



# Forestry & Paper

## Industry Insights

**Key message:** Pulp prices stable, for now. August pulp producer stocks increased by 1 day m/m to 43, while shipments were up 8% y/y & 6% m/m. Further gains for Graphic Paper producers in Europe. August US CFS shipments saw first decline since October 2021. OCC prices tumble 13% w/w, while various testliner producers take downtime. Dutch TTF Gas Futures prices is now EUR 187/MWH.

- Despite slowing paper and board market in China, pulp prices stable for now:** Restricted availability and low pulp stocks held by most customers have kept prices for pulp imports from declining in China. The domestic paper and board sector has continued to struggle with falling demand amid an ongoing economic slump. NOREXECO pulp futures for CY 23E imply a 14-19% decline in Europe, and a decline of 11-22% in China. PPPC reported World-20 market pulp stats for August 2022: Global pulp producer stocks increased by 1 day m/m to 43 days-of-supply (BSK: +1 to 44 and BHK: +1 to 44). Shipments +8% y/y & +6% m/m to 4.478mt (SW: +5% m/m & +6% y/y to 1.947mt; HW: +6% y/y & +11% y/y to 2.336mt). The shipment-to-capacity ratio improved to 88% in (July 22: 83%), and higher than August 21 (83%).
- Graphic Paper extends gains:** After factoring in a 30% discount to list pulp prices, the CWF/HW spread was up 10% w/w to EUR 211/t, while the UWF/HW spread increased by 5% w/w to EUR 350/t. AF&PA released the August 2022 Printing & Writing stats. This marks the first negative shipment print since October 2021. Negative read-through for Sappi with CFS purchases down 6% y/y. Imports increased by 37% y/y and exports increased by 10% y/y. Inventories were down 3% m/m. Sappi Europe to increase prices by 6-9% for coated mechanical reel products from October.
- Containerboard prices stable but OCC down 13% w/w:** US, European OCC prices continue to fall in Asia, with slowdown on the demand side. This is driven by a slowdown on the demand side globally, rather than to collection rates in the north hemisphere, which are usually higher in summer. The kraftliner/testliner spread was stable at EUR 167/t, while the testliner/OCC spread jumped 3% w/w to EUR 639/t. MEPCO to increase prices for all paper and board products by USD 50/t, effective October 1. Schoellershammer (550ktpa) to increase testliner prices by EUR 100/t from October 1 due to the increase to extremely high energy costs, as well as Germany's gas price levy, the Gas-Umlage, which will take effect October 1. To adjust to the demand level, the company also plans to curtail some 25% of its production capacity in September, either through extended maintenance downtime or reduction of machine speed. In Italy, Pro-Gest's 400ktpa Mantova containerboard mill remains offline after summer shut due to the extreme volatility of gas prices. The group plans to start the Mantova mill back up in the near term, when market conditions allow. In North America, containerboard prices held unchanged in September for the sixth straight month, even as demand seemed softer, and supply became more readily available.
- SB) price increases are anticipated in September:** North American boxboard prices increased by USD 20/t (to USD 1,480-1,520/t) for (SBS) folding carton and cupstock grades in September. Clearwater and Sappi are set to issue increases for the week of Sept. 19
- Mondi news flow:** New EUR 5mn R&D facility in Steinfeld, Germany: It will include pilot lines for both plastic- and paper-based solutions as well as an analytical laboratory and a customer experience centre. Mondi launches Hug&Hold, new sustainable paper-based alternative to plastic shrink wrap: Hug&Hold is a solution to wrap and transport PET beverage bottles. It's a recyclable 100% paper-based solution, comprising 2 elements, a kraft paper sleeve & a corrugated clip.
- Sappi news flow:** Sappi Europe temporarily reduces capacity at Carmignano Mill in Italy due to the continuing and sharp escalation of energy costs. We note that Burgo has also taken downtime at its specialty mill in Italy. Sappi invests to extend wet-strength label paper production capacities at Gratkorn mill in Austria. As of the end of 2023, production capacities for label papers will be extended through a double-digit million-euro investment in technological innovations, such as a new embossing calendar, and enable the production of high quality wet-strength wet-glue label paper.

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Forestry & Paper Key w/w price changes			
Details	w/w % chg.	YTD % chg.	y/y % chg.
<b>Pulp (USD/t)</b>			
NBSK Europe	0%	19%	12%
BHKP Europe	0%	21%	21%
NBSK Europe (EUR)	-1%	34%	31%
BHKP Europe (EUR)	-1%	36%	42%
US NBSK (gross)	0%	23%	16%
China BHKP net	0%	52%	39%
China NBSK net	0%	26%	14%
<b>Paper (EUR/t)</b>			
LWC	0%	48%	74%
Ctd WF	1%	53%	76%
A4 B-copy	1%	36%	54%
Newsprint	0%	61%	77%
<b>Packaging (EUR/t)</b>			
Kraftliner	0%	9%	22%
White-top Kraftliner	0%	11%	19%
Testliner 2	0%	12%	27%
Testliner 3	0%	10%	25%
RB-Fluting	0%	11%	28%
PIX OCC 1.04 dd	-13%	-26%	-26%
PIX ONP/OMG 1.11 dd	-6%	35%	29%
<b>Spreads (EUR/t)</b>			
SWHW Europe (USD)	2%	-2%	(0)
SWHW China (USD)	-1%	-53%	(1)
NBSK China/Europe (USD)	1%	-23%	(0)
BHKP China/Europe (USD)	-3%	-68%	(1)
A4 B-copy/BHKP (30% discount to list price)	5%	36%	544%
CWF/BHKP (30% discount to list price)	10%	260%	0
Kraftliner/testliner 2	0%	-5%	-4%
White-top Kraftliner/kraftliner	-1%	147%	30%
Testliner 2/OCC	3%	26%	10%

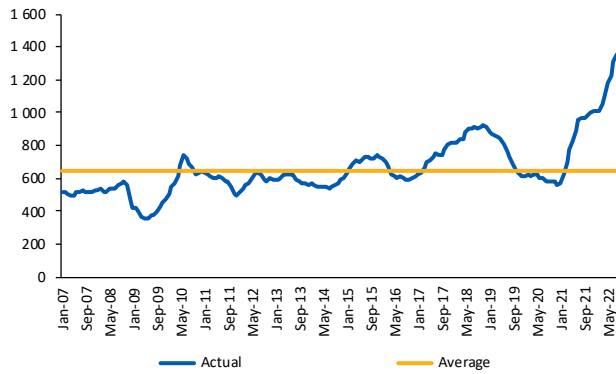
Source: Chronux Research, FOEX

NOREXECO futures price			
	Q4 22E vs. spot	Q1 23E vs. spot	CY 23E vs. spot
NBSK Europe	-1%	-7%	-14%
BHKP Europe	-1%	-8%	-19%
<b>SWHW spread</b>	<b>-7%</b>	<b>10%</b>	<b>49%</b>
China NBSK net	-4%	-8%	-11%
China BHKP net	-7%	-18%	-22%
<b>SWHW spread</b>	<b>30%</b>	<b>94%</b>	<b>98%</b>

