low operating leverage, as ~60% of costs are variable – every 1% change in revenue growth typically moves EPS by ~1-1.5%, we estimate. Media owners, including TV networks, billboard owners, radio stations, newspapers and magazines, are only impacted if advertising on their platform is reduced, but as they have more operating leverage every 1% change in revenue growth typically moves EPS by 2-4%.
      ii. **Medium impact on organic growth for WPP and Publicis:** Given both companies' exposure to FMCG and Autos clients, we would expect a moderate impact on growth if commodity prices continue to put pressure on advertisers' margins. We trimmed our WPP and Publicis organic growth forecast to 2% vs pre-crisis guidance of 5% for WPP and 4-5% for Publicis; we are now 4% below consensus.
      iii. **Modest impact to organic growth for S4 Capital:** In contrast to WPP and Publicis, only 13% of S4's revenue comes from FMCG and Autos clients. This limits the impact a reduction in A&P spending from these verticals would have on S4's revenue. Therefore, we have made no changes to our S4 Capital forecasts. The company is scheduled to report FY21 earnings on 31st March.

2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. Direct exposure to Russia/Ukraine is immaterial for global advertising agencies, at ~1% of revenues for WPP and Publicis.
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
      i. N/A
   c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. N/A

Exhibit 35: Illustrative impact of increase in materials COGS and reduction in sales on A&P and other costs for hypothetical FMCG advertiser. A 10% increase in commodities-related COGS could reduce A&P spending by 800bp

Start
Commodities-related COGS = 40% of sales
Other COGS = 10% of sales
A&P spend = 20% of sales
Other G&A = 10% of sales

Sales	$100
Commodities-related COGS	($40)
Other COGS	($10)
Gross profit	**$50**
Advertising & Promotion	($20)
Other G&A	($10)
EBIT	**$20**
Gross margin (%)	*50%*
EBIT margin (%)	*20%*

Scenario 1
Commodities-related COGS rise by 10%
Other COGS maintained
Other G&A maintained
$ EBIT maintained

Sales	$100
Commodities-related COGS	($42)
Other COGS	($10)
Gross profit	**$48**
Advertising & Promotion	($18)
Other G&A	($10)
EBIT	**$20**
Δ Advertising & Promotion	*(8%)*
Gross margin (%)	*48%*
EBIT margin (%)	*20%*

Scenario 2
Commodities-related COGS rise by 20%
Other COGS maintained
Other G&A maintained
$ EBIT maintained

Sales	$100
Commodities-related COGS	($43)
Other COGS	($10)
Gross profit	**$47**
Advertising & Promotion	($17)
Other G&A	($10)
EBIT	**$20**
Δ Advertising & Promotion	*(16%)*
Gross margin (%)	*47%*
EBIT margin (%)	*20%*

Scenario 3
Commodities-related COGS rise by 20%
A&P spend maintained
$ EBIT maintained
Other COGS/G&A reduced by 16%

Sales	$100
Commodities-related COGS	($43)
Other COGS	($8)
Gross profit	**$49**
Advertising & Promotion	($20)
Other G&A	($9)
EBIT	**$20**
Δ Advertising & Promotion	*0%*
Gross margin (%)	*49%*
EBIT margin (%)	*20%*

Scenario 1: 10% inflation in 40% of commodities-related COGS. Company seeks to maintain target EBIT, no changes made to non-commodities related COGS or other G&A. Commodities-related COGS inflation therefore wholly absorbed by Advertising & Promotion spending.

Scenario 2: 20% inflation in 40% of commodities-related COGS. Company seeks to maintain target EBIT, no changes made to non-commodities related COGS or other G&A. Commodities-related COGS inflation therefore wholly absorbed by Advertising & Promotion spending.

Scenario 3: 20% inflation in 40% of commodities-related COGS. Company seeks to maintain target EBIT, but also seeks to maintain A&P spending. Commodities-related COGS therefore absorbed by non-commodities related COGS and other G&A.

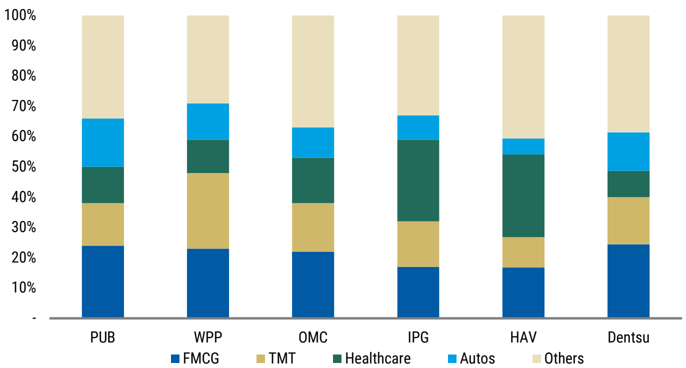
Source: Morgan Stanley Research

Exhibit 36: An 800bp reduction in FMCG & Autos A&P spend reduces agency revenue growth by 320bp

