

Forestry & Paper

Monthly Industry Insights

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Analyst

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Key message: Graphic Paper prices further in the green in October, while pulp and containerboard were mostly stable. OCC was down 33% m/m. October saw share prices claw back losses from the previous month, led by Sylvamo (+42%) and Sappi (+29%).

■ **October average price changes:** *NBSK pulp* -1% m/m; +11% y/y; *BHKP pulp* flat m/m; +21% y/y; *China BHKP net pulp* flat m/m; +47% y/y; *China NBSK net pulp* -1% m/m; +19% y/y; *BCTMP* -6% m/m; +33% y/y; *LWC* +3% m/m; +73% y/y; *CWF* +3% m/m; +74% y/y; *UWF* +2% m/m; +54% y/y; *Newsprint* +4% m/m; +81% y/y; *US CFS* flat m/m; +26% y/y; *Kraftliner* -1% m/m; +15% y/y; *Testliner* flat m/m; +20% y/y; *OCC* -33% m/m; -47% y/y.

■ **October saw most shares claw back losses from the previous month:** *Top gainers* were Sylvamo (+42%); Sappi (+29%), Suzano (+20%) and Klabin (+19%). *Top losers* included Lenzing (-13%) and SCA (-8%). *Mondi* was up 12% m/m.

■ **All peers (except Lenzing) are trading at a discount to their 5-yr average EV/EBITDA:** *Billerud and CMPC* are trading at the deepest discount (36%) of 5.3x and 4.3x, respectively. *Mondi* is trading at 5.5x (24% discount) and *Sappi* is trading at 3.5x (28% discount).

■ **EUROPULP September data for stocks of wood pulp at European ports:** -12% y/y & -5% m/m (YTD: -9% y/y).

■ **UTIPULP August data:** European pulp consumption was up 6% y/y (-8% m/m); Inventories -6% y/y (+5% m/m); and Inventory days -5% y/y (+5 m/m) to 20.

■ **EUROGRAPH August data for total European shipments:** *UWF* and *CWF* outperforms all other Graphic Paper grades. *CWF* -5% y/y & +4% m/m (Europe deliveries -3% y/y & +3% m/m and exports -11% y/y & +6% m/m); *CM* -21% y/y & +11% m/m; *UWF* -4% y/y & +2% m/m (Europe deliveries -1% y/y & +3% m/m and exports -16% y/y & -3% m/m).

■ **AF&PA September 2022 US Printing & Writing stats:** Shipments back in the green. *Positive read-through for Sappi with CFS purchases up 6% y/y.* Imports increased by 37% y/y and exports increased by 3% y/y. Inventories were down 1% m/m.

■ **AF&PA September 2022 US Packaging Papers stats:** Total shipments -10% y/y and down 2% YTD (unbleached bag & sack: -0.6% YTD).

■ **AF&PA Q3 22A US Boxboard stats:** Positive read-through for Sappi with Solid bleached boxboard (SBB) production up 3% y/y (+2% YTD).

■ **AF&PA Q3 22A US Containerboard stats:** *Total containerboard production declined by 8.6% y/y (-1.6% YTD).* The linerboard operating rate was 86.0% vs. 91.4% for Medium.

Forestry & Paper Key October 2022 average price changes

Details	m/m % chg.	y/y % chg.	YTD vs. 2021 average % chg.
Pulp (USD/t)			
NBSK Europe	-1%	11%	16%
BHKP Europe	0%	21%	26%
NBSK Europe (EUR)	2%	32%	31%
BHKP Europe (EUR)	2%	44%	41%
US NBSK (gross)	-1%	17%	13%
China BHKP net	0%	47%	19%
China NBSK net	-1%	19%	10%
Paper (EUR/t)			
LWC	3%	73%	62%
Clia WF	3%	74%	59%
A4 E-copy	2%	54%	40%
Newsprint	4%	81%	71%
Packaging (EUR/t)			
Kraftliner	-1%	15%	29%
White-top Kraftliner	0%	17%	21%
Testliner 2	0%	20%	33%
Testliner 3	0%	21%	34%
RB-Fluting	-1%	22%	37%
FIX OCC 1.04 dd	-33%	-47%	11%
FIX ONP/OMG 1.11 dd	-17%	6%	31%
Spreads (EUR/t)			
SWHW Europe (USD)	8%	-42%	-27%
SWHW China (USD)	-3%	102%	40%
NBSK China/Europe (USD)	3%	(0.33)	-366%
BHKP China/Europe (USD)	-1%	-52%	98%
A4 E-copy/BHKP (30% discount to list price)	1%	90%	39%
CWF/BHKP (30% discount to list price)	4%	3807%	248%
Kraftliner/Testliner 2	-4%	-6%	13%
White-top Kraftliner/Kraftliner	3%	65%	-81%
Testliner 2/OCC	8%	49%	42%

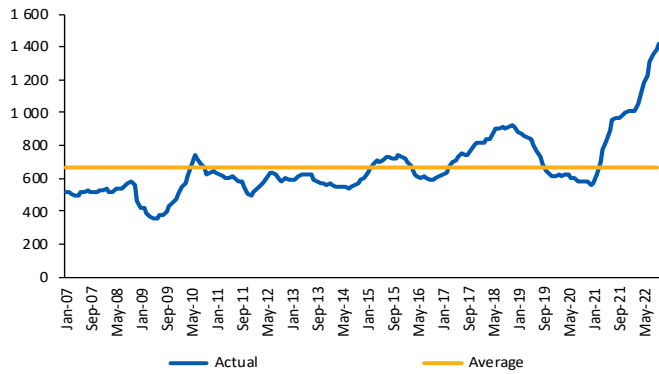
Source: Chronux Research, FOEX

Sappi Peers - Share price performance					
Peers	CY 19A	CY 20A	CY 21A	CY 22A	October m/m
Grasim	-11%	25%	75%	6%	3%
Lenzing	0%	0%	47%	-60%	-13%
Metsä Board	-5%	44%	0%	-12%	2%
Mondi	10%	5%	15%	-20%	12%
Sappi	-45%	-25%	39%	24%	29%
Stora Enso	27%	21%	3%	-18%	1%
UPM	40%	-1%	10%	1%	4%
Mondi peer share price performance					
Peers	CY 19A	CY 20A	CY 21A	CY 22A	October m/m
BillerudKorsnas	2%	32%	17%	-10%	9%
DS Smith	28%	-2%	2%	-24%	13%
International Paper	12%	8%	0%	-28%	6%
Mayr Melnhof Karton	10%	38%	7%	-18%	9%
Mondi	10%	5%	15%	-20%	12%
Nordic Paper		-10%	-2%	19%	3%
Norske Skog	15%	-11%	-1%	67%	16%
Packaging Corp	32%	23%	-1%	-12%	7%
Sappi	-45%	-25%	39%	24%	29%
SCA	38%	51%	12%	-19%	-8%
Segezha			39%	-52%	11%
Smurfit Kappa Group	39%	18%	18%	-29%	11%
Stora Enso	27%	21%	3%	-18%	1%
Sylvamo			-15%	73%	42%
The Navigator Company	-1%	-30%	34%	15%	11%
West Rock	10%	1%	2%	-23%	10%
Pulp Producers - Share price performance					
Peers	CY 19A	CY 20A	CY 21A	CY 22A	October m/m
CMPC	-15%	2%	-24%	5%	2%
Klabin	13%	44%	-3%	-16%	19%
Mercer International	15%	-17%	17%	12%	9%
Suzano	3%	48%	3%	-11%	20%
UPM	40%	-1%	10%	1%	4%

Source: Bloomberg, Chronux Research

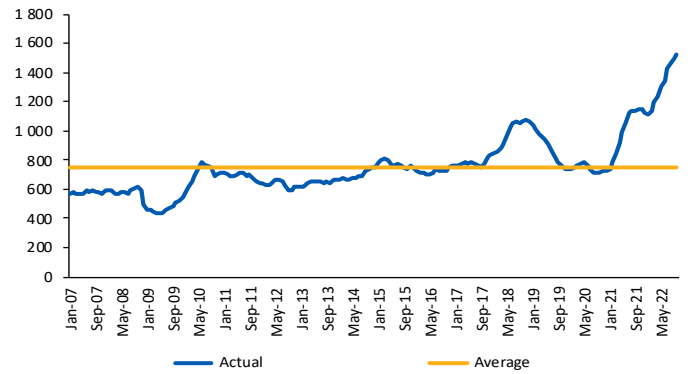
Prices: as at 31 October 2022

Europe hardwood pulp price (EUR/t)