Source: Chronux Research, FOEX

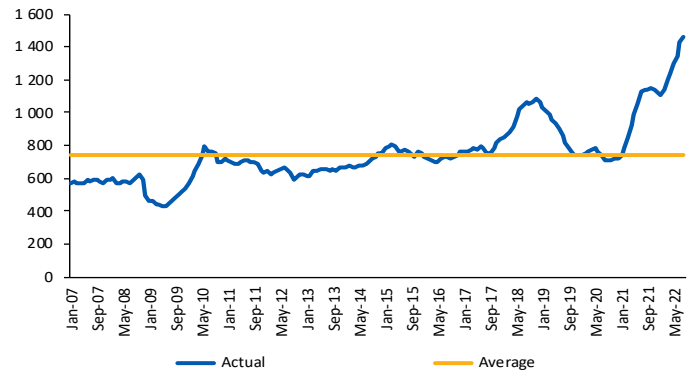
# Prices: as at 30 August 2022

**Europe hardwood pulp price (EUR/t)**



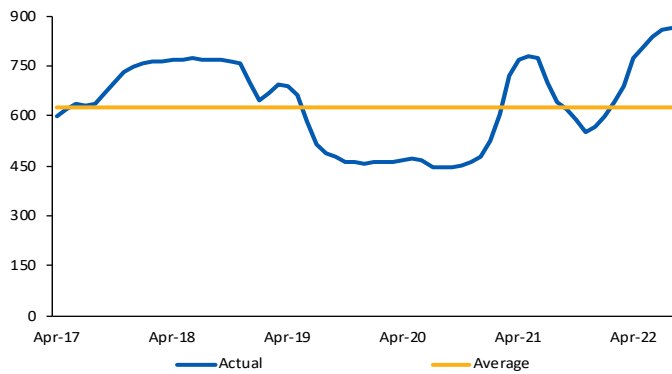
Source: Chronux Research, FOEX

**Europe softwood pulp price (EUR/t)**



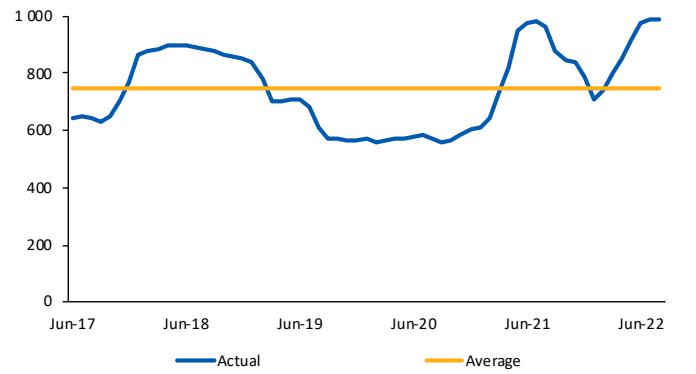
Source: Chronux Research, FOEX

**China hardwood pulp price (USD/t)**



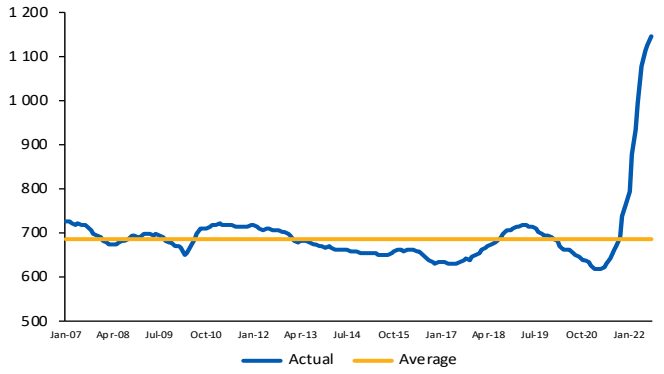
Source: Chronux Research, FOEX

**China softwood pulp price (USD/t)**



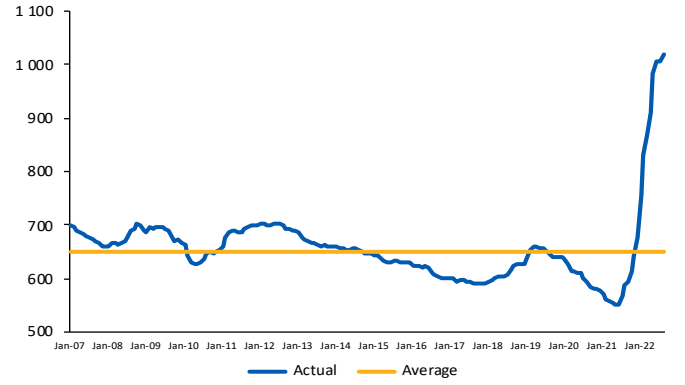
Source: Chronux Research, FOEX

**Europe CWF price (EUR/t)**



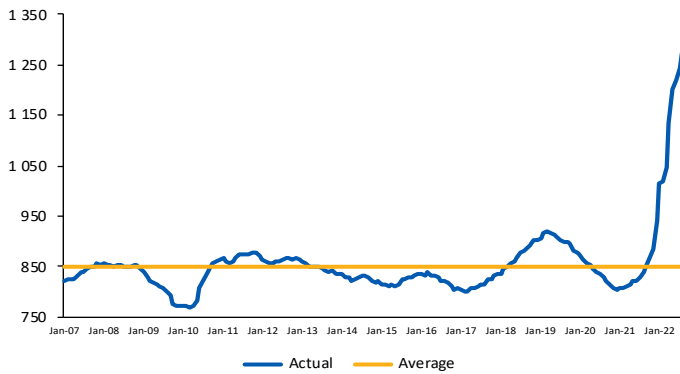
Source: Chronux Research, FOEX

**Europe CM price (EUR/t)**



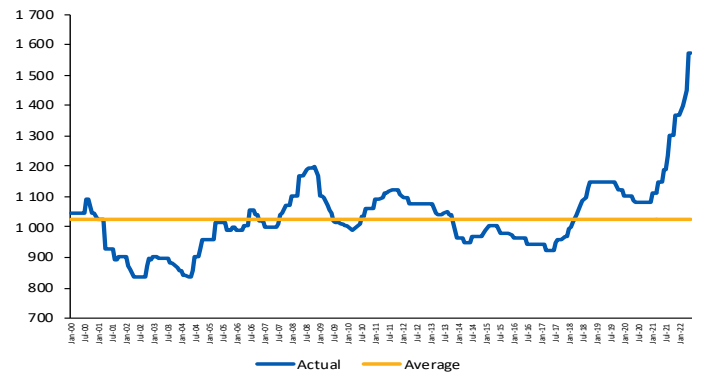
Source: Chronux Research, FOEX

**Europe UWF price (EUR/t)**



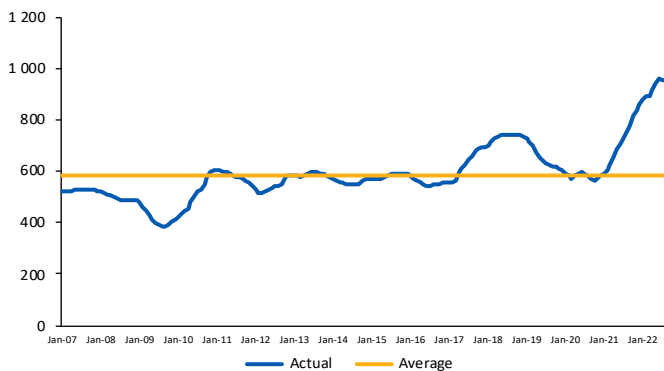
Source: Chronux Research, FOEX

**US CFS price (USD/t)**



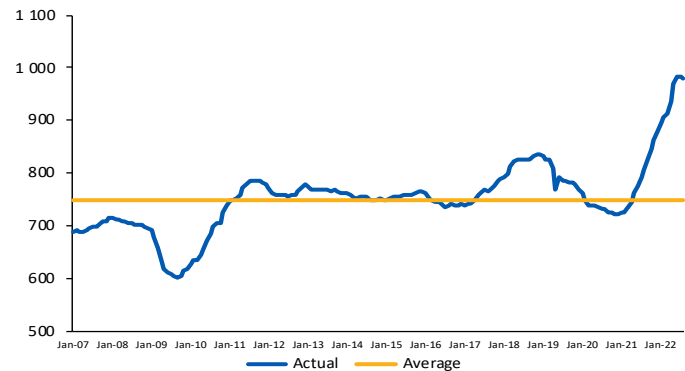