Previously planned y/y growth in A&P spend		5%	5%	5%	5%	5%	5%	5%
- Reductions in y/y growth in FMCG, Autos A&P spend		**0%**	**-4%**	**-8%**	**-12%**	**-16%**	**-20%**	**-24%**
= New growth FMCG, Autos A&P Spend		5%	1%	-3%	-7%	-11%	-15%	-19%
FMCG & Autos	40	42	40	39	37	36	34	32
y/y % chg		5%	1%	-3%	-7%	-11%	-15%	-19%
Other verticals	60	63	63	63	63	63	63	63
y/y % chg		*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*
Resulting agency revenue	**100**	**105**	**103**	**102**	**100**	**99**	**97**	**95**
y/y % chg		*5.0%*	*3.4%*	*1.8%*	*0.2%*	*-1.4%*	*-3.0%*	*-4.6%*

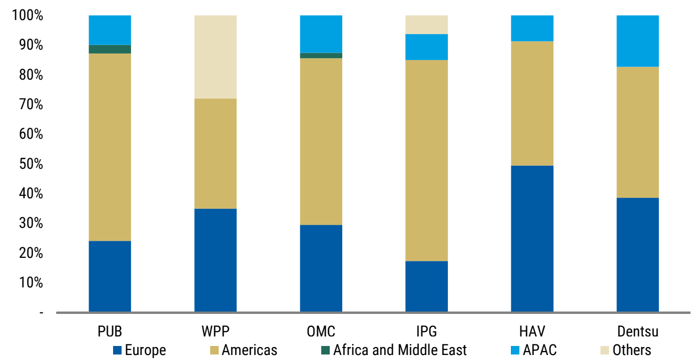
Source: Morgan Stanley Research estimates

Exhibit 37: Revenue exposure by sector (2021)



Source: Company data, Morgan Stanley Research estimates (E)

Exhibit 38: Revenue exposure by geography (2021)



Source: Company data, Morgan Stanley Research estimates (E). Note: WPP revenue generated in South America, Eastern Europe, APAC, Africa and Middle East is included in Others, Dentsu revenue generated in Africa and Middle East is included in Europe.

Metals & Mining

Alain Gabriel, Ioannis Masvoulas, Sandeep Peety

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. **Russia - Metals & Mining: Navigating the volatility:** Russia makes a substantial contribution to global commodity markets. In production terms, it has the largest share in palladium and diamonds, both above 30%. Other key commodities are platinum (10%), nickel (7%) and aluminium (6%). We think it is also important to look at Russia's share of exports (where data are available): steel, thermal coal (20%) and metallurgical coal (10%) sit towards the top of that list. See Exhibit 39 and Exhibit 40 .
      ii. **metal&ROCK: Energy price impacts:** Apart from Russia production and exports, we think it is worth looking at the potential impact on European metals production if energy prices stay higher for longer given the need of significant energy requirement to produce metals, especially aluminium and zinc (see Exhibit 3).
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. We see metals processing businesses such as aluminium, copper and zinc smelters as well as steel mills will see sharp increases in their costs. This is already causing capacity shuts among assets that are exposed to energy costs and putting them at a disadvantage relative to those with access to renewable sources and/or with assets that are in regions with much lower energy cost pressure.
      ii. On the steel side, Russia and Ukraine export ~40mt of crude steel, equivalent in total p.a. vs EU27+UK production of ~160mt in 2021. While we acknowledge the challenges in replacing exports from Russia and Ukraine in the near term, (1) we argue that exports from these two regions are unlikely to fall to zero, and (2) we are concerned about risks of demand disruption and destruction. Record steel prices could start to weigh on price-sensitive consumers in a high-inflation environment, while disruptions threaten already stretched automotive supply chains – a key end market for EU steel mills. Some EU car producers have already slowed output due to component shortages (see European Metals & Mining Tracker: Rat Race).
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. We have looked back at almost 5 decades of commodity cycles and our conclusion is that general cost inflation has typically coincided with periods of margin expansion, provided that underlying demand conditions are healthy. However, we now focus on the resilience of consumption in light of the increased uncertainty and sharp increases in CPI.
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Aurubis is the most exposed company in our coverage to surging energy costs, which account for 15% of its total cost base (and rising). Despite its energy hedging, which amounts to two-thirds of FY22 exposure, fiscal 1Q22 saw energy cost inflation of 55% year on year. As the European energy complex moves higher, there are prospects of increasing cost pressures in the coming quarters and especially into FY23 when the hedge ratio starts to taper off.
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. From our European Metals & Mining coverage, we estimate only ArcelorMittal has direct revenue exposure to Ukraine (~5%), which could see the profits from its Ukraine business fall sharply.
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?

