

Global Pulp, Paper & Forest Products

Pulp Project-er #9: Raising forecasts; stay nimble but not fading rally at this point

Industry Overview

Raise forecasts \$15/MT in China HW, \$600/MT in view

We raise forecasts across our various pulp grades on stronger demand in China and restocking needs. Our average China net hardwood (HW) price increases from \$588/MT to \$603/MT for 2023 as we see producers push towards the frequently cited “normalized \$600/MT” objective. China net softwood (SW) pricing rises in tandem from \$737/MT to \$749/MT.

Latest Pulp Project-er work shows fairly tight market now

We do a mill-by-mill analysis in our Pulp Project-er reports and, overall, forecasted operating rates increase a few percentage points to 90%+ in 2023. That said, 2024 looks to be looser, with operating rates back to ~85%. Strong demand from China, delays with projects including Arauco MAPA, a big unplanned outage year with 1.6mnMT+ in 2023 and purchasing “ahead of the next price attempt” are driving this rally. Seasonality in 4Q and into 2Q (better demand trends from China, maintenance outage activity in the Northern hemisphere) also support pricing, as does the cost curve. Among other points, wood chip prices remain elevated.

Fade this rally? Not yet, even if prices don’t hit \$700/MT

Next year operating rates decline particularly on the introduction of Suzano’s new, Cerrado-mill capacity, UPM’s ramp at Paso de los Toros and 400kMT from Shandong Huatai – so time to sell pulp, right? Pulp producers have shown agility in recent years in managing their new capacity so as to preserve pricing momentum. The “math” says prices should decline at some point in 2024 and we expect a peak sometime in 1Q or 2Q, but we have learned the hard way that “spreadsheets” only tell you so much. Keep an eye on the dollar, resale prices, and China – if global growth is resilient and the dollar fades (the latter being BofA’s view) the pulp rally could have more legs than meets the eye. One thing that bodes well for the fiber markets – in containerboard markets we are hearing that Mideast export prices (from North America) and old corrugated carton (OCC) prices have stopped declining,

Other price trends – will fluff ever compress?

Long-term, we see the normal China HW price at \$600/MT and that is what we are using for 2025 forecasts. Regionally, we see European prices up through 2Q as they take their cue from China pricing and our assumed spreads, but weak economic activity is a risk here. In North America, fluff pricing that we track remains at an elevated level versus commodity-grade, Southern Bleached Softwood Kraft (SBSK; see our separate North American industry reports). Traditionally, the spread is \$100/MT+ but it currently remains over \$500/MT. Given various factors and potentially new, HW-based capacity over time from South America, we expect spreads to compress for fluff.

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Refer to important disclosures on page 14 to 15.

12610622

Timestamp: 11 October 2023 06:49PM EDT

11 October 2023

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Exhibit 1: Key pulp changes

We boost our 2H23 price forecasts

Key Changes		2023	
Price/MT	New	Old	% chg
China HW	603	588	2.6%
China SW	749	737	1.6%
Europe HW	1029	1069	-3.9%
Europe SW	1260	1176	6.7%
2024			
Capacity top rates	New	Old	% chg
Supply	74,618	76,057	-1.9%
Demand	63,608	65,495	-3.0%
Operating rate	85%	86%	-1.3%

Source: BofA Global Research Estimates

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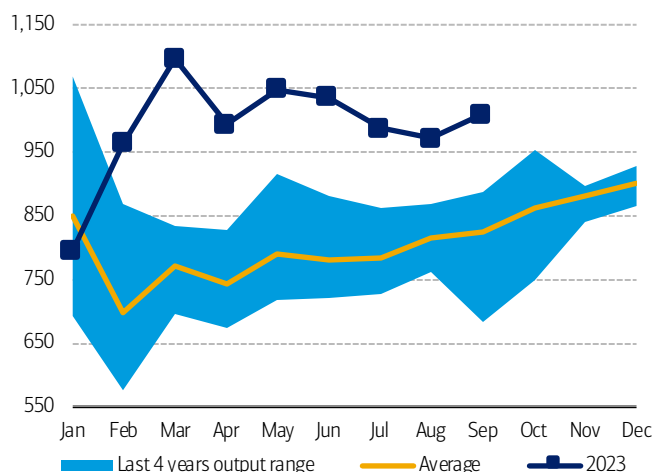
Raise forecasts: HW at \$600/MT in view

Strong Chinese paper demand, pulp imports fuel px hikes

The last couple months saw strong paper & paperboard demand in China. Total paper & board production rose m/m in September for nearly all grades, while inventories dropped ~10% on an aggregate basis and fell for all grades except for tissue ([see our September China Paper Industry Thermometer update](#)). The combination of production increases and inventory consumption indicates improved paper and board demand, which is also shown on tissue and coated paper prices rising for another month, up 3.9% and 5.8% m/m, respectively.