Source: Chronux Research, FOEX

**Europe kraftliner price (EUR/t)**



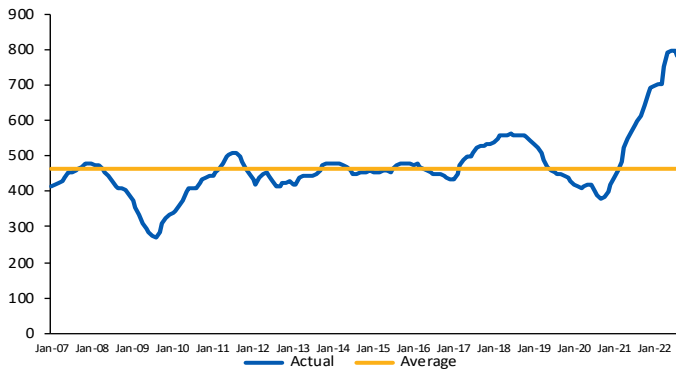
Source: Chronux Research, FOEX

**Europe white-top kraftliner price (EUR/t)**



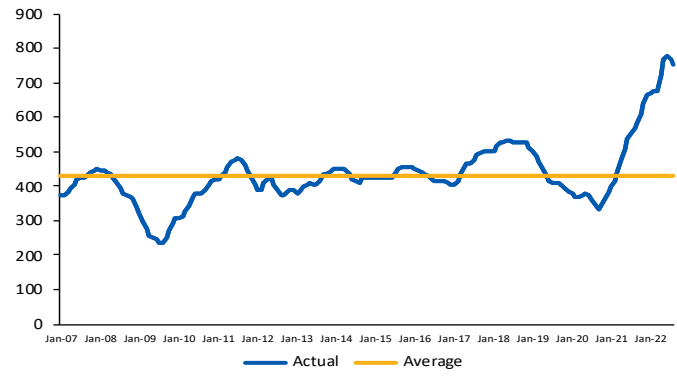
Source: Chronux Research, FOEX

**Europe testliner price (EUR/t)**



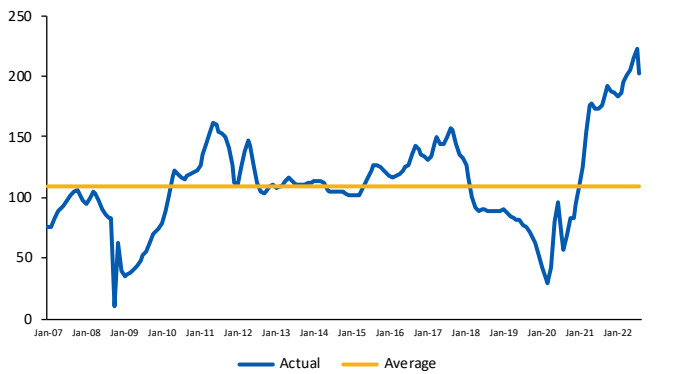
Source: Chronux Research, FOEX

**Europe RB-fluting brown price (EUR/t)**



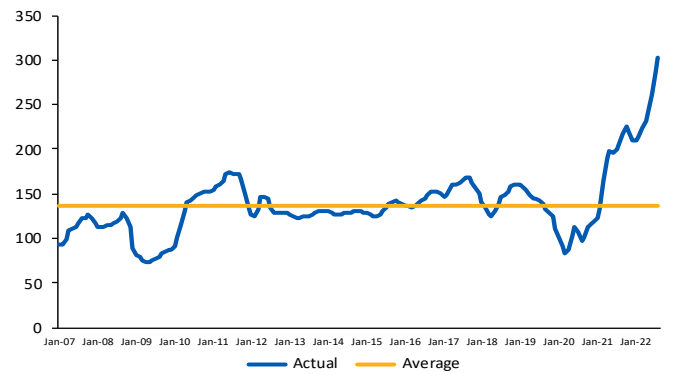
Source: Chronux Research, FOEX

**Europe OCC price (EUR/t)**



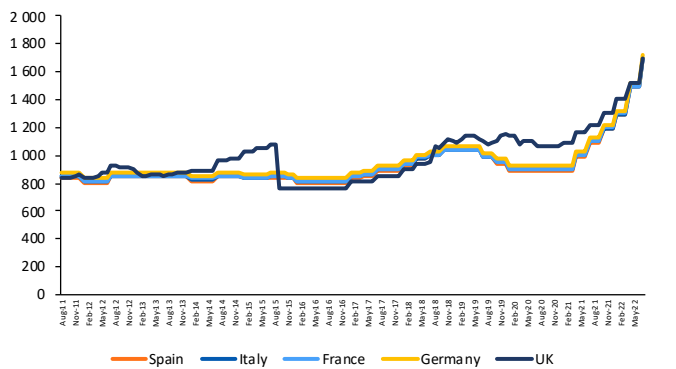
Source: Chronux Research, FOEX

**Europe ONP/OMG price (EUR/t)**



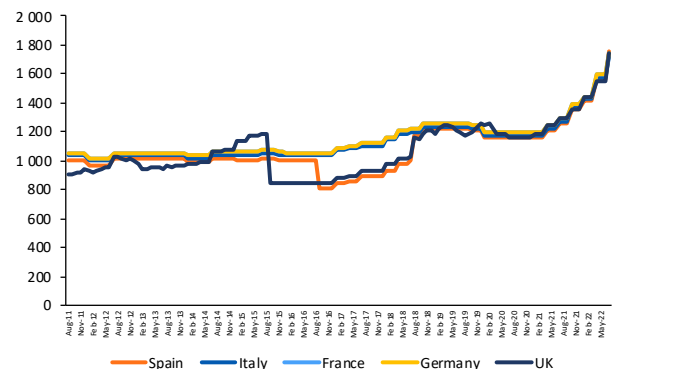
Source: Chronux Research, FOEX

**Europe Unbleached Sack kraft price (EUR/t)**



Source: Chronux Research, FOEX

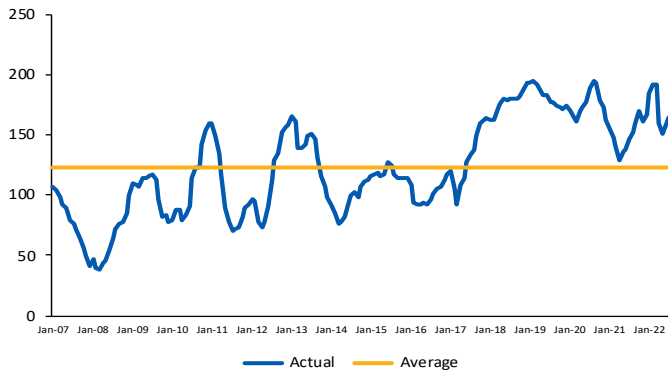
**Europe Bleached Sack kraft price (EUR/t)**