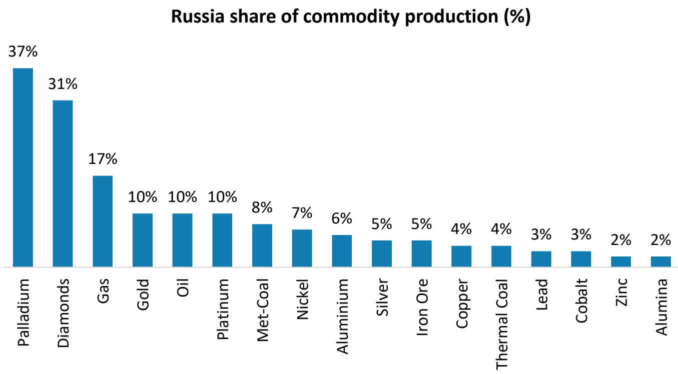
i. **Upside to our commodity price estimates.** The direct exposure to Russia and Ukraine is very limited for companies under our coverage; as such, we anticipate no material direct impact. However, given the significant Russian exports of various commodities and higher energy prices have reset commodity prices higher, this dynamic will increase revenue for companies under our coverage.

c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?

i. ArcelorMittal has direct exposure to Ukraine as it produces c.5mt of crude steel from its Ukrainian operations and c.10-11mt from its iron ore mines. We estimate the total impact to be ~5% of 2022 EBITDA. See ArcelorMittal SA: A stoppage in Ukraine?.

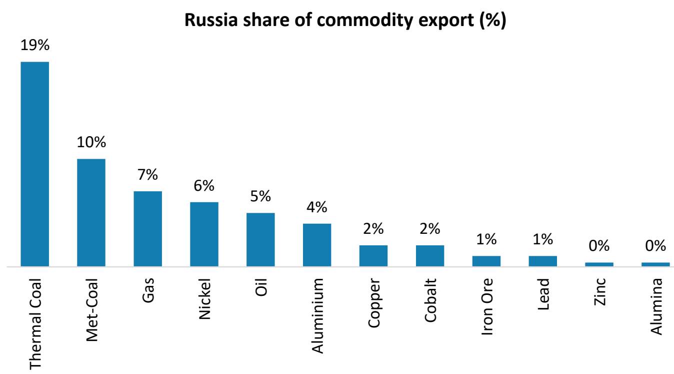
ii. Glencore does not have an operational footprint in Russia and according to the company its trading exposure is not material. However, Glencore has equity stakes in En+ and Rosneft. The total value of equity investment in those two operations stood at US$1.3bn as of 31st December 2021. On the other hand, Glencore's revenues are set to rise sharply as a result of higher commodity prices, which are underpinned by worries about supply disruptions; see our recent report here for more detail.

Exhibit 39: Russia share of 2021 commodity production



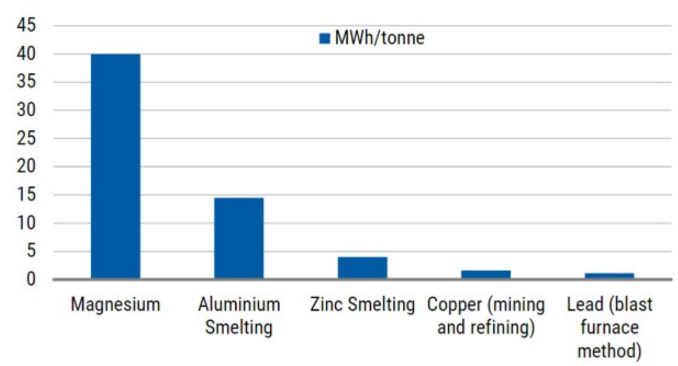
Source: Source: WBMS, IEA, Wood Mackenzie, Statista, OEC, Morgan Stanley Research

Exhibit 40: Russia share of commodity exports in 2021 (where available)



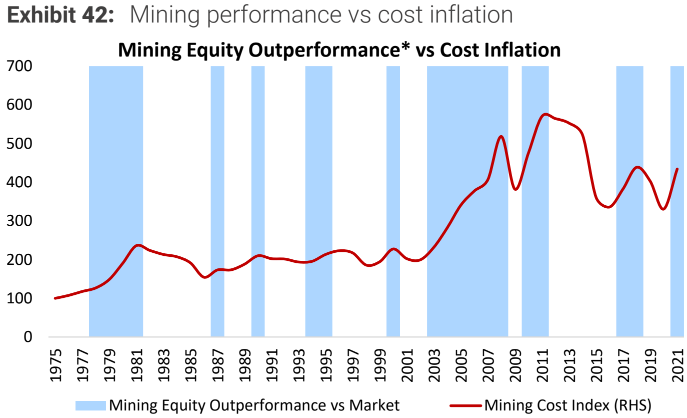
Source: Source: WBMS, IEA, Wood Mackenzie, Statista, OEC, Morgan Stanley Research