Exhibit 2: Tissue – production volume in China (Kt)

Chinese tissue output has been running well above its average

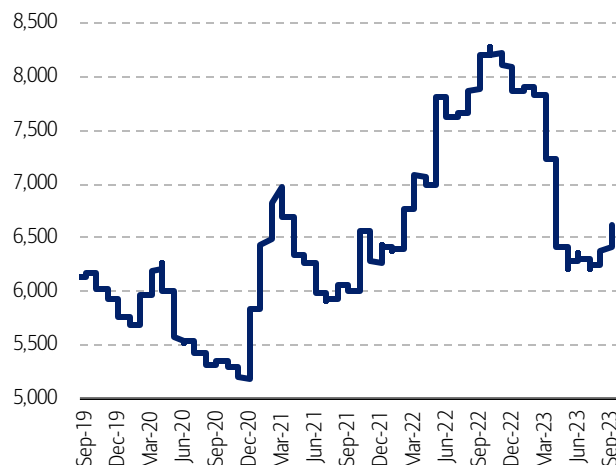


Source: BofA Global Research, SCI

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Exhibit 3: Tissue – average prices in China (RMB/MT)

Average tissue prices rose 3.9% m/m to RMB 6,617/MT



Source: BofA Global Research, SCI

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Meantime, shipments to China have been boosted by improved buying activity after prices bottomed out earlier this year and stimulated restocking. This move could also be fueled by lower output from integrated producers in China (~10Mt of capacity, with ~2Mt operating at \$530-550/MT cash cost), which is also reinforced by wood chip imports to China down 11% y/y in Aug and -26% YTD – implying a reduction of 1.4Mt of pulp production from integrated players or 2.1Mt on an annualized basis. All in, pulp imports in China skyrocketed 23% YTD as per PPPC (Pulp and Paper Products Council) GL100 data.

Exhibit 4: Summary table for World Pulp Statistics (W-20) – Shipments (kMT)

PPPC reported global pulp shipments up 5.0% y/y to 4,765Kt in August

	Aug-23	m/m %	y/y %	2023 ytd	ytd (%)
Total shipments	4,765	4.8%	5.0%	35,187	-1.1%
Softwood pulp	1,983	3.1%	1.8%	14,729	-1.5%
Hardwood pulp	2,620	6.2%	9.5%	19,195	1.1%
Others	162	5.2%	-17.8%	1,263	-23.6%
By region					
North America	606	-1.3%	-9.5%	4,765	-8.9%
Europe - Total	1,032	1.3%	-14.9%	8,302	-17.2%
LatAm	327	4.5%	-3.6%	2,654	1.6%
China	1,954	10.5%	42.4%	12,937	21.7%
Japan	154	-4.9%	-25.5%	1,283	-13.5%
Other Asia & Africa	665	1.4%	-4.2%	5,034	-0.4%
Oceania	28	100.0%	-34.4%	214	-26.5%

Source: BofA Global Research, PPPC

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Exhibit 5: Summary table for World Pulp Statistics – Inventories

Producer inventories dropped one day m/m in Aug to 47 days of supply

	Aug-23	m/m	y/y
Days of supply	47	-1	2
Softwood pulp	46	-1	2
Hardwood pulp	49	1	2
Shipment-to-capacity (operating rates %)	90%	+400bp	+100bp

Source: BofA Global Research, PPPC

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We are going through a period of stronger demand seasonality for pulp which typically lasts until year-end which should continue to support prices in our view. That, coupled with increased pulp supply disruptions and lower Chinese integrated pulp production offers room for the recent wave of \$30-50/MT [price hikes for October to stick](#) (see report), while pulp resale prices in China close to ~US\$630/MT could offer some room for additional price hikes in November, as we baked into our price deck. On the other hand, prices surpassing \$600/MT could encourage higher cost integrated players, with a cash cost currently at ~\$550/MT, to restart pulp production.

Exhibit 6: Summary of BofA pulp price forecasts (Period averages, US\$/MT)

We raise our forecasts for China hardwood net pricing to US\$603/MT in 2023 and US\$600/MT in the long term

		2022E	1Q23E	2Q23E	3Q23E	4Q23E	2023E	1Q24E	2Q24E	3Q24E	4Q24E	2024E	LT (2025E)
Hardwood	China - New	792	756	518	532	604	603	614	584	551	571	580	600
	China - Old	792	764	555	500	533	588	N/A	N/A	N/A	N/A	600	615
	% change	0.0%	-1.0%	-6.6%	6.5%	13.2%	2.5%	n.m.	n.m.	n.m.	n.m.	-3.4%	-2.4%
	Europe - New	1,286	1,337	1,097	835	848	1,029	930	941	888	950	927	1,100
	Europe - Old	1,284	1,340	1,031	934	970	1,069	N/A	N/A	N/A	N/A	1,073	1,100
	% change	0.2%	-0.2%	6.4%	-10.6%	-12.6%	-3.7%	n.m.	n.m.	n.m.	n.m.	-13.6%	0.0%
Softwood	China - New	933	899	707	665	725	749	734	709	676	706	706	700
	China - Old	933	897	732	646	673	737	N/A	N/A	N/A	N/A	700	718
	% change	0.0%	0.2%	-3.4%	2.9%	7.8%	1.6%	n.m.	n.m.	n.m.	n.m.	0.8%	-2.4%
	Europe - New	1,404	1,399	1,307	1,175	1,161	1,260	1,180	1,191	1,138	1,150	1,165	1,250
	Europe - Old	1,403	1,400	1,139	1,055	1,110	1,176	N/A	N/A	N/A	N/A	1,223	1,254
	% change	0.1%	-0.1%	14.7%	11.3%	4.6%	7.2%	n.m.	n.m.	n.m.	n.m.	-4.8%	-0.3%
Dissolving Pulp	China - New	1,029	984	901	870	895	912	859	817	771	799	811	810
	China - Old	1,029	985	722	650	693	762	N/A	N/A	N/A	N/A	810	830
	% change	0.0%	-0.1%	24.8%	33.9%	29.2%	19.7%	n.m.	n.m.	n.m.	n.m.	0.2%	-2.4%