Source: Chronux Research, FOEX

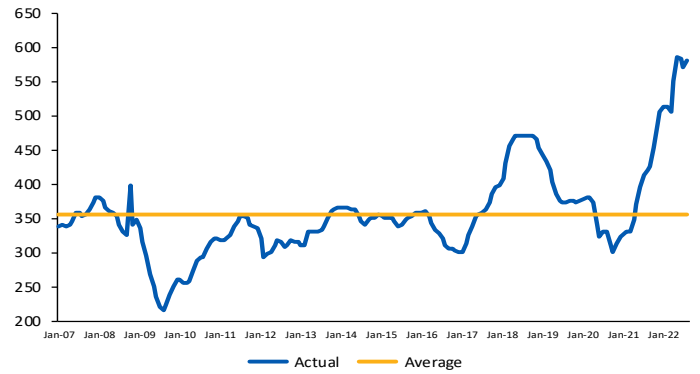
# Spreads: as at 30 August 2022

**Europe kraftliner/testliner spread (EUR/t)**



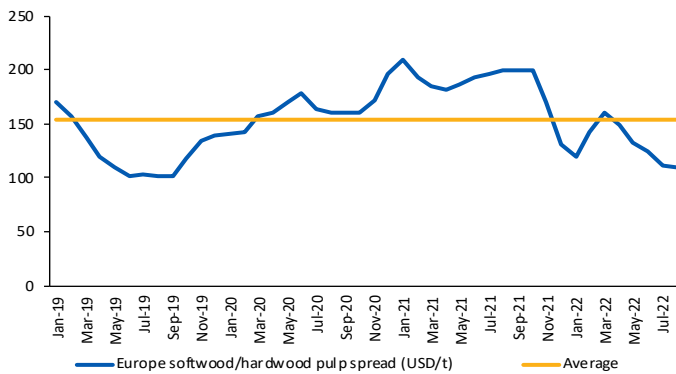
Source: Chronux Research, FOEX

**Europe testliner/OCC spread (EUR/t)**



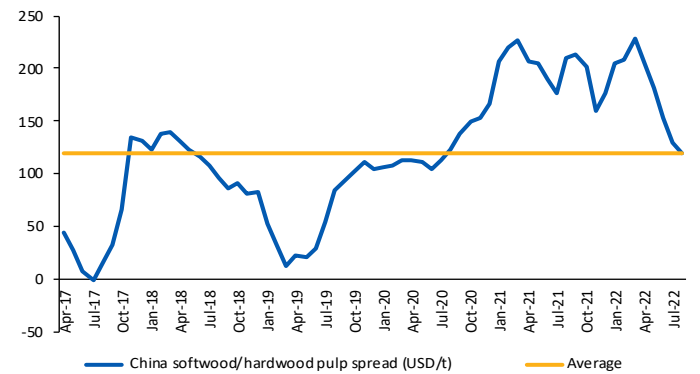
Source: Chronux Research, FOEX

**Europe softwood/hardwood pulp spread (USD/t)**



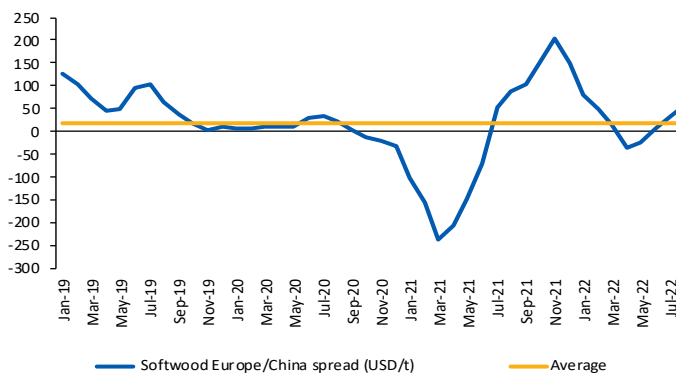
Source: Chronux Research, FOEX

**China softwood/hardwood pulp spread (USD/t)**



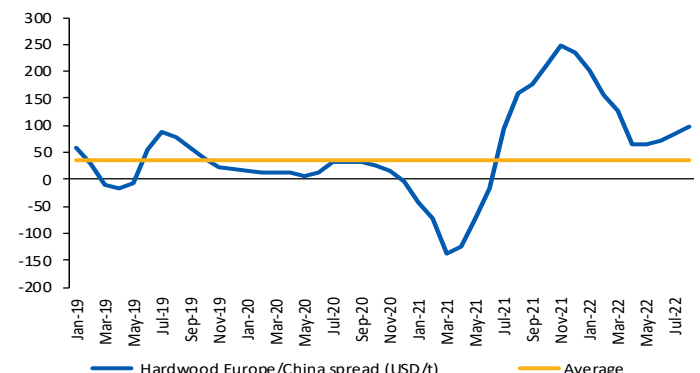
Source: Chronux Research, FOEX

**Softwood Europe/China spread (USD/t)**



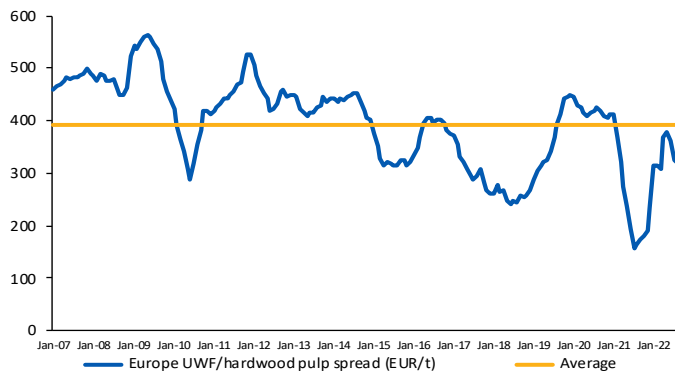
Source: Chronux Research, FOEX

**Hardwood Europe/China spread (USD/t)**



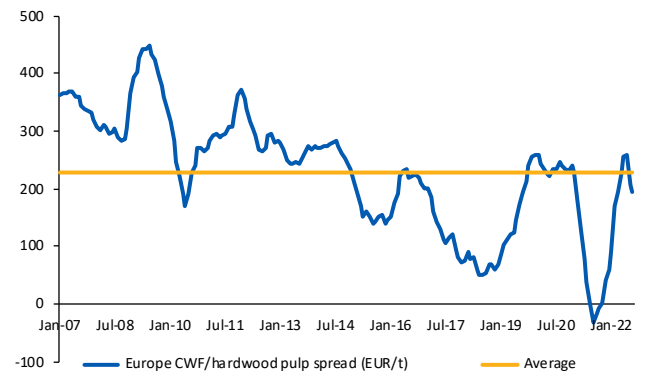
Source: Chronux Research, FOEX

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

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
Total printing-writing paper shipments	3%	2%	1%	0%	2%	-2%	-1%	-5%
US purchases of total printing-writing papers	9%	7%	3%	2%	3%	3%	3%	-1%
Total printing-writing paper levels (m/m)	1%	-1%	-3%	1%	1%	-2%	2%	-2%
<b>UFS</b>								
Shipments	-3%	5%	-3%	1%	2%	2%	-1%	-1%
Inventory level m/m	2%	-2%	-3%	1%	0%	-2%	5%	-2%
Imports	-8%	-16%	9%	12%	-3%	18%	8%	25%
Exports	-13%	-28%	-20%	-26%	-29%	-20%	-25%	-12%
<b>CFS</b>								
US purchases	29%	8%	24%	5%	2%	2%	2%	-6%
Inventory level m/m	0%	1%	-3%	2%	2%	-1%	-1%	-3%
Imports	58%	43%	34%	16%	-6%	10%	32%	37%
Exports	-8%	-23%	0%	-10%	-5%	-1%	6%	10%
<b>CM</b>								
Shipments	9%	-9%	-14%	-21%	-11%	-16%	-18%	-10%
Inventory level m/m	-6%	1%	-2%	6%	-5%	-8%	2%	5%
Imports	24%	-4%	-21%	-21%	1%	-16%	48%	14%
Exports	-20%	-12%	-16%	-9%	-5%	-19%	-41%	-16%
<b>UM</b>								
US purchases	8%	30%	0%	15%	4%	28%	16%	17%
Inventory level m/m	6%	4%	-15%	1%	2%	-4%	-13%	-9%
Imports	21%	2%	5%	13%	5%	8%	9%	8%
Exports	18%	25%	62%	0%	-15%	-30%	-10%	-15%