Exhibit 41: Average electricity consumption by metal



Source: Morgan Stanley Research. Note: Magnesium production is predominantly in China, meaning it is less exposed to European energy prices

Exhibit 42: Mining performance vs cost inflation



Source: Bloomberg, Thomson Reuters, Morgan Stanley Research estimates

Technology Software, IT Services & Payments

Adam Wood, Alastair Nolan, George Webb

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. N/A
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. We consider our wider software, services and payments coverage to be broadly insulated from supply-chain exposure to Russia/Ukraine. Some of the resellers/distributors we cover (for example, Softcat, Computacenter, Exclusive Networks and SoftwareONE) have been impacted by supply-chain constraints due to chip/semiconductor shortages over the past 12 months; however, at this stage we do not anticipate the Russia/Ukraine situation will exacerbate this.
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. We do not anticipate material first-order impacts on the software, IT services or payments side of our coverage.
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. Within our coverage, we see the direct impacts around supply-chain disruption as relatively limited, and, in many cases, second-order effects (for example, of higher energy/electricity prices) are largely hedged for CY22. However, we see IT services company TietoEVRY as most exposed from a supply/operational perspective. Approximately 9% of its employee headcount in FY21 was based in Ukraine, mainly in the capital Kyiv, and in cities in the West of the country (e.g. Lviv, Odessa). We would consider this to have a moderate impact on the company, as it will affect utilisation (and thus revenues) of this headcount, even if some substitution of work to other delivery centres is possible. The company has activated a task force to implement a response plan for the Ukrainian operations. On the flip side, the end-customer revenue impact is likely to be relatively minor, with the company's exited Russian operations only at c. 0.4% of prior-year sales.
      ii. On the payments side, direct exposure to Russia/Ukraine is also low: we estimate <2% of revenues. As such, we see first-order impacts as relatively limited. The secondary impact is more likely to come from any hit to European GDP, coupled with higher inflation, which would likely act as a headwind to consumer disposable income. We see consumer GDP as fairly stable, however, considering a relatively high exposure to durable/staples spend. On the FX transfer side, we estimate Wise has low-single-digit exposure to Russia/Ukraine, but a wider shift towards de-globalisation may provide a slight headwind to its business model in the mid to long term. Separately, we believe some investors have concerns around Eurowag in light of its East European exposure and its fuel card business. However, we understand that the company's exposure to Russia and Ukraine is very small, while fuel price exposure is minimal. A secondary impact may be around risks to fuel supplies and potential future international expansion, but for now we see these risks as manageable.
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. Our coverage has seen limited direct revenue impacts, given the relatively limited end-customer revenue exposure to affected geographies (Russia, Ukraine, Belarus). In the majority of cases, the revenue impact is <2% of sales, with only a couple of cases where the level of exposure is above this (but still generally <4% of sales).

b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
    i. We do not anticipate material first-order impacts on the software, IT services or payments side of our coverage.
c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
    i. We would not highlight any single company in our coverage from a revenue perspective, as we estimate all names in our coverage have a maximum low-single-digit exposure to Russia/Ukraine.

Telecommunications Services

Emmet Kelly, Terence Tsui, Nawar Cristini, Fredrick Brennan

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. European Telecoms operators do not have any direct supply-side exposure to Russia and Ukraine. However, satellite operators have some indirect exposure. SES and Eutelsat do not use Russian rocket launch vehicles, but with these vehicles no longer viable for international satellite companies, there is a growing backlog for launching on other vehicles (for instance, Arianespace). This is causing delays in launching satellites for the industry as a whole.

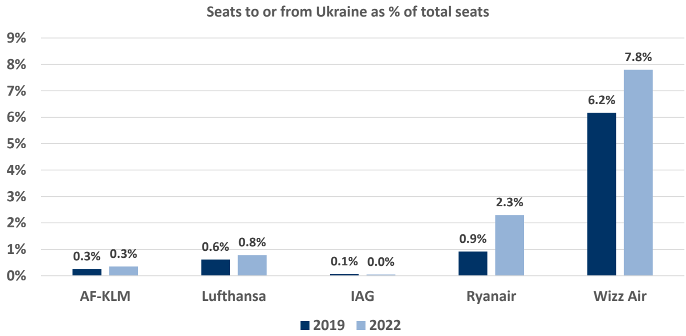
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. European Telecoms operators do not have any direct revenue exposure to Russia and Ukraine. In the past, Telenor did have direct exposure to both countries as it was the largest shareholder in VEON; however, the company completed the sale of its stake in 2019. That said, Telenor, Tele2, Telia and Elisa have Telecoms operations in neighbouring Baltics and Finland.