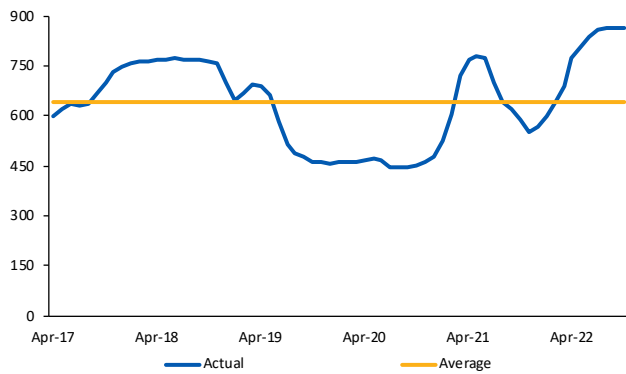
Source: Chronux Research, FOEX

Europe softwood pulp price (EUR/t)



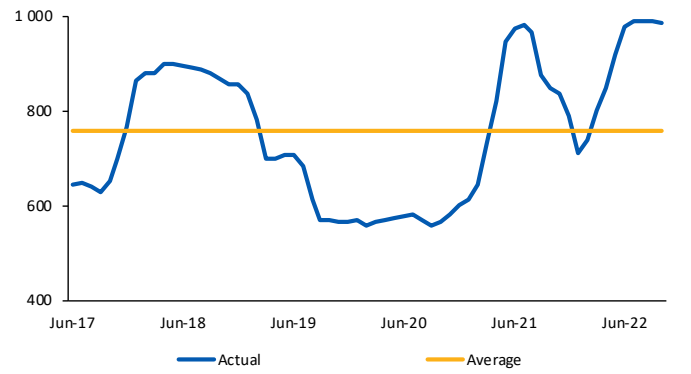
Source: Chronux Research, FOEX

China hardwood pulp price (USD/t)



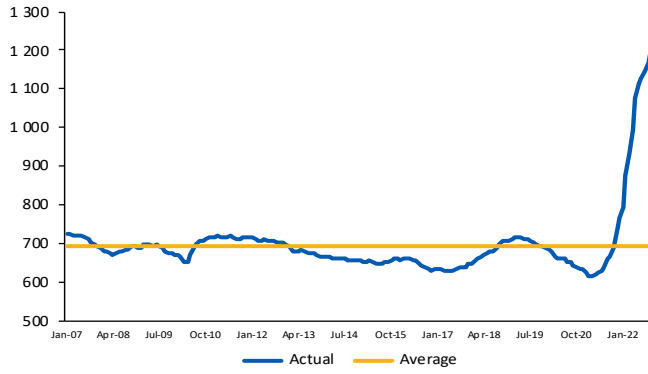
Source: Chronux Research, FOEX

China softwood pulp price (USD/t)



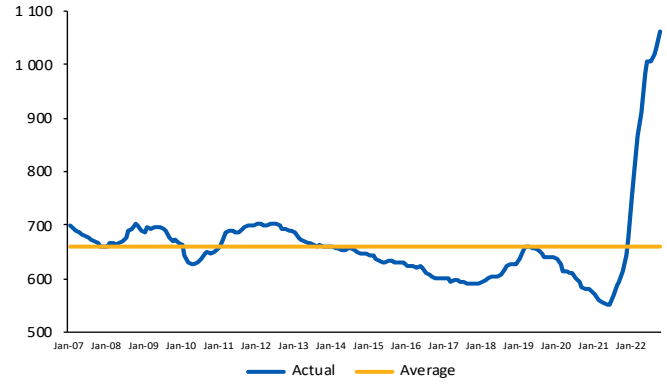
Source: Chronux Research, FOEX

Europe CWF price (EUR/t)



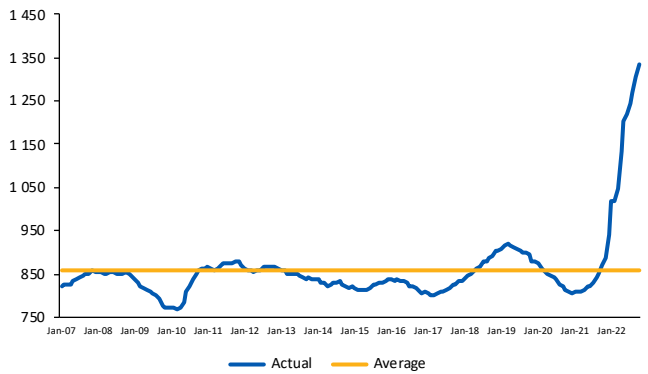
Source: Chronux Research, FOEX

Europe CM price (EUR/t)



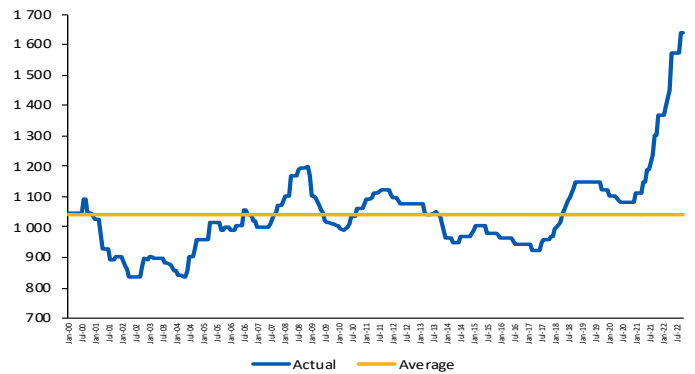
Source: Chronux Research, FOEX

Europe UWF price (EUR/t)



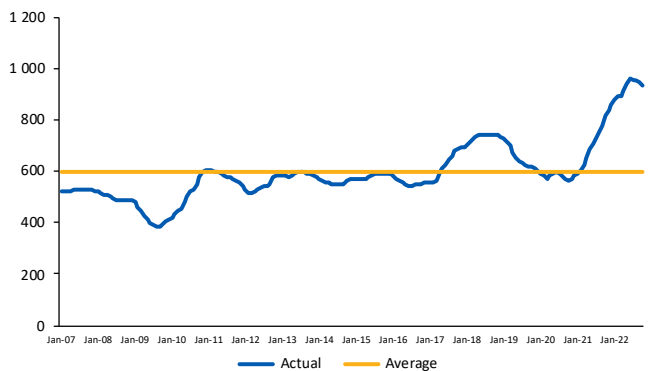
Source: Chronux Research, FOEX

US CFS price (USD/t)



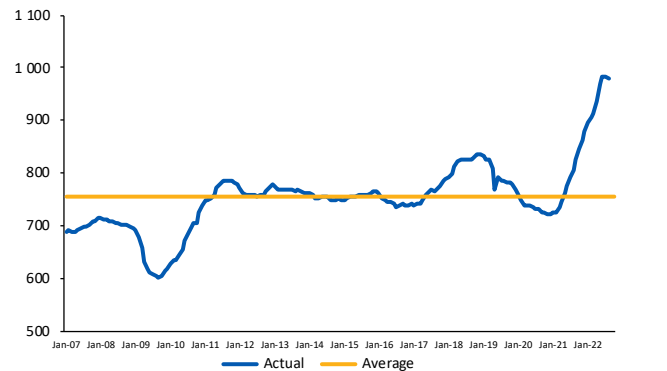
Source: Chronux Research, FOEX

Europe kraftliner price (EUR/t)



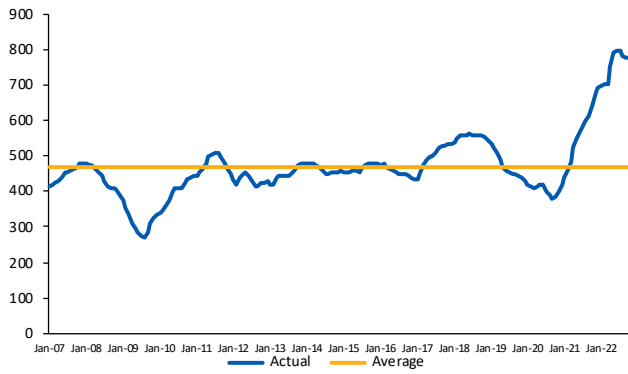
Source: Chronux Research, FOEX

Europe white-top kraftliner price (EUR/t)