Source: AF&amp;PA, Chronux Research

## US Containerboard and boxboard 2022 YTD quarterly stats

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

Source: Chronux Research, AF&amp;PA



## World chemical paper-grade market pulp statistics (kt)

Shipments	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22
<b>Total shipments</b>	<b>4 036</b>	<b>4 133</b>	<b>4 674</b>	<b>4 120</b>	<b>4 517</b>	<b>4 602</b>	<b>4 240</b>	<b>4 478</b>
Bleached softwood kraft	1 741	1 807	2 045	1 790	1 932	1 814	1 853	1 947
Bleached hardwood kraft	2 140	2 161	2 370	2 110	2 390	2 567	2 208	2 336
Shipments-to-capacity ratio (%)	79%	90%	91%	84%	88%	92%	83%	88%
<b>m/m %/bps chg.</b>								
<b>Total shipments</b>		2%	13%	-12%	10%			6%
Bleached softwood kraft		4%	13%	-12%	8%			5%
Bleached hardwood kraft		1%	10%	-11%	13%			6%
<b>Producer inventories at month end</b>								
<b>Days of supply - all grades</b>	<b>44</b>	<b>42</b>	<b>41</b>	<b>42</b>	<b>42</b>	<b>40</b>	<b>42</b>	<b>43</b>
Bleached softwood kraft	46	45	40	40	38	40	42	44
Bleached hardwood kraft	42	41	43	45	46	40	43	44
<b>m/m % chg.</b>								
<b>Days of supply - all grades</b>		-5%	-2%	2%	0%	-5%	5%	2%
Bleached softwood kraft		-2%	-11%	0%	-5%	5%	5%	5%
Bleached hardwood kraft		-2%	5%	5%	2%	-13%	8%	2%

Source: Chronux Research, RISI, PPPC

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

Country	y/y % chg.							m/m % chg.							YTD y/y % chg. Jan-July 22
	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	
Netherlands/Belgium	-11%	-15%	-31%	-14%	-8%	14%	19%	-6%	5%	-6%	-6%	18%	-9%	-2%	-9%
France/Switzerland	-25%	0%	-8%	-21%	-26%	-48%	-41%	-1%	-3%	9%	-38%	15%	-29%	-23%	-23%
UK	-18%	-30%	-57%	-28%	-45%	-12%	-54%	-10%	3%	-9%	35%	-21%	68%	-40%	-37%
Germany	-24%	-13%	-32%	-4%	-6%	16%	9%	7%	7%	-25%	17%	9%	1%	-5%	-10%
Italy	-1%	13%	0%	-7%	22%	-13%	-32%	-7%	8%	-2%	-10%	27%	-26%	-14%	-3%
Spain	-16%	-22%	6%	11%	-5%	-38%	6%	34%	-18%	38%	-25%	10%	-22%	39%	-10%
<b>Total</b>	<b>-12%</b>	<b>-8%</b>	<b>-20%</b>	<b>-10%</b>	<b>-2%</b>	<b>-5%</b>	<b>-6%</b>	<b>-2%</b>	<b>3%</b>	<b>-4%</b>	<b>-9%</b>	<b>18%</b>	<b>-14%</b>	<b>-5%</b>	<b>-10%</b>

Source: Chronux Research, EUROPULP

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

	Jun-22	y/y % change						m/m % change					
		Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22
<b>Consumption of chemical market pulp in UTIPULP countries (t)</b>													
Unbleached (sulphite & kraft)	13 942	24%	18%	2%	12%	-7%	11%	-1%	5%	-3%	-13%	16%	12%
Bleached or semi-bleached													
<b>Sulphite</b>	<b>36 541</b>	<b>-11%</b>	<b>-6%</b>	<b>-4%</b>	<b>-3%</b>	<b>-8%</b>	<b>-18%</b>	<b>-4%</b>	<b>-9%</b>	<b>19%</b>	<b>-15%</b>	<b>-4%</b>	<b>-1%</b>
HW	11 299	5%	2%	-14%	-19%	-6%	-8%	4%	-8%	-4%	-8%	8%	-3%
SW	25 242	-17%	-9%	0%	5%	-8%	-22%	-7%	-9%	29%	-18%	-8%	-1%
<b>Kraft</b>	<b>937 033</b>	<b>1%</b>	<b>2%</b>	<b>-1%</b>	<b>-2%</b>	<b>2%</b>	<b>3%</b>	<b>3%</b>	<b>-5%</b>	<b>7%</b>	<b>-7%</b>	<b>6%</b>	<b>-2%</b>
HW	626 933	3%	4%	-2%	-3%	2%	2%	4%	-4%	5%	-8%	6%	0%
SW	310 100	-3%	-2%	-1%	1%	3%	4%	0%	-5%	11%	-5%	7%	-4%
<b>Total</b>	<b>987 516</b>	<b>1%</b>	<b>2%</b>	<b>-2%</b>	<b>-2%</b>	<b>2%</b>	<b>2%</b>	<b>2%</b>	<b>-5%</b>	<b>7%</b>	<b>-7%</b>	<b>6%</b>	<b>-1%</b>
<b>Inventory of chemical market pulp in UTIPULP countries (t)</b>	<b>Jun-22</b>	<b>Jan-22</b>	<b>Feb-22</b>	<b>Mar-22</b>	<b>Apr-22</b>	<b>May-22</b>	<b>Jun-22</b>	<b>Jan-22</b>	<b>Feb-22</b>	<b>Mar-22</b>	<b>Apr-22</b>	<b>May-22</b>	<b>Jun-22</b>
Unbleached (sulphite & kraft)	11 505	14%	24%	29%	17%	47%	12%	2%	-2%	10%	7%	-8%	4%
Bleached or semi-bleached													
<b>Sulphite</b>	<b>27 245</b>	<b>7%</b>	<b>1%</b>	<b>4%</b>	<b>-9%</b>	<b>-4%</b>	<b>-6%</b>	<b>2%</b>	<b>1%</b>	<b>-10%</b>	<b>0%</b>	<b>8%</b>	<b>11%</b>
HW	9 524	15%	8%	11%	7%	11%	9%	-1%	-3%	6%	-6%	-6%	7%
SW	17 721	2%	-4%	-1%	-18%	-11%	-12%	5%	3%	-19%	5%	18%	13%
<b>Kraft</b>	<b>574 297</b>	<b>-21%</b>	<b>-22%</b>	<b>-19%</b>	<b>-19%</b>	<b>-15%</b>	<b>-20%</b>	<b>-3%</b>	<b>1%</b>	<b>2%</b>	<b>-7%</b>	<b>1%</b>	<b>1%</b>
HW	367 625	-23%	-26%	-23%	-25%	-16%	-23%	-4%	-2%	0%	-10%	7%	1%
SW	206 672	-17%	-14%	-11%	-9%	-14%	-15%	-1%	6%	5%	-3%	-8%	2%
<b>Total</b>	<b>613 047</b>	<b>-20%</b>	<b>-21%</b>	<b>-18%</b>	<b>-19%</b>	<b>-14%</b>	<b>-19%</b>	<b>-3%</b>	<b>1%</b>	<b>1%</b>	<b>-7%</b>	<b>1%</b>	<b>2%</b>
<b>Inventories in days of chemical market pulp in UTIPULP countries</b>	<b>Jun-22</b>	<b>Jan-22</b>	<b>Feb-22</b>	<b>Mar-22</b>	<b>Apr-22</b>	<b>May-22</b>	<b>Jun-22</b>	<b>Jan-22</b>	<b>Feb-22</b>	<b>Mar-22</b>	<b>Apr-22</b>	<b>May-22</b>	<b>Jun-22</b>
Unbleached (sulphite & kraft)	29	-13%	-7%	0%	-9%	17%	-6%	0%	-4%	12%	7%	-10%	4%
Bleached or semi-bleached													
<b>Sulphite</b>	<b>24</b>	<b>5%</b>	<b>0%</b>	<b>0%</b>	<b>5%</b>	<b>5%</b>	<b>9%</b>	<b>-4%</b>	<b>0%</b>	<b>4%</b>	<b>-4%</b>	<b>-4%</b>	<b>9%</b>
HW	19	7%	-6%	0%	-13%	-11%	-5%	7%	0%	-19%	8%	14%	19%
<b>Kraft</b>	<b>18</b>	<b>-30%</b>	<b>-33%</b>	<b>-31%</b>	<b>-29%</b>	<b>-22%</b>	<b>-28%</b>	<b>-5%</b>	<b>-5%</b>	<b>0%</b>	<b>-6%</b>	<b>6%</b>	<b>0%</b>
HW	20	-20%	-16%	-15%	-8%	-13%	-17%	0%	5%	5%	0%	-9%	0%
SW	20	-20%	-16%	-15%	-8%	-13%	-17%	0%	5%	5%	0%	-9%	0%
<b>Total</b>	<b>19</b>	<b>-27%</b>	<b>-27%</b>	<b>-23%</b>	<b>-25%</b>	<b>-22%</b>	<b>-21%</b>	<b>-5%</b>	<b>0%</b>	<b>5%</b>	<b>-10%</b>	<b>0%</b>	<b>6%</b>