Transport

Carolina Dores, Nicolas Mora

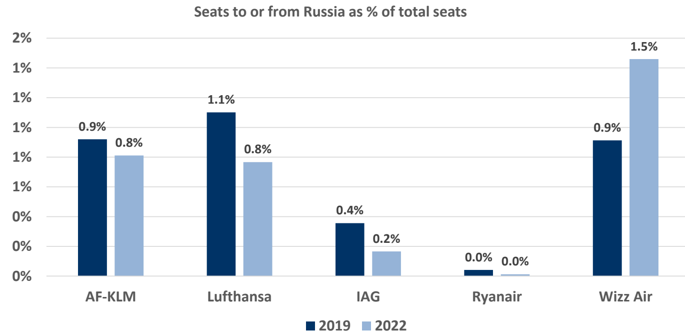
1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. The sanctions imposed on Russia and reduced sailing to the Black Sea could put more constraints on sea freight, a market that is already at capacity. Moreover, higher oil prices could add to transportation costs, though this is a pass-through cost, so any squeeze in margins should be temporary. Finally, the impact of the conflict on consumer confidence/demand (due to inflation or negative sentiment) could ease demand. We discussed these points in a recent feedback report from a trip to the US West Coast (Postcard from LA/Long Beach), and in our monthly chartbook (More disruption ahead?).
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine?
      i. Freight companies stand to benefit from more complex supply chains and constraints in ports, road and air; so asset owners in particular – Maersk, Hapag and Deutsche Post DHL – could benefit from this environment through higher rates, as demand from Ukraine and Russia represents less than 2% of global trade (on containers). The trend could turn negative if higher commodity prices drive lower consumption, specially in the US, easing congestions (and rates) in addition to lower volumes.
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. N/A
   d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. N/A
2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**
   a. What have you published on revenue exposure to the Russia/Ukraine situation?
      i. For the airlines, the conflict in Ukraine could have two implications: 1) reduced capacity as a result of direct exposure to Ukraine and Russia, and 2) lower demand and/or margins due to higher oil prices (c20% of industry costs) – we discussed airlines' exposure in our note Airlines: Higher oil, longer Asia routes likely more negative for Wizz and AF-KLM. We have also written about how we think airlines' underperformance relative to the market has created some buying opportunities – see Airlines: 03/22 EU Flight Scanner: Sell-Off Overdone.
   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?
      i. For airlines, higher oil could reduce demand for flights. However, we think pent-up demand post the COVID pandemic should be strong enough for companies to be able to pass this through without a significant impact on load factors. There may also be a risk of reduced demand for trips to Europe overall, or at least the Baltic region, as a result of the conflict. Airlines have observed that demand so far has not slowed down on transatlantic routes (see here).
   c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?
      i. As shown below, Wizz has the highest exposure to Russia and Ukraine, among the Airlines.