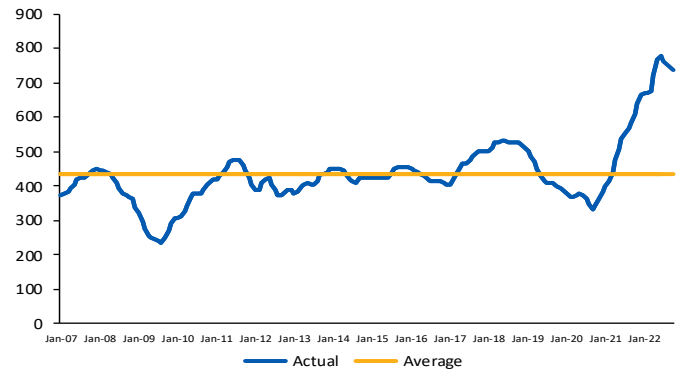
Source: Chronux Research, FOEX

Europe testliner price (EUR/t)



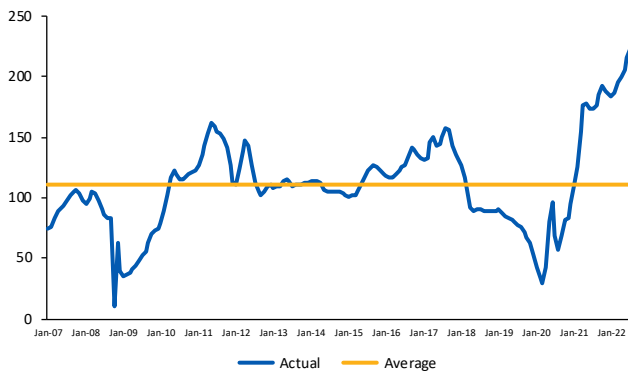
Source: Chronux Research, FOEX

Europe RB-fluting brown price (EUR/t)



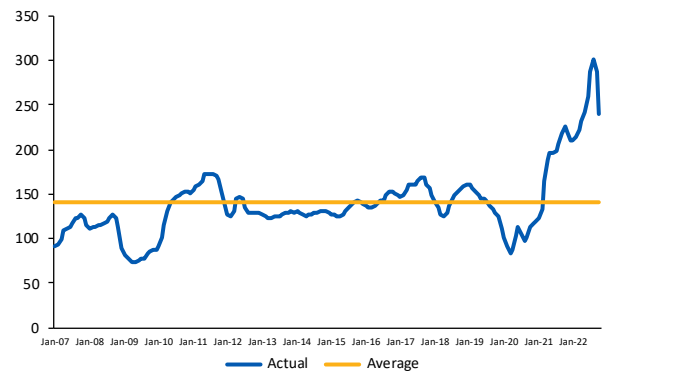
Source: Chronux Research, FOEX

Europe OCC price (EUR/t)



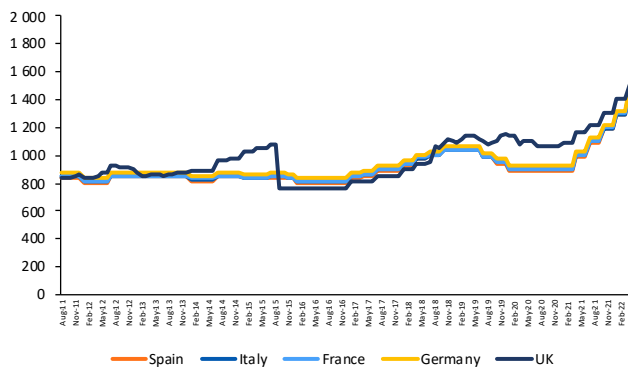
Source: Chronux Research, FOEX

Europe ONP/OMG price (EUR/t)



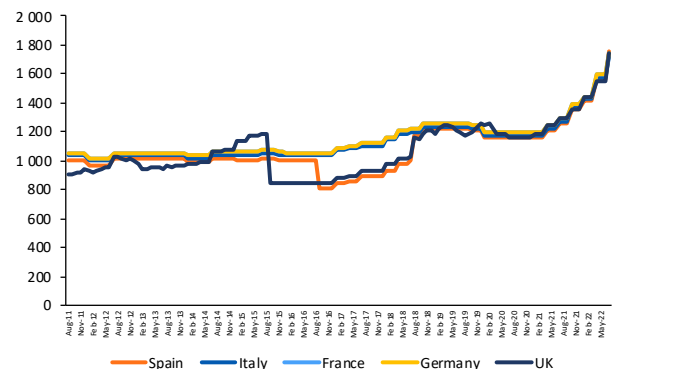
Source: Chronux Research, FOEX

Europe Unbleached Sack kraft price (EUR/t)



Source: Chronux Research, FOEX

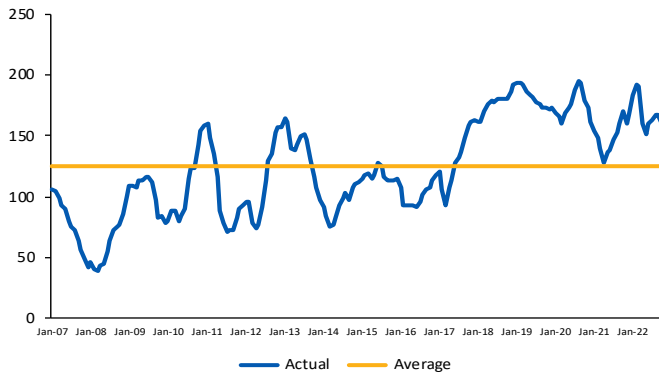
Europe Bleached Sack kraft price (EUR/t)



Source: Chronux Research, FOEX

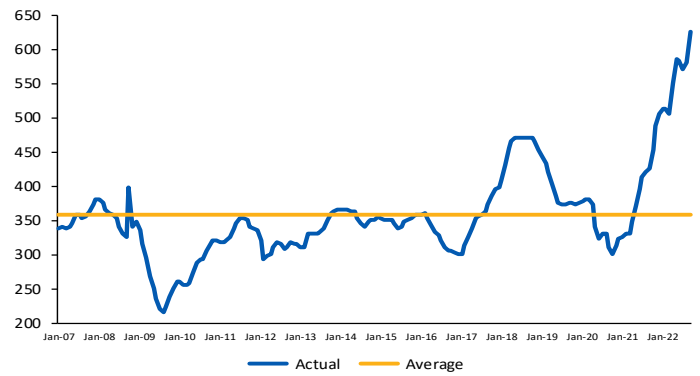
Spreads: as at 31 October 2022

Europe kraftliner/testliner spread (EUR/t)



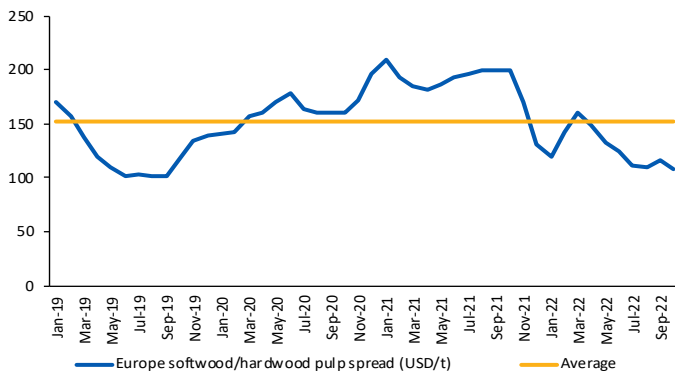
Source: Chronux Research, FOEX

Europe testliner/OCC spread (EUR/t)



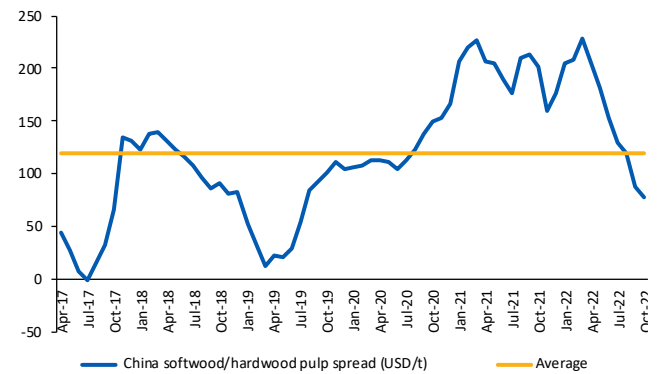
Source: Chronux Research, FOEX

Europe softwood/hardwood pulp spread (USD/t)