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.

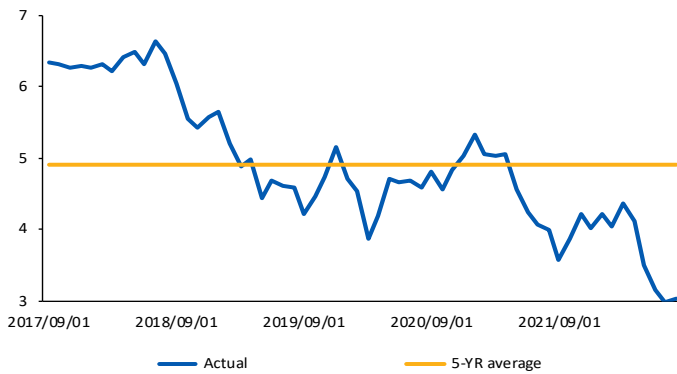
## European paper sack deliveries

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%
<b>Total</b>	<b>7 075 604</b>	<b>7 142 513</b>	<b>6 935 586</b>	<b>7 126 872</b>	<b>7 469 265</b>	<b>0.9%</b>	<b>-2.9%</b>	<b>2.8%</b>	<b>4.8%</b>
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%
<b>Total</b>	<b>898 928</b>	<b>903 308</b>	<b>873 988</b>	<b>887 492</b>	<b>921 018</b>	<b>0.5%</b>	<b>-3.2%</b>	<b>1.5%</b>	<b>3.8%</b>
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

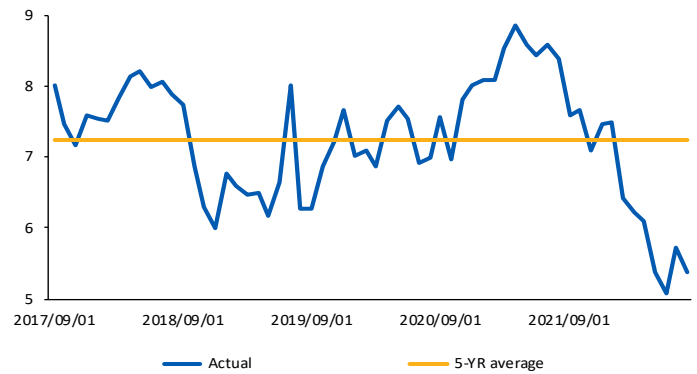
## Peer rolled EV/EBITDA (x): as at 31 August 2022