Exhibit 43: Wizz Air is by far the most exposed to Ukraine



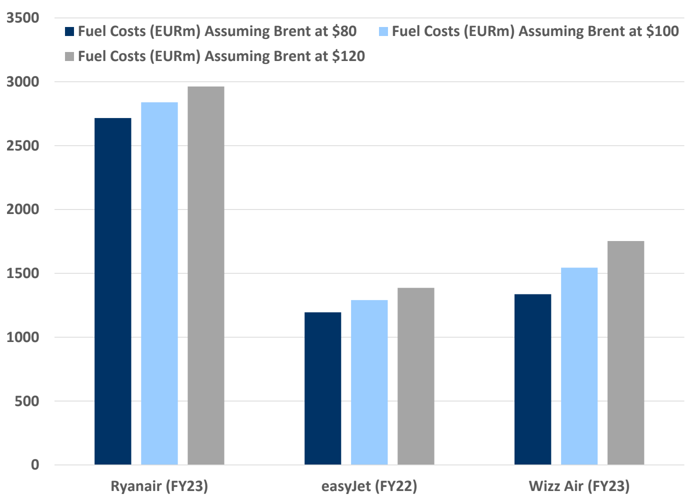
Source: OAG, Morgan Stanley Research

Exhibit 44: Direct exposure to Russia is generally limited



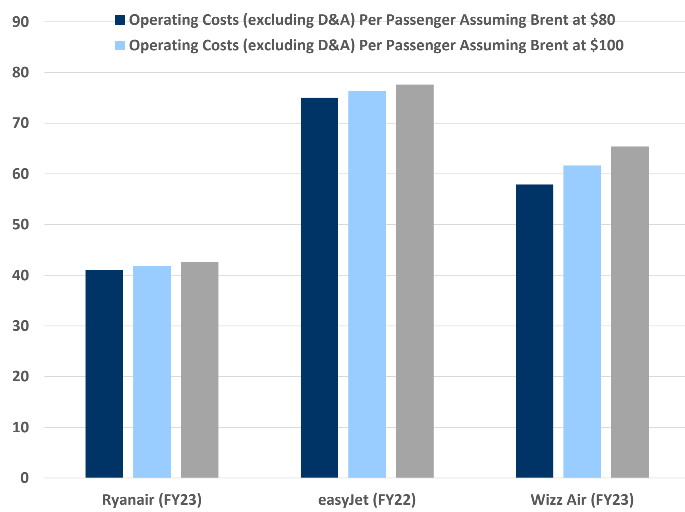
Source: OAG, Morgan Stanley Research

Exhibit 45: Higher Brent will likely lead to higher fuel costs for all airlines



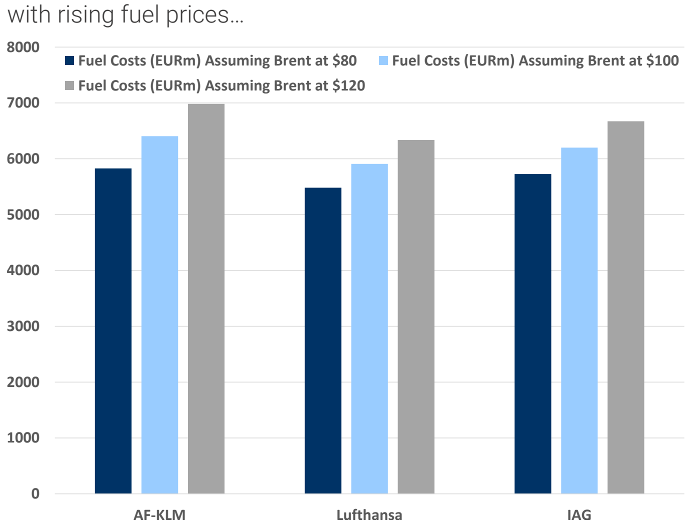
Source: Morgan Stanley Research estimates

Exhibit 46: Wizz's operating cost per passenger is also likely to be much higher than at Ryanair



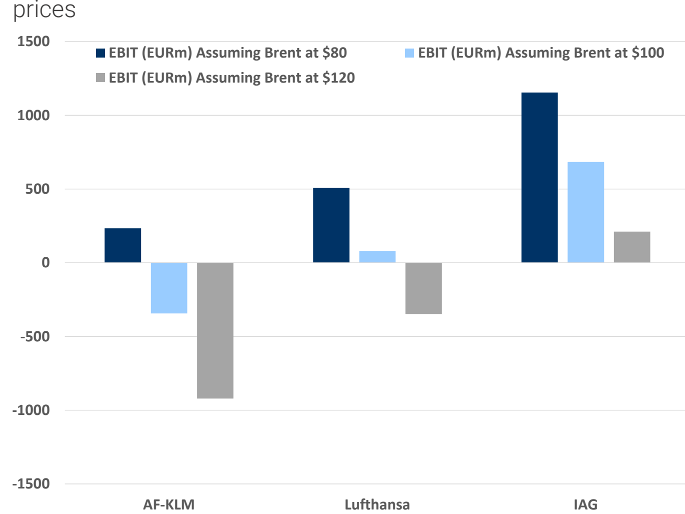
Source: Morgan Stanley Research estimates

Exhibit 47: Legacy airlines are likely to see similar cost increases with rising fuel prices…



Source: Morgan Stanley Research estimates. Note: Data for CY22.

Exhibit 48: …and their EBIT is greatly affected by underlying oil prices



Source: Morgan Stanley Research estimates. Note: Data for CY22.

Utilities

Robert Pulleyn, Chris Laybutt, Arthur Sitbon, Sarah Lester, Harrison Williams, Marina Fuentes Juan