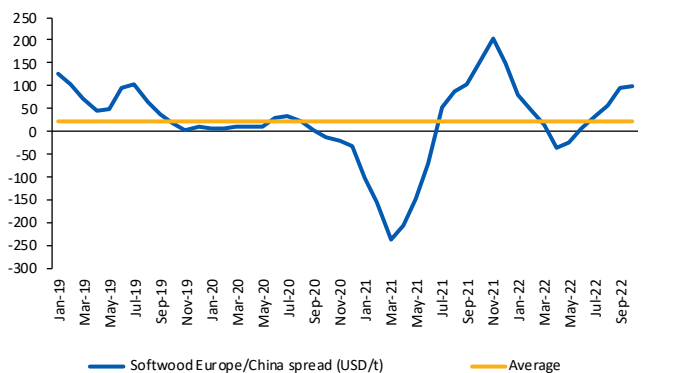
Source: Chronux Research, FOEX

China softwood/hardwood pulp spread (USD/t)



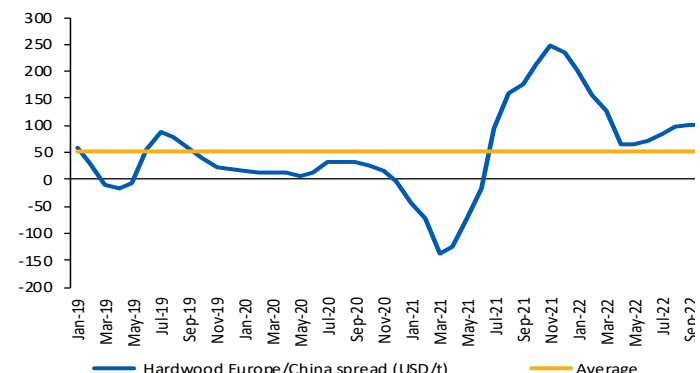
Source: Chronux Research, FOEX

Softwood Europe/China spread (USD/t)



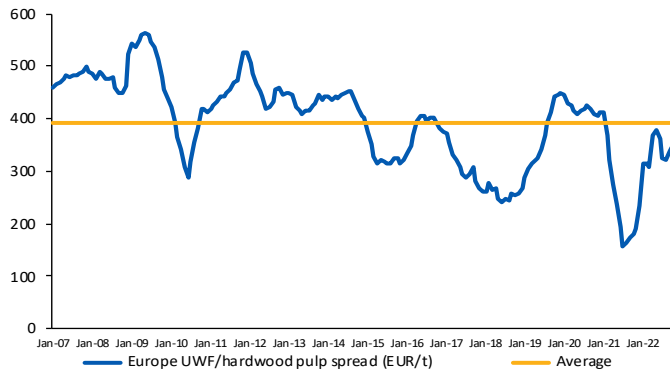
Source: Chronux Research, FOEX

Hardwood Europe/China spread (USD/t)



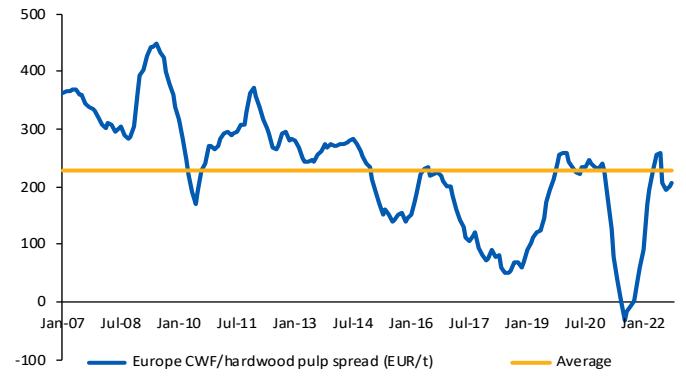
Source: Chronux Research, FOEX

Europe UWF/ hardwood pulp spread (EUR/t)



Source: Chronux Research, FOEX

Europe CWF/ hardwood pulp spread (EUR/t)



Source: Chronux Research, FOEX

Industry stats

Europe Graphic Papers 2022 YTD Printing-writing stats (%)

Details	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22
Graphic Papers	y/y % change								m/m % change							
Total European Shipments	-3%	-6%	-11%	-15%	-9%	-16%	-12%	-11%	-9%	0%	11%	-14%	8%	-2%	-4%	6%
To Europe	1%	-1%	-5%	-8%	-1%	-13%	-12%	-10%	-9%	1%	10%	-14%	9%	-4%	-7%	7%
To Outside Europe	-20%	-27%	-33%	-39%	-35%	-30%	-11%	-16%	-7%	-9%	15%	-11%	8%	9%	10%	1%
European demand	1%	-1%	-5%	-7%	0%	-11%	-11%	-8%	-9%	1%	10%	-14%	8%	-3%	-7%	7%
Newsprint	y/y % change								m/m % change							
Total European Shipments	1%	-3%	-11%	-11%	-8%	-11%	-11%	-10%	-9%	-2%	13%	-11%	6%	-1%	-7%	2%
To Europe	4%	8%	2%	-5%	-5%	-12%	-16%	-7%	-13%	3%	15%	-13%	3%	-4%	-6%	8%
To Outside Europe	-8%	-28%	-40%	-25%	-15%	-8%	5%	-18%	13%	-14%	7%	-1%	16%	7%	-7%	-12%
European demand	4%	8%	1%	-5%	-5%	-10%	-14%	-3%	-14%	2%	15%	-13%	2%	-1%	-8%	9%
SC-Magazine	y/y % change								m/m % change							
Total European Shipments	4%	-12%	-12%	-17%	-8%	-21%	-27%	-18%	-13%	0%	17%	-17%	7%	-7%	-8%	19%
To Europe	6%	-5%	-11%	-10%	-1%	-15%	-22%	-18%	-13%	3%	12%	-13%	5%	-7%	-9%	13%
To Outside Europe	-6%	-61%	-19%	-63%	-53%	-55%	-61%	-11%	-11%	-35%	100%	-55%	40%	0%	0%	79%
European demand	6%	-5%	-11%	-10%	-1%	-15%	-22%	-18%	-13%	3%	12%	-13%	5%	-7%	-9%	13%
Coated Mechanical Reels	y/y % change								m/m % change							
Total European Shipments	-13%	-15%	-19%	-28%	-22%	-28%	-15%	-21%	-19%	0%	9%	-16%	10%	-2%	2%	11%
To Europe	-7%	-12%	-11%	-17%	-12%	-23%	-18%	-23%	-24%	5%	11%	-18%	10%	-5%	-8%	13%
To Outside Europe	-29%	-25%	-47%	-57%	-51%	-43%	-7%	-16%	4%	-17%	-2%	-7%	8%	19%	39%	4%
European demand	-7%	-12%	-11%	-17%	-12%	-23%	-18%	-23%	-24%	5%	11%	-18%	10%	-5%	-8%	13%
Uncoated Mechanical (improved & others)	y/y % change								m/m % change							
Total European Shipments	-3%	-10%	-12%	-14%	-10%	-22%	-20%	-12%	-3%	9%	4%	-7%	5%	-8%	-8%	4%
To Europe	6%	-3%	-8%	-7%	-9%	-19%	-18%	-14%	-5%	6%	6%	-7%	0%	-7%	-11%	6%
To Outside Europe	-44%	-39%	-33%	-45%	-17%	-34%	-27%	5%	15%	33%	-10%	-6%	41%	-13%	5%	-5%
European demand	6%	-3%	-8%	-7%	-9%	-19%	-18%	-14%	-5%	6%	6%	-7%	0%	-7%	-11%	6%
Coated Woodfree	y/y % change								m/m % change							
Total European Shipments	10%	6%	-5%	-2%	4%	-9%	-5%	-5%	-2%	-1%	9%	-14%	9%	-4%	-4%	4%
To Europe	12%	11%	1%	7%	16%	-4%	-3%	-3%	-4%	0%	10%	-15%	10%	-4%	-7%	3%
To Outside Europe	0%	-10%	-24%	-27%	-27%	-25%	-15%	-11%	5%	-5%	6%	-9%	7%	-2%	10%	6%
European demand	12%	11%	1%	7%	16%	-3%	-2%	-2%	-4%	0%	9%	-15%	10%	-4%	-7%	3%
Uncoated Woodfree	y/y % change								m/m % change							
Total European Shipments	-11%	-8%	-10%	-17%	-10%	-15%	-6%	-4%	-6%	-3%	11%	-16%	12%	2%	-2%	2%
To Europe	-6%	-5%	-7%	-12%	1%	-9%	-7%	-1%	3%	-3%	7%	-16%	16%	-3%	-6%	3%
To Outside Europe	-38%	-23%	-23%	-40%	-51%	-37%	-1%	-16%	-41%	0%	40%	-18%	-13%	35%	18%	-3%
European demand	-7%	-5%	-6%	-10%	4%	-5%	-3%	1%	2%	-3%	7%	-13%	15%	-2%	-5%	2%

