

Pulp & Paper Price Tracker

Canadian producers join softwood price hike efforts in Asia

Industry Overview

Tracking global pulp and paper price variations

Our P&P Price Tracker aims to track variations in P&P prices across the globe as well as regional simplified cash margins. We also provide snippets of news articles discussing prices and market color, as well as industry data updates.

We hope it's useful. Any suggestions on how to improve it are greatly appreciated.

Exhibit 1: Snapshot of weekly Pulp & Paper price movements

Pulp prices rose \$0.69/t w/w to \$655.44/t for hardwood and were flat w/w at \$738.41/t for softwood

Pulp & Paper Price Reference	Unit	Current Price	w/w Change (USD/t)	w/w Change (%)
Market Pulp - Hardwood				
HW China Net	USD/t	655.44	0.69	0.11%
HW China Resale Net (Eucalyptus)	USD/t	602.54	-3.50	-0.58%
HW Europe List	USD/t	1,061.66	43.02	4.22%
HW Europe Net	USD/t	745.42	30.21	4.22%
HW US List	USD/t	1,135.00	0.00	0.00%
Market Pulp - Softwood				
SW China Net	USD/t	738.41	0.00	0.00%
SW China Resale Net (NBSK)	USD/t	704.31	-1.37	-0.19%
SW China Futures Net	USD/t	687.42	1.61	0.23%
SW Europe List	USD/t	1,289.18	40.93	3.28%
SW Europe Net	USD/t	923.50	29.32	3.28%
SW US List	USD/t	1,340.00	0.00	0.00%
Printing & Writing - Uncoated				
China Offset Reel	USD/t	947.92	-3.17	-0.33%
Europe Offset Reel	USD/t	1,306.14	-7.42	-0.56%
Printing & Writing - Coated				
China Offset Reel	USD/t	880.62	-2.95	-0.33%
Europe Offset Reel	USD/t	1,179.33	-6.70	-0.56%
Packaging - Containerboard				
Kraftliner China	USD/t	561.22	-1.88	-0.33%
Kraftliner Europe	USD/t	735.61	-4.67	-0.63%
Testliner China	USD/t	478.34	-1.60	-0.33%
Testliner Europe	USD/t	531.74	-4.86	-0.90%
White-top Kraftliner China	USD/t	775.22	-2.60	-0.33%
White-top Kraftliner Europe	USD/t	913.45	-13.39	-1.44%
Packaging - Boxboard				
Duplex China	USD/t	517.97	-1.73	-0.33%
Duplex Europe	USD/t	1,300.28	-8.36	-0.64%
Old Corrugated Cardboard				
OCC China	USD/t	245.15	-0.82	-0.33%
OCC Europe	USD/t	107.42	-2.60	-2.36%
OCC US	USD/t	87.00	0.00	0.00%

Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Weekly news flow

Asia: Canadian producers join NBSK hike efforts

FOEX reported fairly stable pulp prices in China this week, with imported hardwood (HW) up \$0.69/t to \$655.44/t and imported softwood (SW) unchanged w/w at \$738.41/t. Resale prices dropped modestly w/w with hardwood (BEK; Bleached Eucalyptus Kraft) down \$3.50/t w/w to \$602.54/t, while resale softwood (NBSK; Northern Bleached Softwood Kraft) fell \$1.37/t w/w to \$704.31/t. Shanghai SW future (May 2024 contract) rose \$1.61/t w/w to \$687.42/t (net of value added-tax [VAT] and logistic costs). RISI reported that Canadian softwood pulp producers are now also trying to implement a US\$20/t price increase in China, following a similar hike announcement from Nordic NBSK producers last week. On the other hand, RISI's contacts suggested customers are pushing back and asking sellers to keep prices intact as Chinese paper and board mills are expected to take downtime around the Lunar New Year (LNY) given weak demand and pricing in the domestic market.

Pulp Year Ahead 2024

Pulp forecast increases on better 1H

Earlier this week we published our pulp 2024 year ahead and increased our global pulp price forecasts heading into 2024 (see our Pulp 2024 Year Ahead). Our new China hardwood (bleached eucalyptus; HW, BHK, BEK) net price forecast is \$627/MT for 2024 up from our prior \$580/MT. Meanwhile, our new China softwood (SW, BSK) net price forecast is \$730/MT, up from our prior \$706/MT. In Europe, our new prices are up +\$70/MT and +\$65/MT to \$997/MT and \$1,226/MT, respectively. It was a pretty "sporty" end to the year as China restocking drove prices much higher. As we enter 2024, momentum has faded but several things should keep pulp prices at acceptable levels for most producers, even if they partially pull back.