1. **Supply-chain impact (commodity/raw material costs, transportation, other supply-chain linkages unique to your coverage):**
   a. What have you published on supply-chain linkage to the Russia/Ukraine situation?
      i. **REPowerEU: Key Aspects of EU Energy Market Plan:** The REPowerEU plan (link here) aims for the EU to reach independence from Russian gas well before the end of the decade. The plan outlines measures to reduce Russian gas imports by 102bcm by the end of 2022, and 141-166bcm by the end of 2030 (versus Russian imports of 150-180bcm p.a.). It indicates that the EU could reach independence from Russian gas well before the end of the decade. The supporting documents highlight that gas storage is sufficient to fulfil current winter demand, even if gas supplies from Russia are interrupted.
      ii. **Power & Gas Implications for European Utilities: #2:** We seek to address key investor questions on European Utilities regarding windfall taxes, gas supply exposure, clean energy, carbon and gas markets.
      iii. **Implications of Russia-Ukraine for European Utilities:** With geopolitical uncertainty high around the Russia/Ukraine topic, we assess potential outcomes for the Utilities given their exposure to gas and power prices, as well as likely defensive appeal versus the wider market.
   b. What, if any, key risks do you see to your coverage more broadly from supply-chain exposure to Russia/Ukraine? *And...*
   c. If your companies experienced either higher cost of supplies from Russia/Ukraine, or if such supply were completely cut off, what would be the high level implications?
      i. **Gas supply exposure.** The large risk to gas supply businesses relative to exposure to Russian gas imports is more a bear case risk, in our view. European gas imports from Russia will most likely decline year on year, leading to a tight market with substitute supply sought from other sources. This may yet trigger some volume shortfalls, leading to expensive buybacks of gas volumes by Utilities at market prices; however, we consider the risk of large-scale supply disruption, consistent with zero Russian imports, as a bear case scenario at this time.
      ii. **Windfall taxes on power generation.** We find the windfall tax proposal in the REPowerEU plan more benign that expected. The plan confirms that member states can consider temporary tax measures on windfall profits of electricity generators. However, the duration is limited to not beyond 30 June 2022. The statement adds that "such measures should not be retroactive, should be technologically neutral and allow electricity producers to cover their costs and protect long-term market and carbon price signals". In particular, the measures should only target energy volumes that have profited from higher electricity market prices (and thus should not apply to volumes already sold forward) and should not deal with the effects of "the structural component of the increase in global gas prices" or carbon. Consequently, the potential for windfall taxes appears on the small quantum of unhedged volumes to mid-year 2022, and will not look to correct all of the power price uplift from gas and carbon prices. We note that the open-ended nature of the statement on 'all measures' may continue to weigh on companies with large exposure to power generation versus pre-invasion levels.
      iii. **Energy retail intervention risk.** The section in the REPowerEU Plan on retail prices may sustain concern around intervention for companies with material exposure to electricity supply businesses. Per the statement, "The Commission confirms that price regulation and transfer mechanisms to help protect consumers and our economy are possible", citing the electricity directive allowing member states in exceptional circumstances to set retail prices for households and small businesses, under certain conditions already laid out – which the current situation arguably fulfils. The plan therefore could enable some member states to enact such

measures, albeit on a temporary basis.

d. Can you provide the companies you cover with the most significant exposure on this front, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?

   i. We expect Clean Energy companies to be long-term beneficiaries, including **SSE**, **Iberdrola** and **Orsted**, reflecting a bias towards clean energy and/or UK exposure (given lower risk of power market intervention and lower exposure to Russia gas imports).

   ii. Simplistically, elevated wholesale price volatility in our view increases the risk of adverse political intervention to ease the burden on end users. **Enel** has one of the largest Retail books in the sector, contributing around 15-20% to group EBITDA and 20% EBIT

2. **Revenue impact (could be direct revenue exposure to Russia/Ukraine or if you have a strong view on indirect exposure to weakening consumer/corporate sentiment in broader Europe as a result of this conflict):**

   a. What have you published on revenue exposure to the Russia/Ukraine situation?

      i. **Enel:** Our standing assumption is that Enel's exposure outside its Russian subsidiary is quite small, with Enel drawing on contracts sourcing from Algeria, Nigeria, Shah Deniz, Cameroon, Qatar and the US.

      ii. Regarding indirect exposure, refer to above section.

   b. What, if any, key risks do you see to your coverage more broadly from revenue exposure to Russia/Ukraine?

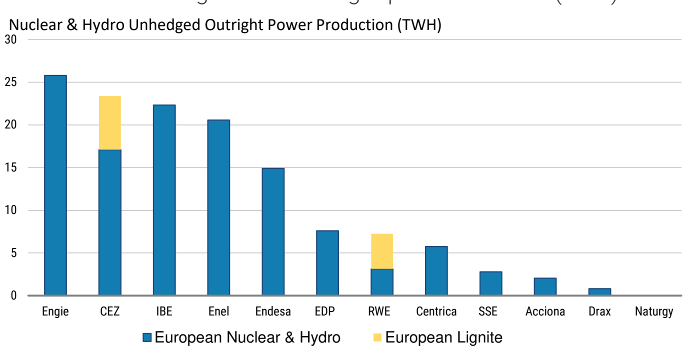
      i. Enel is the only company under our coverage with direct revenues originating in Russia.

      ii. Regarding indirect exposure, refer to above section.

   c. Can you provide the companies you cover with the most significant exposure from a revenue perspective, and characterise this exposure by degree of severity (from modest to severe, perhaps mentioning what's already been discounted)?