Source: Chronux Research, EURO-GRAPH, * Western and Eastern Europe excluding Russia

US 2022 YTD Printing-writing stats (%)

Printing-writing stats (y/y % chg.)	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Total printing-writing paper shipments	3%	2%	1%	0%	2%	-2%	-1%	-5%	5%
US purchases of total printing-writing papers	9%	7%	3%	2%	3%	3%	3%	-1%	8%
Total printing-writing paper levels (m/m)	1%	-1%	-3%	1%	1%	-2%	2%	-2%	-1%
UFS									
Shipments	-3%	5%	-3%	1%	2%	2%	-1%	-1%	12%
Inventory level m/m	2%	-2%	-3%	1%	0%	-2%	5%	-2%	-1%
Imports	-8%	-16%	9%	12%	-3%	18%	8%	25%	21%
Exports	-13%	-28%	-20%	-26%	-29%	-20%	-25%	-12%	-4%
CFS									
US purchases	29%	8%	24%	5%	2%	2%	2%	-6%	6%
Inventory level m/m	0%	1%	-3%	2%	2%	-1%	-1%	-3%	-1%
Imports	58%	43%	34%	16%	-6%	10%	32%	37%	37%
Exports	-8%	-23%	0%	-10%	-5%	-1%	6%	10%	-3%
CM									
Shipments	9%	-9%	-14%	-21%	-11%	-16%	-18%	-10%	-26%
Inventory level m/m	-6%	1%	-2%	6%	-5%	-8%	2%	5%	-6%
Imports	24%	-4%	-21%	-21%	1%	-16%	48%	14%	45%
Exports	-20%	-12%	-16%	-9%	-5%	-19%	-41%	-16%	-18%
UM									
US purchases	8%	30%	0%	15%	4%	28%	16%	17%	1%
Inventory level m/m	6%	4%	-15%	1%	2%	-4%	-13%	-9%	-4%
Imports	21%	2%	5%	13%	5%	8%	9%	8%	4%
Exports	18%	25%	62%	0%	-15%	-30%	-10%	-15%	-8%

Source: AF&PA, Chronux Research

US Containerboard and boxboard 2022 YTD quarterly stats

Containerboard (y/y % chg.)	Q1 22A	Q2 22A	Q3 22A
<i>Production</i>			
Total	2%	2%	-9%
<i>Operating rates</i>			
Linerboard	92.8%	94.3%	86.0%
Medium	96.6%	96.0%	91.4%
Boxboard (y/y % chg.)	Q1 22A	Q2 22A	Q3 22A
<i>Production</i>			
Total	2%	1%	3%
<i>Solid Bleached Boxboard</i>	2%	8%	2%
<i>Recycled Boxboard</i>	3%	13%	5%
<i>Unbleached Kraft & Gypsum</i>	2%	0%	3%
<i>Operating rates</i>			
Actual	94.0%	95.3%	95.7%
y/y chg. (points)	2.0	(1.2)	1.2

Source: Chronux Research, AF&PA

World chemical paper-grade market pulp statistics (kt)

Shipments	Jan-22	Feb-22	Mar-22	Apr-22	May-22
Total shipments	4 036	4 133	4 674	4 120	4 378
Bleached softwood kraft	1 741	1 807	2 045	1 790	1 933
Bleached hardwood kraft	2 140	2 161	2 370	2 110	2 256
Shipments-to-capacity ratio (%)	79%	90%	91%	84%	86%
m/m %/bps chg.					
Total shipments			13%	-12%	6%
Bleached softwood kraft			13%	-12%	8%
Bleached hardwood kraft			10%	-11%	7%
y/y %/bps chg.					
Total shipments			-3%	-1%	5%
Bleached softwood kraft			-5%	-5%	6%
Bleached hardwood kraft			-4%	1%	7%
Producer inventories at month end					
	Jan-22	Feb-22	Mar-22	Apr-22	May-22
Days of supply - all grades	44	42	41	42	42
Bleached softwood kraft	46	45	40	40	38
Bleached hardwood kraft	42	41	43	45	46
m/m % chg.					
<i>Days of supply - all grades</i>			-2%	2%	0%
Bleached softwood kraft			-11%	0%	-5%
Bleached hardwood kraft			5%	5%	2%
y/y % chg.					
<i>Days of supply - all grades</i>			-7%	0%	2%
Bleached softwood kraft			-13%	-11%	-5%
Bleached hardwood kraft			2%	10%	7%

Source: Chronux Research, RISI, PPPC

Stocks of Wood Pulp in European Ports 2022 YTD (y/y & m/m % chg.)

Country	y/y % chg.									m/m % chg.									YTD y/y % chg.
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Jan-Sept 22
Netherlands/Belgium	-11%	-15%	-31%	-14%	-8%	14%	19%	1%	-7%	-6%	5%	-6%	-6%	18%	-9%	-2%	13%	-4%	-8%
France/Switzerland	-25%	0%	-8%	-21%	-26%	-48%	-41%	-13%	-32%	-1%	-3%	9%	-38%	15%	-29%	-23%	119%	-7%	-23%
UK	-18%	-30%	-57%	-28%	-45%	-12%	-54%	-33%	-24%	-10%	3%	-9%	35%	-21%	68%	-40%	91%	31%	-34%
Germany	-24%	-13%	-32%	-4%	-6%	16%	9%	13%	32%	7%	7%	-25%	17%	9%	1%	-5%	1%	23%	-4%
Italy	-1%	13%	0%	-7%	22%	-13%	-32%	-14%	-25%	-7%	8%	-2%	-10%	27%	-26%	-14%	41%	-18%	-8%
Spain	-16%	-22%	6%	11%	-5%	-38%	6%	8%	-28%	34%	-18%	38%	-25%	10%	-22%	39%	3%	-21%	-10%
Total	-12%	-8%	-20%	-10%	-2%	-5%	-6%	-4%	-12%	-2%	3%	-4%	-9%	18%	-14%	-5%	22%	-5%	-9%

Source: Chronux Research, EUROPULP

***UTIPULP 2022 YTD (y/y & m/m % chg.)**

	Aug-22	y/y % change								m/m % change							
		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22
Consumption of chemical market pulp in UTIPULP countries (t)																	
Unbleached (sulphite & kraft)	11 005	24%	18%	2%	12%	-7%	11%	3%	27%	-1%	5%	-3%	-13%	16%	12%	-20%	-1%
Bleached or semi-bleached																	
Sulphite	41 759	-11%	-6%	-4%	-3%	-8%	-18%	-5%	18%	-4%	-9%	19%	-15%	-4%	-1%	3%	11%
HW	16 645	5%	2%	-14%	-19%	-6%	-8%	-17%	47%	4%	-8%	-4%	-8%	8%	-3%	-1%	49%
SW	25 114	-17%	-9%	0%	5%	-8%	-22%	1%	4%	-7%	-9%	29%	-18%	-8%	-1%	5%	-5%
Kraft	857 969	1%	2%	-1%	-2%	2%	3%	-2%	5%	3%	-5%	7%	-7%	6%	-2%	0%	-9%
HW	570 434	3%	4%	-2%	-3%	2%	2%	-3%	7%	4%	-4%	5%	-8%	6%	0%	0%	-9%
SW	287 535	-3%	-2%	-1%	1%	3%	4%	0%	2%	0%	-5%	11%	-5%	7%	-4%	0%	-7%
Total	910 733	1%	2%	-2%	-2%	2%	2%	-2%	6%	2%	-5%	7%	-7%	6%	-1%	0%	-8%
Inventory of chemical market pulp in UTIPULP countries (t)																	
Unbleached (sulphite & kraft)	13 619	14%	24%	29%	17%	47%	12%	49%	29%	2%	-2%	10%	7%	-8%	4%	10%	7%
Bleached or semi-bleached																	
Sulphite	26 549	7%	1%	4%	-9%	-4%	-6%	29%	39%	2%	1%	-10%	0%	8%	11%	-18%	19%
HW	10 122	15%	8%	11%	7%	11%	9%	14%	25%	-1%	-3%	6%	-6%	7%	-3%	10%	10%
SW	16 427	2%	-4%	-1%	-18%	-11%	-12%	43%	50%	5%	3%	-19%	5%	18%	13%	-26%	25%
Kraft	603 142	-21%	-22%	-19%	-19%	-15%	-20%	-12%	-8%	-3%	1%	2%	-7%	1%	1%	4%	4%
HW	387 371	-23%	-26%	-23%	-25%	-16%	-23%	-11%	-8%	-4%	-2%	0%	-10%	7%	1%	3%	3%
SW	215 771	-17%	-14%	-11%	-9%	-14%	-15%	-13%	-7%	-1%	6%	5%	-3%	-8%	2%	-3%	7%
Total	643 310	-20%	-21%	-18%	-19%	-14%	-19%	-10%	-6%	-3%	1%	1%	-7%	1%	2%	0%	5%
Inventories in days of chemical market pulp in UTIPULP countries																	
Unbleached (sulphite & kraft)	34	-13%	-7%	0%	-9%	17%	-6%	28%	10%	0%	-4%	12%	7%	-10%	4%	10%	6%
Bleached or semi-bleached																	
Sulphite																	
HW	25	5%	0%	0%	5%	5%	9%	15%	25%	-4%	0%	4%	-4%	-4%	9%	-4%	9%
SW	17	7%	-6%	0%	-13%	-11%	-5%	56%	55%	7%	0%	-19%	8%	14%	19%	-26%	21%
Kraft																	
HW	19	-30%	-33%	-31%	-29%	-22%	-28%	-14%	-10%	-5%	-5%	0%	-6%	6%	0%	0%	6%
SW	21	-20%	-16%	-15%	-8%	-13%	-17%	-13%	-9%	0%	5%	5%	0%	-9%	0%	0%	5%
Total	20	-27%	-27%	-23%	-25%	-22%	-21%	-14%	-5%	-5%	0%	5%	-10%	0%	6%	0%	5%