Don't expect a collapse, despite capacity

We see prices declining moderately to \$575-600/MT through 3Q on the combination of China's weakness (destocking's conclusion coupled with still-weak paper and board demand), seasonality (as late-winter, early-spring maintenance outages lead to more production into 3Q) and new capacity. Pulp industry followers frequently forecast wipeouts (big declines) when new capacity starts up, like Suzano's Cerrado project carrying 2.6mnMT, and after a large price upswing has occurred. In our past research (see here for our last reforecast) we stated that the declines would be moderate. Among other points, incumbent producers bringing on capacity have proven adept at managing production to demand to prevent flooding the market. Moreover, global growth should be improving, and supply-chain tension in competing fiber prices, specifically recovered paper (RCP; old corrugated cartons [OCC], etc.), should prevent big drops.

Exhibit 2: Summary of BofA pulp price forecasts (Period averages, US\$/MT)

We summarize our new global pulp forecasts

		2022A	1Q23A	2Q23A	3Q23A	4Q23A	2023A	1Q24E	2Q24E	3Q24E	4Q24E	2024E	LT (2025E)
	China - New	792	756	518	532	620	607	648	600	592	669	627	600
	China - Old	792	756	518	532	604	603	614	584	551	571	580	600
Hardwood	% change	0.0%	0.0%	0.0%	0.0%	2.7%	0.7%	5.5%	2.9%	7.5%	17.2%	8.2%	0.0%
пагимоои	Europe - New	1,286	1,337	1,097	835	908	1,044	1,020	976	942	1,048	997	1,000
	Europe - Old	1,286	1,337	1,097	835	848	1,029	930	941	888	950	927	1,100
	% change	0.0%	0.0%	0.0%	0.0%	7.1%	1.5%	9.7%	3.7%	6.0%	10.3%	7.5%	-9.1%
	China - New	933	899	707	665	754	756	728	699	709	785	730	700
	China - Old	933	899	707	665	725	749	734	709	676	706	706	700
Softwood	% change	0.0%	0.0%	0.0%	0.0%	3.9%	0.9%	-0.8%	-1.4%	4.9%	11.3%	3.4%	0.0%
Sortwood	Europe - New	1,404	1,399	1,307	1,175	1,191	1,268	1,258	1,216	1,182	1,248	1,226	1,150
	Europe - Old	1,404	1,399	1,307	1,175	1,161	1,260	1,161	1,161	1,161	1,161	1,161	1,161
	% change	0.0%	0.0%	0.0%	0.0%	2.6%	0.6%	8.3%	4.7%	1.7%	7.5%	5.5%	-1.0%
	China - New	1,029	984	901	903	877	916	926	931	868	947	918	810
Dissolving Pulp	China - Old	1,029	984	901	870	895	912	895	895	895	895	895	895
	% change	0.0%	0.0%	0.0%	3.8%	-2.0%	0.4%	3.4%	4.0%	-3.0%	5.8%	2.6%	-9.5%

Exhibit 2: Summary of BofA pulp price forecasts (Period averages, US\$/MT)

We summarize our new global pulp forecasts

2022A 1Q23A 2Q23A 3Q23A 4Q23A 2023A 1Q24E 2Q24E 3Q24E 4Q24E 2024E LT (2025E)

Source: BofA Global Research estimates, Fastmarkets FOEX

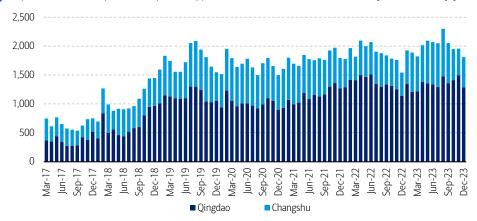
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Pulp inventories at major Chinese ports down 7.5% m/m in December

Separately, RISI reported that pulp inventories at major Chinese ports dropped 7.5% m/m to 1,810Kt in December, yet rose 17.4% y/y (Exhibit 3). The m/m drop was led by Qingdao port inventories, which dropped 14% m/m to 1,285Kt, while inventories Changshu ports rose 14% m/m to 525Kt.