### Sappi EV/EBITDA (x)



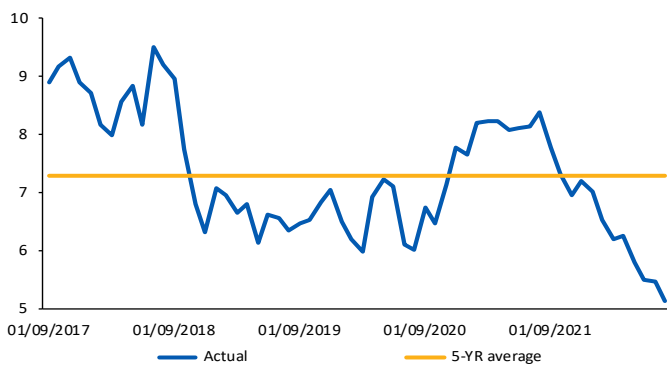
Source: Chronux Research, Bloomberg

### Mondi EV/EBITDA (x)



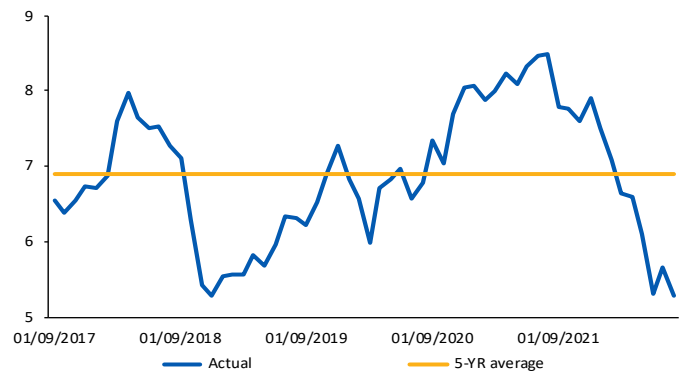
Source: Chronux Research, Bloomberg

### DS Smith EV/EBITDA (x)



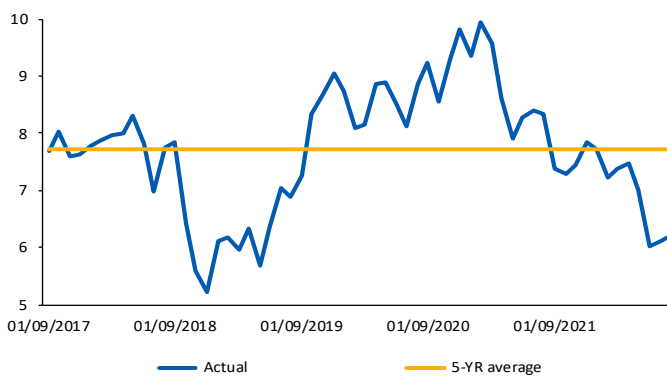
Source: Chronux Research, Bloomberg

### Smurfit Kappa EV/EBITDA (x)



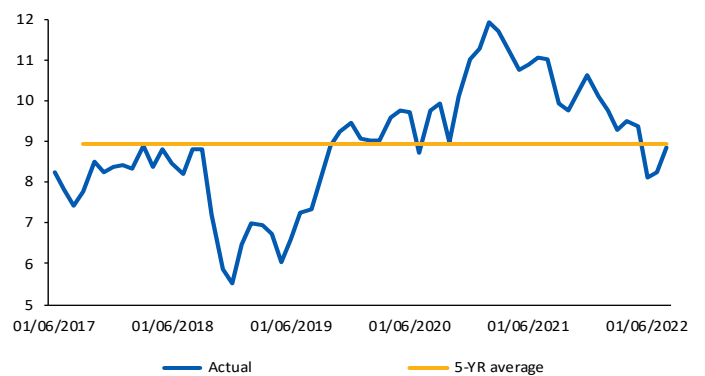
Source: Chronux Research, Bloomberg

### Stora Enso EV/EBITDA (x)



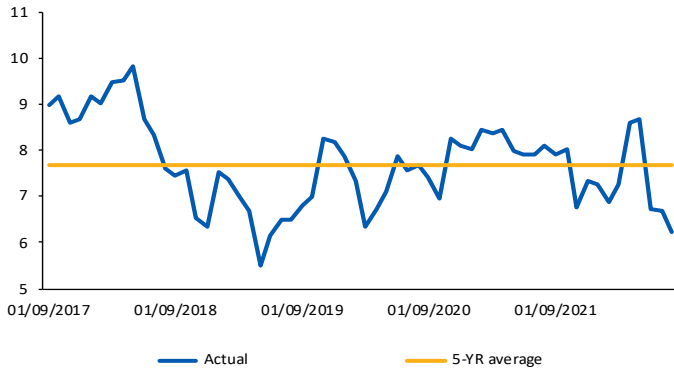
Source: Chronux Research, Bloomberg

### UPM EV/EBITDA (x)



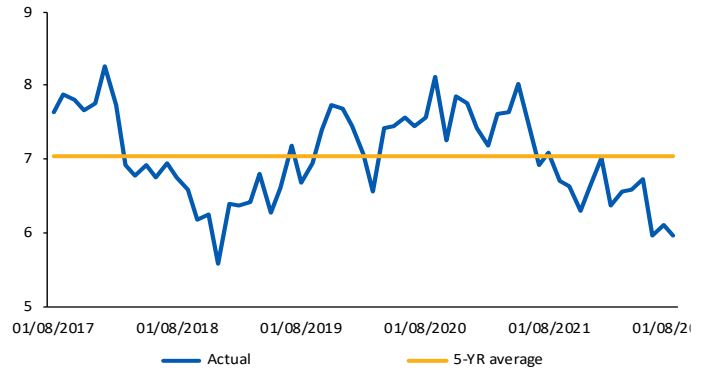
Source: Chronux Research, Bloomberg

**Navigator EV/EBITDA (x)**



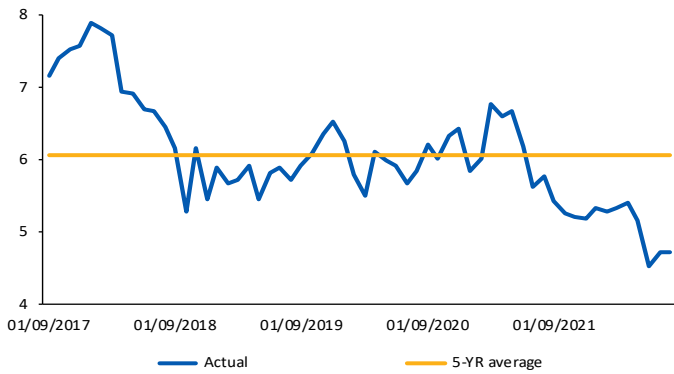
Source: Chronux Research, Bloomberg

**International Paper EV/EBITDA (x)**



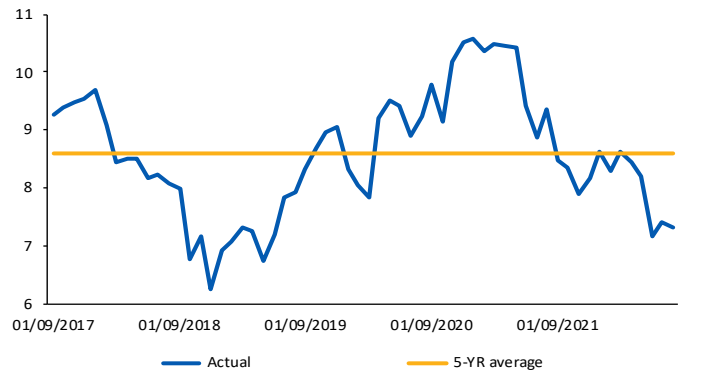
Source: Chronux Research, Bloomberg

**WestRock EV/EBITDA (x)**



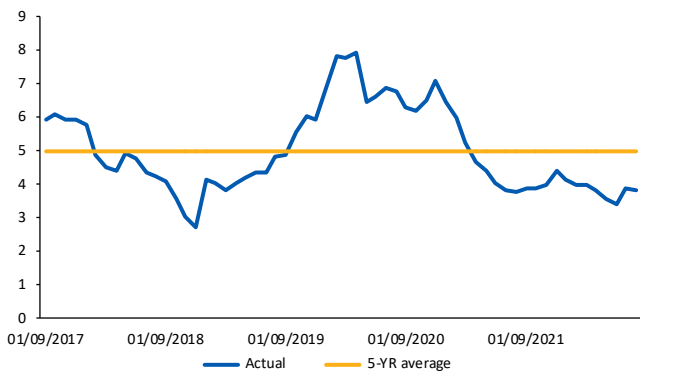
Source: Chronux Research, Bloomberg

**Packaging Corp of America EV/EBITDA (x)**



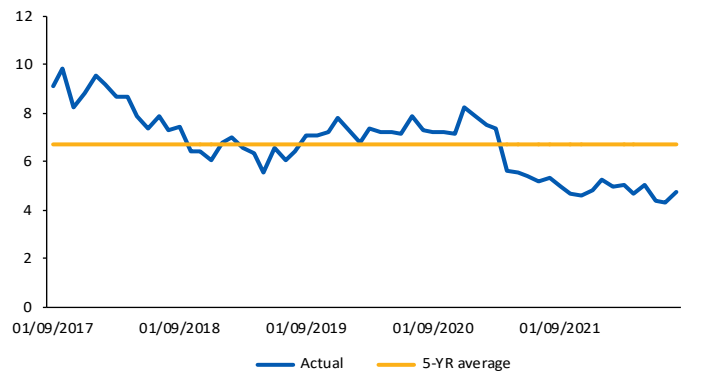