Source: Chronux Research, UTIPULP, *Statistics include information from Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Portugal, Spain, Switzerland, and the UK for sulphite and kraft pulp.

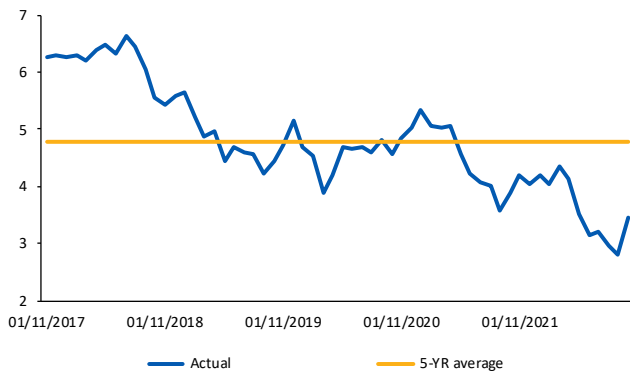
European paper sack deliveries

Units	2017	2018	2019	2020	2021	18/17 % chg.	19/18 % chg.	20/19 % chg.	21/20 % chg.
Cement	1 789 532	1 792 820	1 687 148	1 846 320	1 909 006	0.2%	-5.9%	9.4%	3.4%
Building materials except cement	2 445 295	2 489 977	2 491 301	2 574 515	2 785 478	1.8%	0.1%	3.3%	8.2%
Mineral products	197 440	191 524	192 450	199 202	227 873	-3.0%	0.5%	3.5%	14.4%
Milk powder	166 074	170 195	168 911	174 342	172 451	2.5%	-0.8%	3.2%	-1.1%
Food products except milk powder	883 624	897 426	863 026	837 742	865 110	1.6%	-3.8%	-2.9%	3.3%
Animal feed	560 902	553 833	553 734	550 961	544 801	-1.3%	0.0%	-0.5%	-1.1%
Chemical products	492 587	494 031	445 239	450 034	483 206	0.3%	-9.9%	1.1%	7.4%
Seeds	179 454	184 924	184 766	208 674	200 775	3.0%	-0.1%	12.9%	-3.8%
Miscellaneous	360 696	367 783	349 011	285 084	280 565	2.0%	-5.1%	-18.3%	-1.6%
Total	7 075 604	7 142 513	6 935 586	7 126 872	7 469 265	0.9%	-2.9%	2.8%	4.8%
Tonnage	2017	2018	2019	2020	2021	18/17 % chg.	19/18 % chg.	20/19 % chg.	21/20 % chg.
Cement	178 802	176 323	165 870	181 211	187 144	-1.4%	-5.9%	9.2%	3.3%
Building materials except cement	223 435	227 873	227 028	233 879	252 686	2.0%	-0.4%	3.0%	8.0%
Mineral products	25 542	24 995	24 989	25 743	29 233	-2.1%	0.0%	3.0%	13.6%
Milk powder	46 924	47 594	47 658	49 121	48 244	1.4%	0.1%	3.1%	-1.8%
Food products except milk powder	142 002	143 590	137 299	133 742	137 782	1.1%	-4.4%	-2.6%	3.0%
Animal feed	99 974	98 513	98 275	97 544	95 891	-1.5%	-0.2%	-0.7%	-1.7%
Chemical products	89 917	90 811	81 586	81 695	89 347	1.0%	-10.2%	0.1%	9.4%
Seeds	30 235	31 256	31 112	35 146	33 675	3.4%	-0.5%	13.0%	-4.2%
Miscellaneous	62 097	62 353	60 172	49 411	47 016	0.4%	-3.5%	-17.9%	-4.8%
Total	898 928	903 308	873 988	887 492	921 018	0.5%	-3.2%	1.5%	3.8%
End user contributions	2017	2018	2019	2020	2021	18/17 % chg.	19/18 % chg.	20/19 % chg.	21/20 % chg.
Cement	20%	20%	19%	20%	20%	(37)	(54)	144	(10)
Building materials except cement	25%	25%	26%	26%	27%	37	75	38	108
Mineral products	3%	3%	3%	3%	3%	(7)	9	4	27
Milk powder	5%	5%	5%	6%	5%	5	18	8	(30)
Food products except milk powder	16%	16%	16%	15%	15%	10	(19)	(64)	(11)
Animal feed	11%	11%	11%	11%	10%	(22)	34	(25)	(58)
Chemical products	10%	10%	9%	9%	10%	5	(72)	(13)	50
Seeds	3%	3%	4%	4%	4%	10	10	40	(30)
Miscellaneous	7%	7%	7%	6%	5%	(1)	(2)	(132)	(46)

Source: Chronux Research, EUROSAC

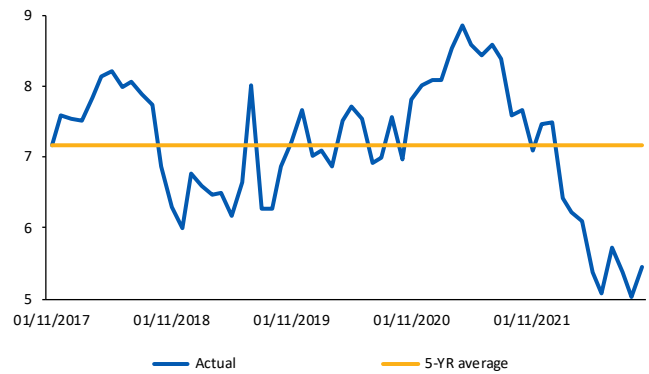
Peer rolled EV/EBITDA (x): as at 31 October 2022

Sappi EV/EBITDA (x)



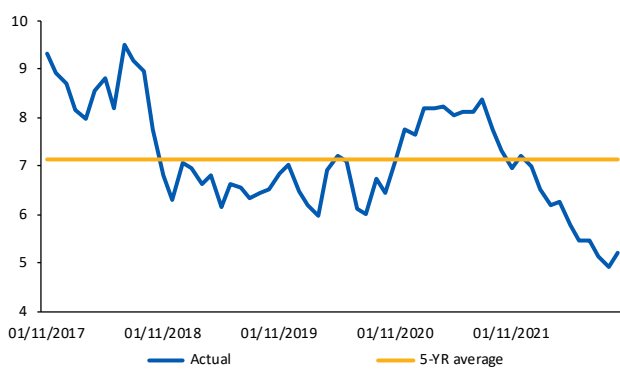
Source: Chronux Research, Bloomberg

Mondi EV/EBITDA (x)



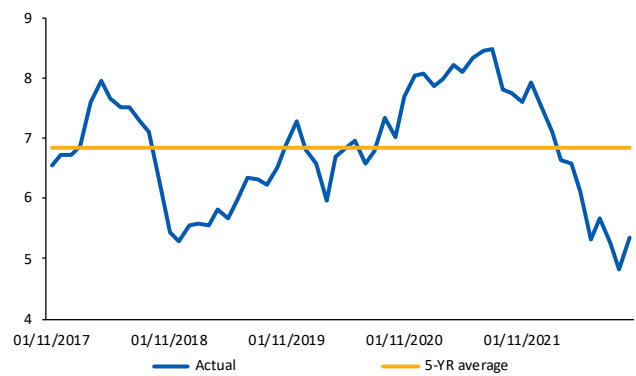
Source: Chronux Research, Bloomberg

DS Smith EV/EBITDA (x)