Exhibit 3: Pulp inventories at major Chinese ports (Kt)

Pulp inventories at major Chinese ports dropped 7.5% m/m to 1,810Kt in December, yet rose 17.4% y/y



Source: Fastmarkets RISI, BofA Global Research

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Europe: consumer pulp inventories up 0.8% m/m in Dec

Utipulp reported pulp inventories in Europe up 0.8% m/m in December to 747.2Kt, now 5% above December 2022 at 29 days of supply, stable m/m but up six days y/y. Meantime, consumption decreased 8.1% to 757.3Kt. Separately, RISI reported that Heinzel Group's Starkraft is in the process of increasing kraft paper prices by 10% for April shipments, as a response to increasing input costs.

Exhibit 4: Utipulp - European pulp consumption and consumer inventories (kMT)

European consumer pulp inventories rose 0.8% m/m in December to 747.2kMT

Softwood - Europe	Dec-23	Nov-23	m/m (%)	Dec-22	y/y (%)
Consumption (Kt)	229.7	252.1	-8.9%	250.9	-8.5%
Inventories (Kt)	215.6	219.9	-1.9%	226.3	-4.7%
Inventories (in days of supply)	26	26	0.0%	23	13.0%
Hardwood - Europe	Dec-23	Nov-23	m/m (%)	Dec-22	y/y (%)
Consumption (Kt)	478.2	523.5	-8.7%	442.9	8.0%
Inventories (Kt)	486.7	472.9	2.9%	432.3	12.6%
Inventories (in days of supply)	30	30	0.0%	22	36.4%

Total kraft pulp	Dec-23	Nov-23	m/m (%)	Dec-22	y/y (%)
Consumption (Kt)	757.3	824.4	-8.1%	733.8	3.2%
Inventories (Kt)	747.2	740.9	0.8%	711.8	5.0%
Inventories (in days of supply)	29	29	0.0%	23	26.1%

Source: BofA Global Research, Utipulp

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Americas: North American SW producers pushing for hikes

RISI reported that Canadian producer Thunder Bay Pulp and Paper announced a price increase for its ~230Kt/year market pulp sold to North American customers in February. NBSK prices would increase by US\$50/t, while northern bleached hardwood kraft (NBHK) saw a US\$30/t price hike. Meantime, RISI reported that Paper Excellence (PE) also announced a US\$50/t hike for softwood and fluff in North America effective in January,



bringing its list prices to \$1,400/t for NBSK, \$1,310/t for southern BSK and \$1,840/t for fluff. Its global market pulp net prices should also have a US\$30/t increase.

Separately, the American Forest & Paper Association (AF&PA) reported total packaging papers & specialty packaging shipments in December rose a modest 0.4% y/y, while total 2023 figures dropped 1% y/y.



Exhibit 5: Summary of Pulp & Paper price movementsPulp prices rose \$0.69/t w/w to \$655.44/t for hardwood and were flat w/w at \$738.41/t for softwood