Source: Chronux Research, Bloomberg

**Mercer International EV/EBITDA (x)**



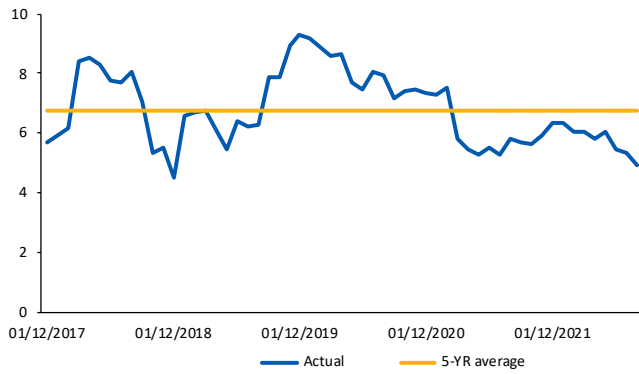
Source: Chronux Research, Bloomberg

**CMPC EV/EBITDA (x)**



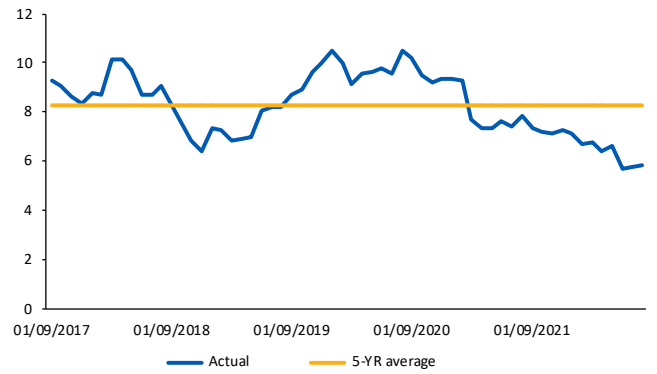
Source: Chronux Research, Bloomberg

**Suzano EV/EBITDA (x)**



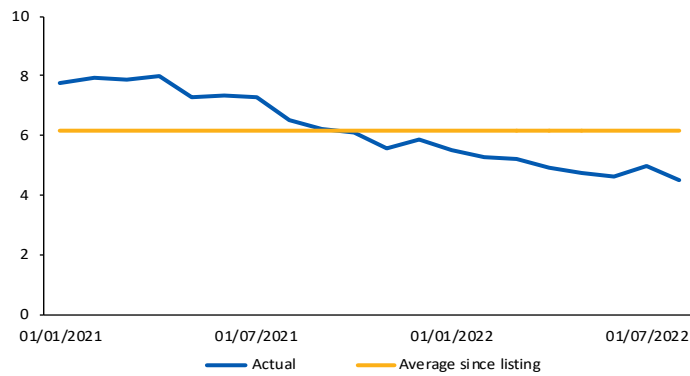
Source: Chronux Research, Bloomberg

**Klabin EV/EBITDA (x)**



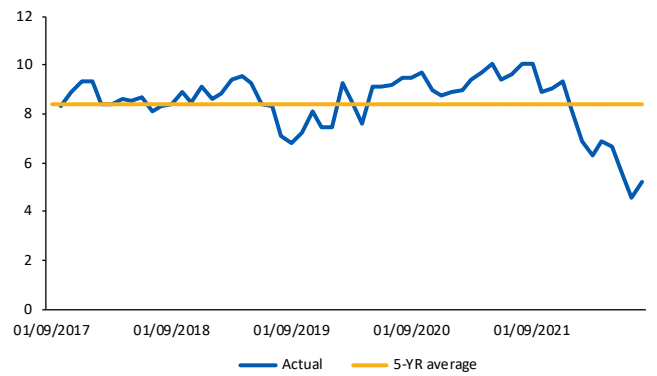
Source: Chronux Research, Bloomberg

**Nordic Paper EV/EBITDA (x)**



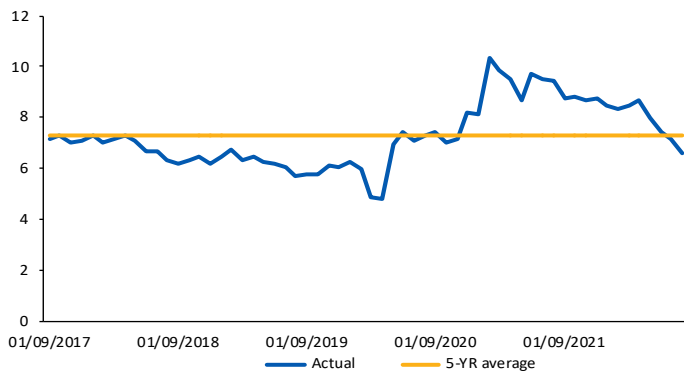
Source: Chronux Research, Bloomberg

**BillerudKorsnäs EV/EBITDA (x)**



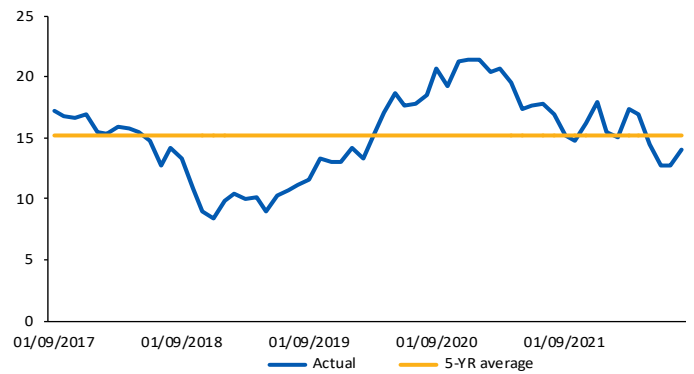
Source: Chronux Research, Bloomberg

**Mayr-Melnhof EV/EBITDA (x)**



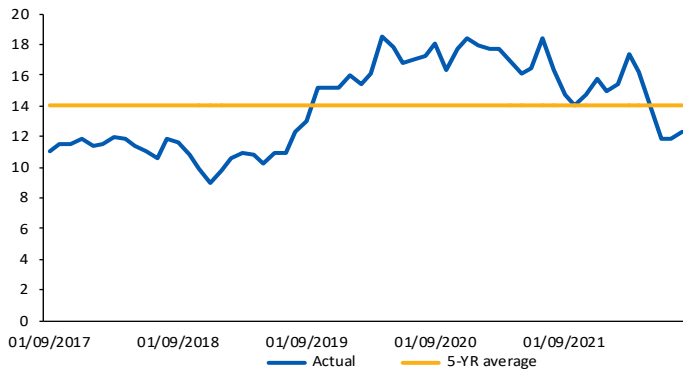
Source: Chronux Research, Bloomberg

**SCA EV/EBITDA (x)**



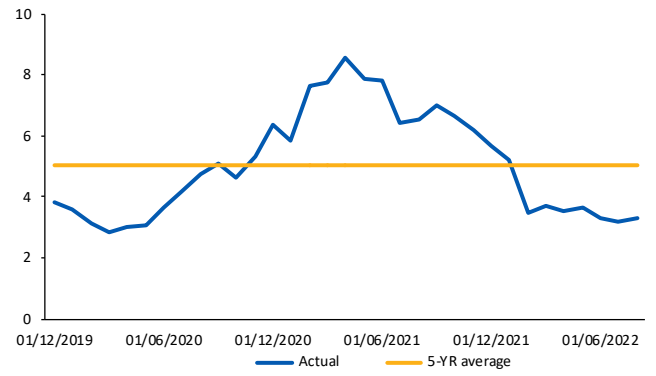
Source: Chronux Research, Bloomberg

**Holmen EV/EBITDA (x)**



Source: Chronux Research, Bloomberg

**Norske Skog EV/EBITDA (x)**



Source: Chronux Research, Bloomberg

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