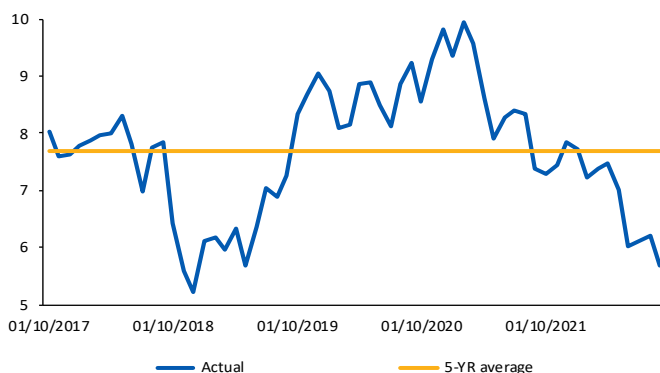
Source: Chronux Research, Bloomberg

Smurfit Kappa EV/EBITDA (x)



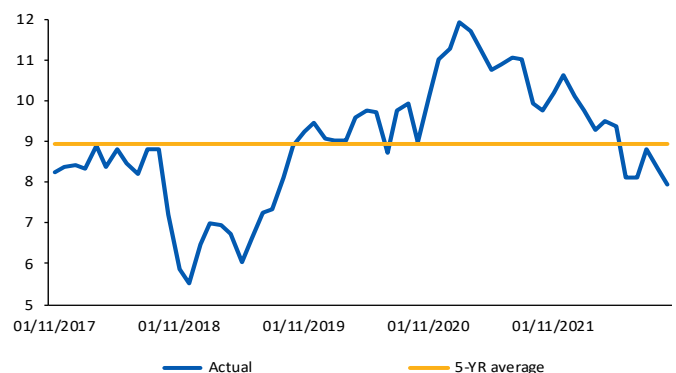
Source: Chronux Research, Bloomberg

Stora Enso EV/EBITDA (x)



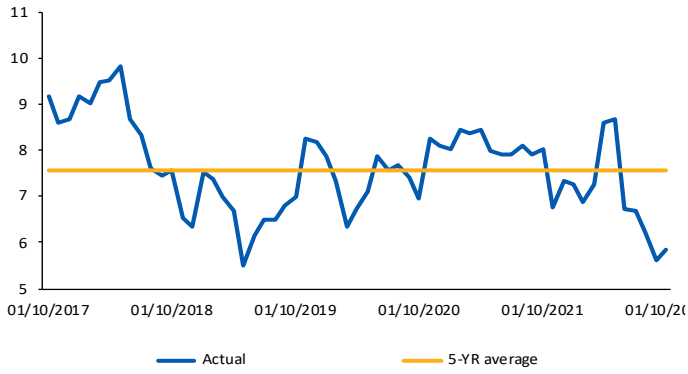
Source: Chronux Research, Bloomberg

UPM EV/EBITDA (x)



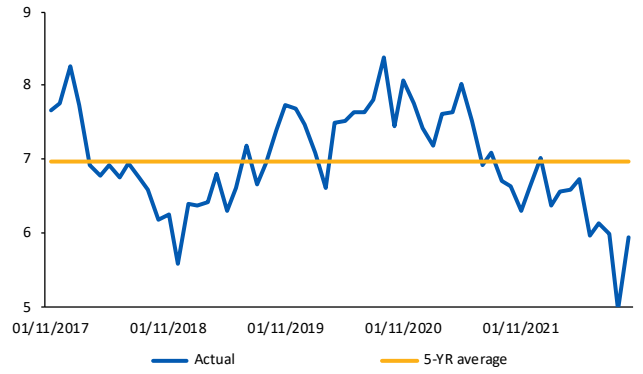
Source: Chronux Research, Bloomberg

Navigator EV/EBITDA (x)



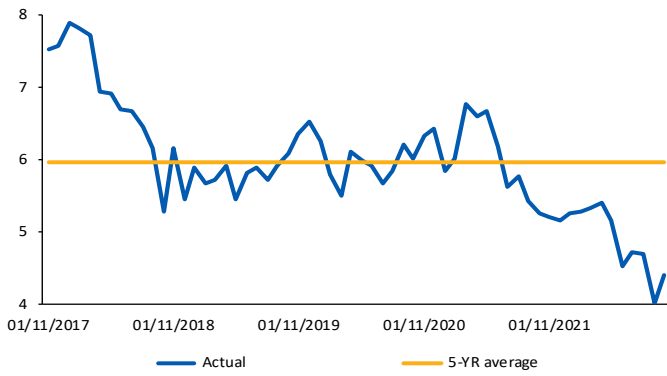
Source: Chronux Research, Bloomberg

International Paper EV/EBITDA (x)



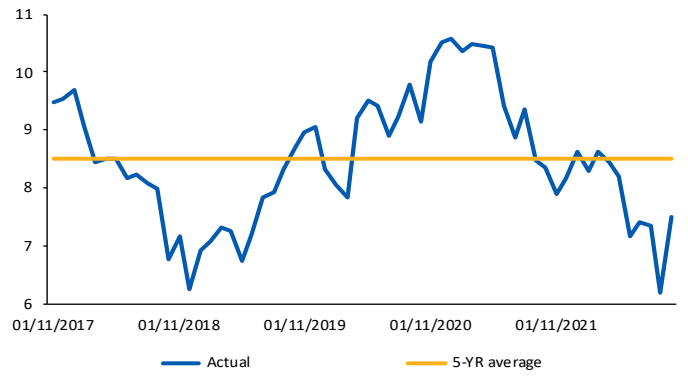
Source: Chronux Research, Bloomberg

WestRock EV/EBITDA (x)



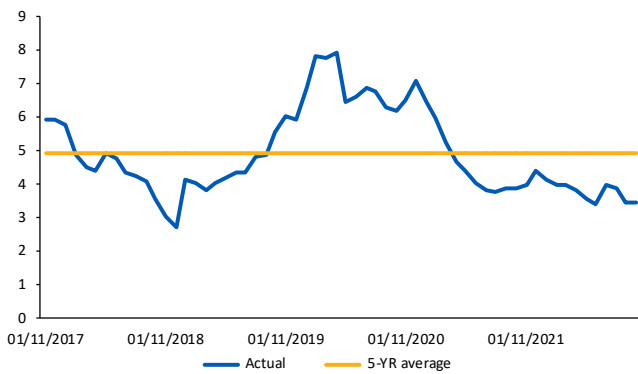
Source: Chronux Research, Bloomberg

Packaging Corp of America EV/EBITDA (x)



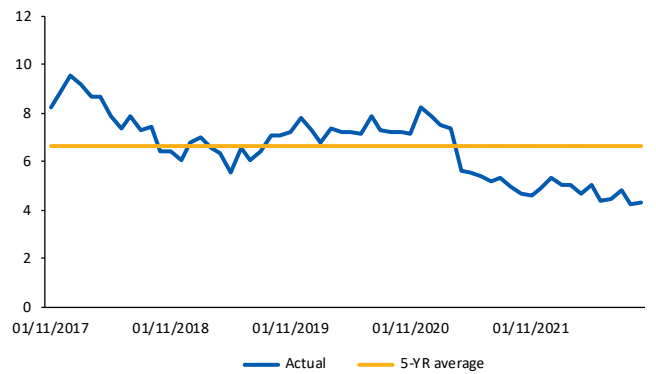
Source: Chronux Research, Bloomberg

Mercer International EV/EBITDA (x)



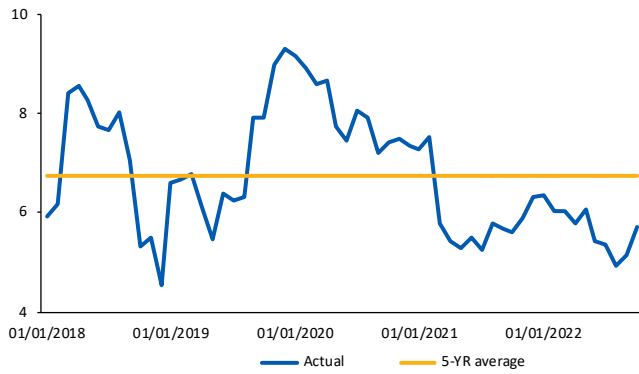
Source: Chronux Research, Bloomberg

CMPC EV/EBITDA (x)