Pulp & Paper Price Reference	Unit	Current Price	w/w Change (USD/t)	w/w Change (%)	y/y Change	y/y Change (%)	Last Change
Market Pulp - Hardwood							
HW China Net	USD/t	655.44	0.69	0.11%	-154.54	-19.08%	19-Jan-24
HW China Resale Net (Eucalyptus)	USD/t	602.54	-3.50	-0.58%	-209.92	-25.84%	19-Jan-24
HW Europe List	USD/t	1,061.66	43.02	4.22%	-318.25	-23.06%	16-Jan-24
HW Europe Net	USD/t	745.42	30.21	4.22%	-223.45	-23.06%	16-Jan-24
HW US List	USD/t	1,135.00	0.00	0.00%	-455.00	-28.62%	15-Dec-23
Market Pulp - Softwood		,					
SW China Net	USD/t	738.41	0.00	0.00%	-149.76	-16.86%	12-Jan-24
SW China Resale Net (NBSK)	USD/t	704.31	-1.37	-0.19%	-253.14	-26.44%	19-Jan-24
SW China Futures Net	USD/t	687.42	1.61	0.23%	n.a.	n.a.	19-Jan-24
SW Europe List	USD/t	1,289.18	40.93	3.28%	-125.34	-8.86%	16-Jan-24
SW Europe Net	USD/t	923.50	29.32	3.28%	-89.79	-8.86%	16-Jan-24
SW US List	USD/t	1,340.00	0.00	0.00%	-370.00	-21.64%	15-Dec-23
Printing & Writing - Uncoated		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
China Offset Reel	USD/t	947.92	-3.17	-0.33%	-117.24	-11.01%	19-Jan-24
Europe Offset Reel	USD/t	1,306.14	-7.42	-0.56%	-106.43	-7.53%	19-Jan-24
Printing & Writing - Coated		.,					,
China Offset Reel	USD/t	880.62	-2.95	-0.33%	-7.43	-0.84%	19-Jan-24
Europe Offset Reel	USD/t	1,179.33	-6.70	-0.56%	-146.50	-11.05%	19-Jan-24
Packaging - Containerboard		.,					,
Kraftliner China	USD/t	561.22	-1.88	-0.33%	-130.69	-18.89%	19-Jan-24
Kraftliner Europe	USD/t	735.61	-4.67	-0.63%	-177.12	-19.41%	19-Jan-24
Testliner China	USD/t	478.34	-1.60	-0.33%	-87.67	-15.49%	19-Jan-24
Testliner Europe	USD/t	531.74	-4.86	-0.90%	-195.06	-26.84%	19-Jan-24
White-top Kraftliner China	USD/t	775.22	-2.60	-0.33%	-136.15	-14.94%	19-Jan-24
White-top Kraftliner Europe	USD/t	913.45	-13.39	-1.44%	-93.89	-9.32%	19-Jan-24
Packaging - Boxboard							,
Duplex China	USD/t	517.97	-1.73	-0.33%	-93.05	-15.23%	19-Jan-24
Duplex Europe	USD/t	1,300.28	-8.36	-0.64%	-189.26	-12.71%	19-Jan-24
Old Corrugated Cardboard		.,				,-	,
OCC China	USD/t	245.15	-0.82	-0.33%	-41.77	-14.56%	19-Jan-24
OCC Europe	USD/t	107.42	-2.60	-2.36%	31.47	41.43%	19-Jan-24
OCC US	USD/t	87.00	0.00	0.00%	58.00	200.00%	1-Jan-24
Margins - China							. , = .
Uncoated Paper	USD/t	292.48	-3.86	-1.30%	37.30	14.62%	19-Jan-24
Coated Paper	USD/t	225.18	-3.64	-1.59%	147.11	188.43%	19-Jan-24
Kraftliner	USD/t	69.44	-1.47	-2.07%	-34.92	-33.46%	19-Jan-24
Testliner	USD/t	233.19	-0.78	-0.33%	-45.90	-16.45%	19-Jan-24
Coated Duplex	USD/t	26.19	-1.32	-4.81%	2.71	11.54%	19-Jan-24
White-top Kraftliner	USD/t	78.30	-2.94	-3.62%	16.00	25.68%	19-Jan-24
Margins - Europe							- /-
Uncoated Paper	USD/t	560.72	-37.62	-6.29%	117.02	26.37%	19-Jan-24
Coated Paper	USD/t	433.91	-36.90	-7.84%	76.95	21.56%	19-Jan-24
Kraftliner	USD/t	220.15	-18.03	-7.57%	-147.96	-40.20%	19-Jan-24
Testliner	USD/t	424.33	-2.26	-0.53%	-226.53	-34.81%	19-Jan-24
Coated Duplex	USD/t	376.78	-37.69	-9.09%	-99.47	-20.89%	19-Jan-24
White-top Kraftliner	USD/t	-10.05	-42.71	-130.77%	-4.10	69.00%	19-Jan-24
Pulp Spreads							
HW Europe - China (Net)	USD/t	89.98	29.52	51.29%	-68.91	-43.37%	19-Jan-24
SW Europe - China (Net)	USD/t	185.09	29.32	18.82%	59.97	47.93%	16-Jan-24
SW - HW China	USD/t	82.97	-0.69	-0.82%	4.78	6.11%	19-Jan-24
SW - HW Europe	USD/t	178.08	-0.89	-0.49%	133.67	300.96%	16-Jan-24
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Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI



Exhibit 6: Pulp & Paper prices period comparisonEvolution of pulp and paper prices