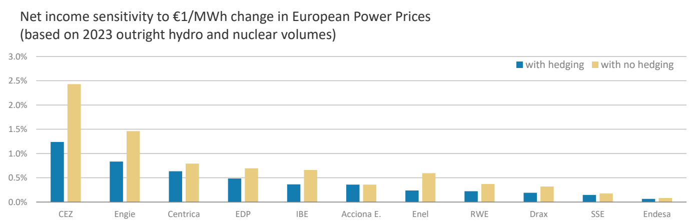
      i. Direct Russian revenues will account for <0.5% of Enel Group's revenues in 2022, on our estimates.

Exhibit 49: Unhedged 2023 outright power volumes (TWh)



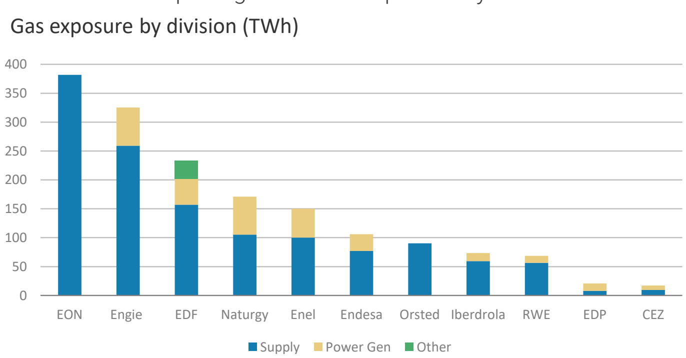
Source: Company data, Morgan Stanley Research estimates. Note: EDF is excluded given uncertainty on power price exposure in the context of significant nuclear outages.

Exhibit 50: EPS sensitivity to power prices on outright nuclear and hydro volumes



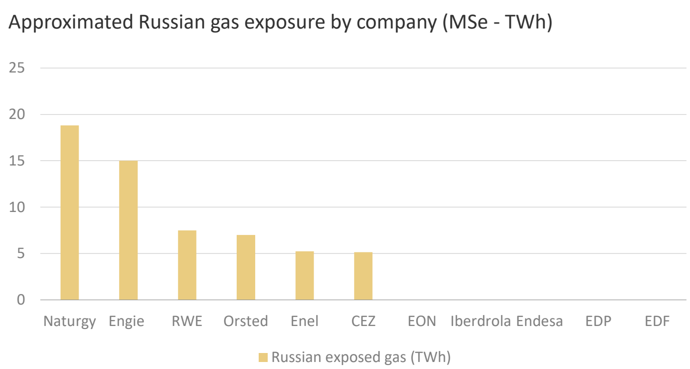
Source: Company data, Morgan Stanley Research estimates. Note: EDF is excluded given uncertainty on power price exposure in the context of significant nuclear outages.

Exhibit 51: European gas volume exposure by business line...



Source: Company data, Morgan Stanley Research estimates

Exhibit 52: ...and estimated exposure to Russia



Source: Company data, Morgan Stanley Research estimates

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(as of February 28, 2022)

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	Coverage Universe		Investment Banking Clients (IBC)			Other Material Investment Services Clients (MISC)	
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category	Count	% of Total Other MISC
Overweight/Buy	1494	42%	386	46%	26%	645	41%
Equal-weight/Hold	1524	43%	372	44%	24%	708	45%
Not-Rated/Hold	0	0%	0	0%	0%	0	0%
Underweight/Sell	547	15%	85	10%	16%	209	13%
Total	3,565		843			1562	

Data include common stock and ADRs currently assigned ratings. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months. Due to rounding off of decimals, the percentages provided in the "% of total" column may not add up to exactly 100 percent.

Analyst Stock Ratings

Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Not-Rated (NR). Currently the analyst does not have adequate conviction about the stock's total return relative to the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Underweight (U). The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below.

In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below.

Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below.

Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index or MSCI sub-regional index or MSCI AC Asia Pacific ex Japan Index.

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Morgan Stanley

The Americas
1585 Broadway
New York, NY 10036-8293
United States
Tel: +1 (1) 212 761 4000

Europe
20 Bank Street, Canary Wharf
London E14 4AD
United Kingdom
Tel: +44 (0) 20 7 425 8000

Japan
1-9-7 Otemachi, Chiyoda-ku
Tokyo 100-8104
Japan
Tel: +81 (0) 3 6836 5000

Asia/Pacific
1 Austin Road West
Kowloon
Hong Kong
Tel: +852 2848 5200