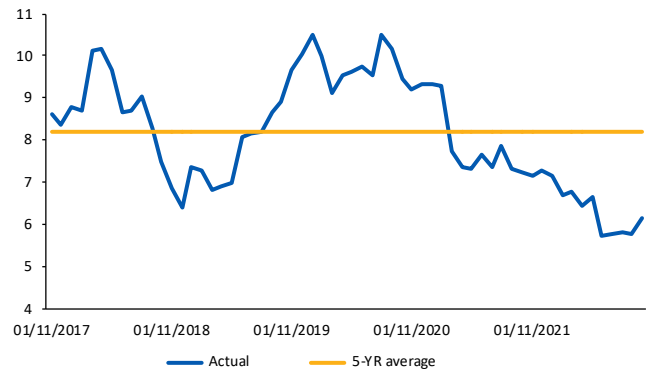
Source: Chronux Research, Bloomberg

Suzano EV/EBITDA (x)



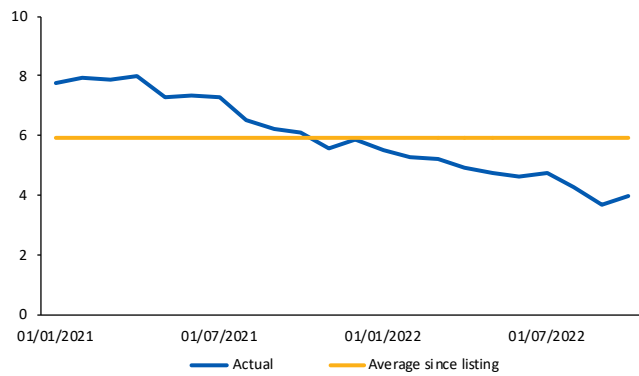
Source: Chronux Research, Bloomberg

Klabin EV/EBITDA (x)



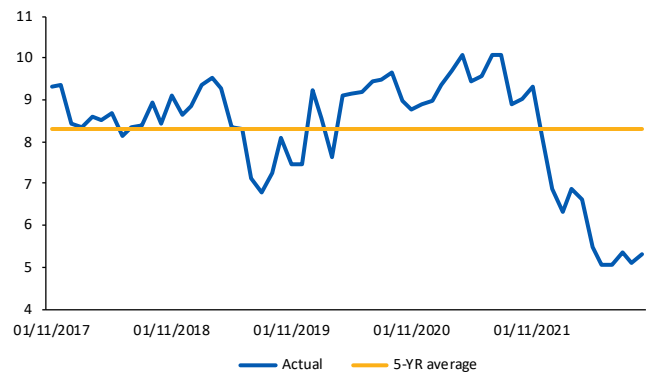
Source: Chronux Research, Bloomberg

Nordic Paper EV/EBITDA (x)



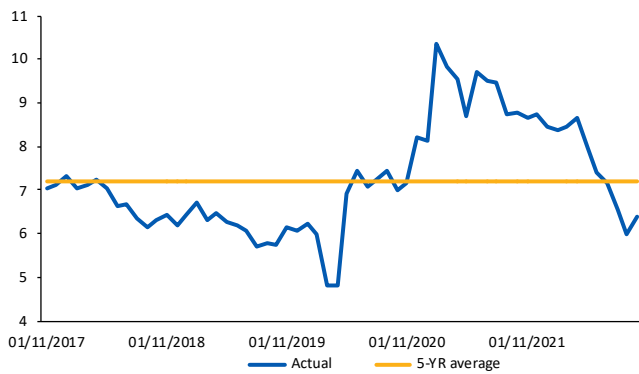
Source: Chronux Research, Bloomberg

Billerud EV/EBITDA (x)



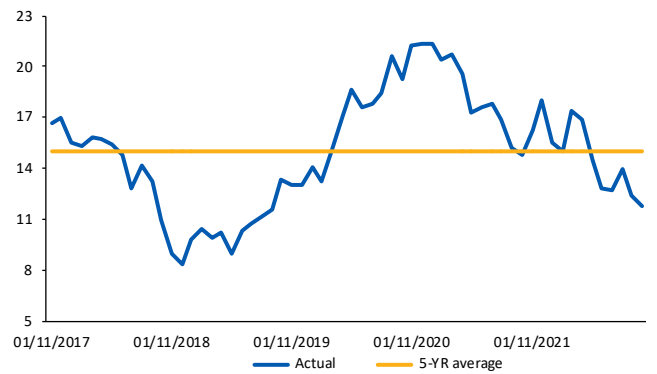
Source: Chronux Research, Bloomberg

Mayr-Melnhof EV/EBITDA (x)



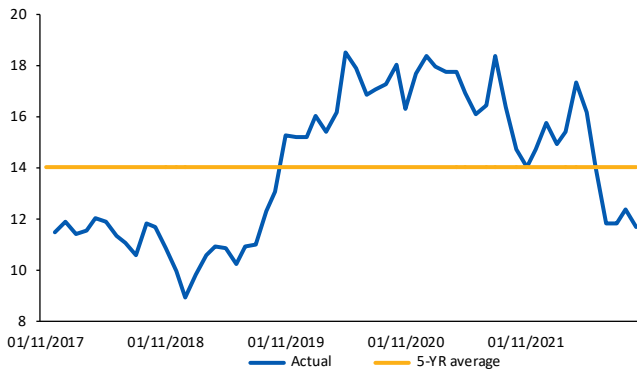
Source: Chronux Research, Bloomberg

SCA EV/EBITDA (x)



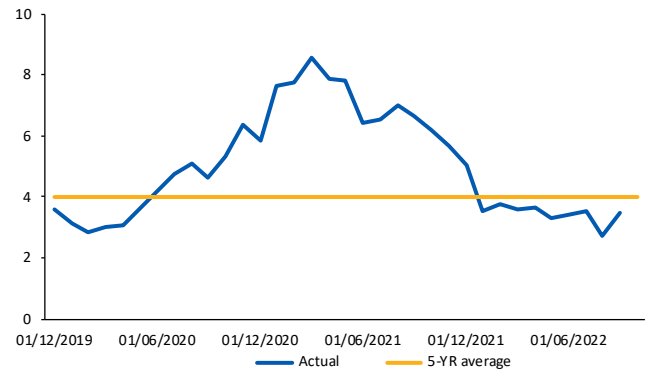
Source: Chronux Research, Bloomberg

Holmen EV/EBITDA (x)



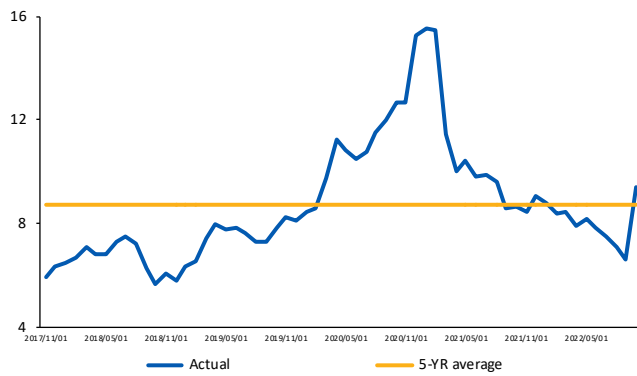
Source: Chronux Research, Bloomberg

Norske Skog EV/EBITDA (x)



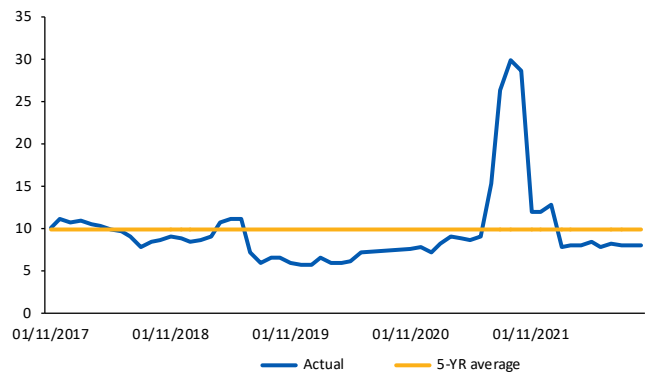
Source: Chronux Research, Bloomberg

Lenzing EV/EBITDA (x)



Source: Chronux Research, Bloomberg

Grasim EV/EBITDA (x)



Source: Chronux Research, Bloomberg

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