Pulp & Paper Price Reference	Current Price (USD/t)	Last Week Price	Last Month Price	Last Year Price	12M Average	5Y Average	Source
Market Pulp - Hardwood							
HW China Net	655.44	654.75	639.95	809.98	602.96	615.92	FOEX
HW China Resale Net (Eucalyptus)	602.54	606.04	606.26	812.47	604.25	612.89	RISI
HW Europe List	1,061.66	1,018.64	996.15	1,379.91	1,032.09	975.87	FOEX
HW Europe Net	745.42	715.22	699.42	968.87	724.66	687.01	BofA/FOEX
HW US List	1,135.00	1,135.00	1,135.00	1,590.00	1,222.65	1,184.67	RISI
Market Pulp - Softwood				·			
SW China Net	738.41	738.41	757.38	888.17	752.35	750.88	FOEX
SW China Resale Net (NBSK)	704.31	705.68	715.36	957.44	753.63	750.06	RISI
SW China Futures Net	687.42	685.82	686.73	n.a.	679.64	n.a.	RISI
SW Europe List	1,289.18	1,248.25	1,243.66	1,414.52	1,261.88	1,139.70	FOEX
SW Europe Net	923.50	894.18	890.89	1,013.29	903.94	818.44	BofA/FOEX
SW US List	1,340.00	1,340.00	1,340.00	1,710.00	1,437.76	1,399.67	RISI
Printing & Writing - Uncoated				·			
China Offset Reel	947.92	951.10	954.95	1,065.16	953.84	976.12	RISI
Europe Offset Reel	1,306.14	1,313.56	1,301.82	1,412.57	1,330.32	1,140.66	RISI
Printing & Writing - Coated	,	·	,	,		•	
China Offset Reel	880.62	883.57	887.15	888.05	843.19	874.85	RISI
Europe Offset Reel	1,179.33	1,186.03	1,175.43	1,325.84	1,219.01	981.69	RISI
Packaging - Containerboard	,	•	,	,	,		
Kraftliner China	561.22	563.10	565.38	691.90	592.62	682.83	RISI
Kraftliner Europe	735.61	740.28	743.74	912.73	785.59	799.38	FOEX
Testliner China	478.34	479.94	481.89	566.01	481.82	596.26	RISI
Testliner Europe	531.74	536.60	537.74	726.81	585.18	607.77	FOEX
White-top Kraftliner China	775.22	777.82	780.97	911.37	805.33	871.37	RISI
White-top Kraftliner Europe	913.45	926.84	927.44	1,007.34	945.85	923.39	FOEX
Packaging - Boxboard				,			
Duplex China	517.97	519.71	521.81	611.03	528.61	654.51	RISI
Duplex Europe	1,300.28	1,308.64	1,307.57	1,489.54	1,392.30	n.a.	RISI
Old Corrugated Cardboard	,	·	,	,			
OCC China	245.15	245.97	246.97	286.92	244.93	334.24	RISI
OCC Europe	107.42	110.01	110.98	75.95	97.67	126.50	FOEX
OCC US	87.00	87.00	79.00	29.00	53.32	72.08	RISI
Margins - China							-
Uncoated Paper	292.48	296.35	315.00	255.18	350.89	360.20	FOEX/RISI
Coated Paper	225.18	228.82	247.20	78.07	240.23	258.93	FOEX/RISI
Kraftliner	69.44	70.91	63.20	104.36	93.98	140.27	FOEX/RISI
Testliner	233.19	233.97	234.92	279.09	236.89	262.01	FOEX/RISI
Coated Duplex	26.19	27.52	19.64	23.48	29.97	111.95	FOEX/RISI
White-top Kraftliner	78.30	81.24	82.30	62.30	127.68	187.97	FOEX/RISI
Margins - Europe							
Uncoated Paper	560.72	598.34	602.39	443.70	605.66	453.65	FOEX/RISI
Coated Paper	433.91	470.81	476.00	356.96	494.36	294.68	FOEX/RISI
Kraftliner	220.15	238.18	242.80	368.12	284.79	326.91	FOEX
Testliner	424.33	426.59	426.76	650.86	487.51	481.27	FOEX
Coated Duplex	376.78	414.47	416.68	476.25	488.36	450.22	FOEX/RISI
White-top Kraftliner	-10.05	32.66	36.55	-5.95	41.91	104.95	FOEX
Pulp Spreads					· · · · · · · · · · · · · · · · · · ·		
HW Europe - China (Net)	89.98	60.47	59.47	158.89	121.70	71.09	FOEX
SW Europe - China (Net)	185.09	155.77	133.51	125.12	151.59	67.56	FOEX
SW - HW China	82.97	83.66	117.43	78.19	149.40	134.96	FOEX
SW - HW Europe	178.08	178.96	191.47	44.41	179.28	131.43	FOEX
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Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

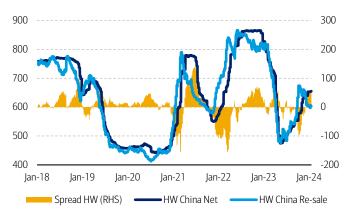


Key charts

Main global pulp price references

Exhibit 7: China HW net price (US\$/t)

Hardwood prices rebounded from the bottom of ~\$480/t



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 8: China SW net price (US\$/t)

Softwood prices are not recovering as much as hardwood



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 9: Shanghai softwood pulp futures (May 2024 contract [sp2405], US\$/t, net*) vs. PIX NBSK China net (US\$/t)

The most traded pulp future contract (May 2024; sp2405) is rangebound in the past weeks

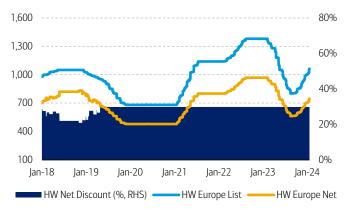


Source: BofA Global Research, Shanghai Futures Exchange, Fastmarkets FOEX

*Net of VAT (13%) and logistic costs (estimated at RMB 150/MT)

Exhibit 10: Europe HW list vs. net price (US\$/t)

Europe Hardwood list prices are still rebounding



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 12: China SW - HW spread (US\$/t)

SW-HW spreads in China have been close to the historical average



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 14: Europe HW vs. China HW price (US\$/t)

Europe prices are in line with Chinese prices



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 11: Europe SW list vs. net price (US\$/t)

As for Softwood, list prices are rebounding slightly

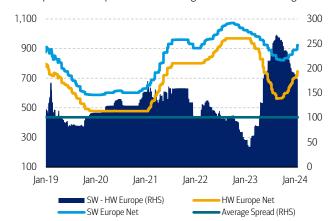


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 13: Europe SW – HW spread (US\$/t)

SW-HW spreads in Europe have been trading above its historical avg

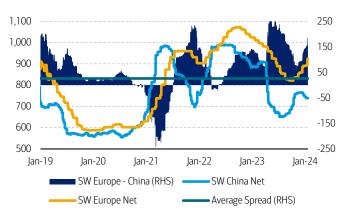


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 15: Europe SW vs. China SW price (US\$/t)

As for Softwood, EU-CH spread has been dropping

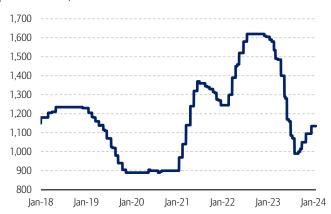


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI



Exhibit 16: US HW list price (US\$/t)

US hardwood prices increased from the bottom

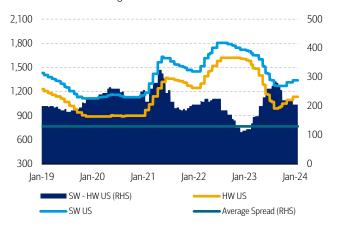


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 18: US SW-HW spread (US\$/t)

Even after the increase in spreads from 2020 and early 2021, current value is still well above historical avg of \sim US\$124/t



 $\textbf{Source:} \ \mathsf{BofA} \ \mathsf{Global} \ \mathsf{Research}, \ \mathsf{Fastmarkets} \ \mathsf{FOEX}, \ \mathsf{Fastmarkets} \ \mathsf{RISI}$

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Exhibit 17: US SW list price (US\$/t)

US softwood prices have remained close to the bottom



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 19: US OCC (US\$/t)

OCC prices have recovered from the recent bottom



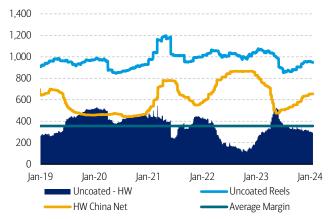
Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

Key charts

Main global paper price references

Exhibit 20: China uncoated reels price and margin (US\$/t)

China uncoated margins trading close to the historical avg of ~US\$360/t

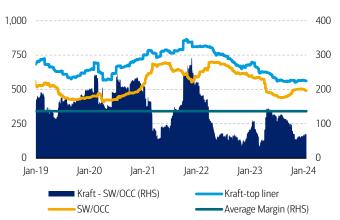


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 22: China kraftliner (US\$/t)

After peak in October 2021, kraftliner margins in China dropped and are now below to avg. of \sim US\$150/t

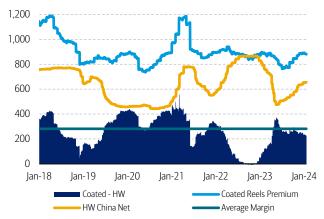


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 21: China coated reels price and margin (US\$/t)

China coated margins are close to the historical avg of ~US\$280/t

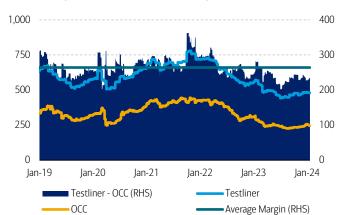


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 23: China testliner (US\$/t)

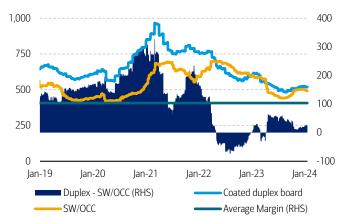
Testliner margins are below the historical margin



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

Exhibit 24: China duplex (US\$/t)

After recent peak in November, duplex margins in China started to drop and are now below the avg of \sim US\$130/t

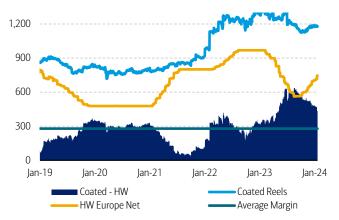


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 26: China ivory board (US\$/t)

Ivory board margin in China is now above the average of ~US\$260/t

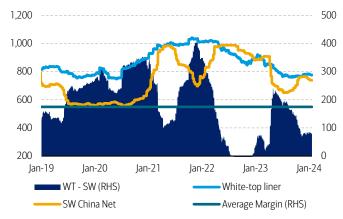


 $\textbf{Source:} \ \mathsf{BofA} \ \mathsf{Global} \ \mathsf{Research}, \ \mathsf{Fastmarkets} \ \mathsf{FOEX}, \ \mathsf{Fastmarkets} \ \mathsf{RISI}$

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Exhibit 25: China white-top liner (US\$/t)

White-top liner also suffered pressure in margins by April 2021, and now returned to levels below avg

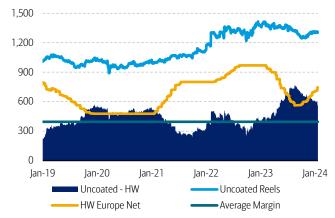


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI



Exhibit 27: Europe uncoated reels (US\$/t)

For uncoated in Europe, margins are recently high, and trading above its historical avg of ~US\$380/t

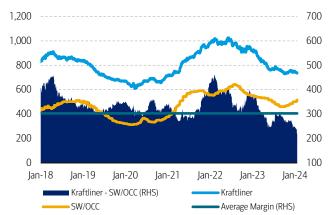


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 29: Europe kraftliner (US\$/t)

Kraftliner margins are currently below the historical average

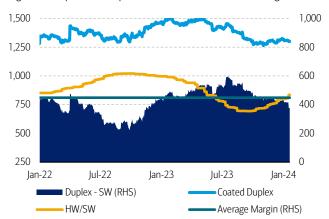


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 31: Europe duplex (US\$/t)

Margins for duplex in Europe are close to the historical average

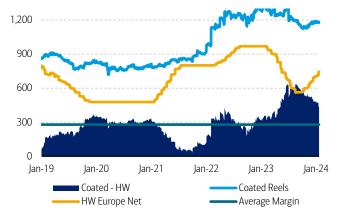


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 28: Europe coated reels (US\$/t)

Margins for uncoated in Europe recovered from low level reached after peak in 2020 and early 2021 $\,$

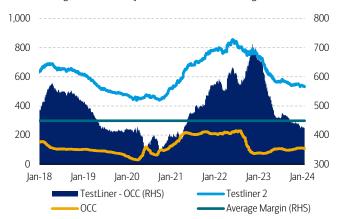


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 30: Europe testliner (US\$/t)

Testliner margins are currently below the historical average

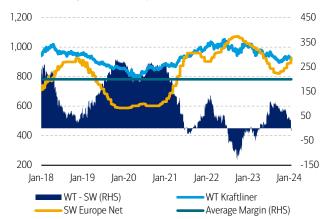


Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Exhibit 32: Europe white-top liner (US\$/t)

WT kraftliner margins are currently low



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI





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