Source: BofA Global Research estimates, Fastmarkets FOEX

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Our macro forecasts below suggest that Chinese growth should remain in the 4.5-5% range in the coming years. While not as strong as in the past, it should continue to support paperboard demand growth in the coming years. Meantime, despite higher rates potentially hurting demand in the US over the next months, our economists expect a soft landing and forecast a shy 1.1% GDP growth next year.

Exhibit 7: BofA – Summary of BofA macro forecasts

BofA economists forecast China GDP to grow 4.8% in 2024

Currency		2020	2021	1Q22	2Q22	3Q22	4Q22	2022	1Q23	2Q23	3Q23	4Q23	2023	1Q24	2Q24	3Q24	4Q24	2024	2025
USDBRL	EoP	5.20	5.58	4.74	5.26	5.42	5.28	5.28	5.06	4.79	5.03	4.90	4.90	4.95	5.00	5.05	5.10	5.10	5.17
	Avg	5.16	5.40	5.23	4.92	5.24	5.26	5.16	5.19	4.95	4.88	4.97	5.00	4.93	4.98	5.03	5.08	5.00	5.13
USDCLP	EoP	712	852	786	918	969	851	851	795	802	892	895	895	900	905	910	912	912	922
	Avg	792	760	809	844	926	915	873	811	801	852	893	839	898	903	908	911	905	917
USDRMB	EoP	6.53	6.36	6.34	6.70	7.12	6.90	6.90	6.87	7.30	7.40	7.20	7.20	7.10	7.00	6.80	6.70	6.70	6.30
	Avg	6.90	6.45	6.35	6.61	6.85	7.12	6.73	6.89	7.09	7.35	7.30	7.19	7.15	7.05	6.90	6.75	6.90	6.45
EURUSD	EoP	1.18	1.14	1.11	1.05	0.98	1.07	1.07	1.08	1.09	1.06	1.05	1.05	1.07	1.10	1.15	1.15	1.15	1.15
	Avg	1.14	1.18	1.12	1.07	1.01	1.02	1.05	1.07	1.09	1.09	1.05	1.08	1.06	1.09	1.13	1.15	1.11	1.15
China GDP growth		2.2%	8.4%	4.8%	0.4%	3.9%	2.9%	3.0%	4.5%	6.3%	4.4%	5.1%	5.1%	4.1%	4.6%	5.0%	5.2%	4.8%	4.7%
US GDP growth		-2.8%	5.8%	3.6%	1.9%	1.7%	0.7%	1.9%	1.7%	2.4%	2.2%	2.0%	2.1%	1.6%	1.3%	0.9%	0.7%	1.1%	1.3%

Source: BofA Global Research estimates, Bloomberg

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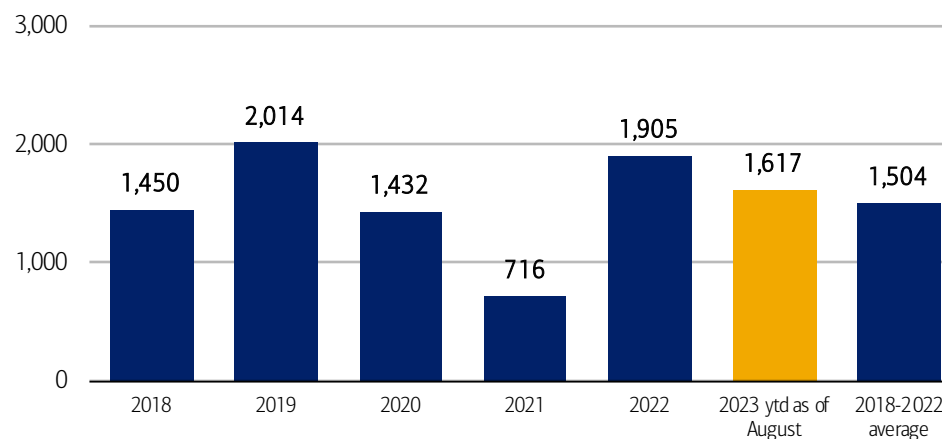
Disruptions have been significant and continue to happen

RISI estimates close to 1.6mnMT of supply disruptions YTD up until August (Exhibit 8) and additional shutdowns continue to take place, e.g. Arauco recently announced it is indefinitely suspending its 160kMT/yr USK (Unbleached Softwood Kraft) Licancel mill. Furthermore, wood chip imports into China are down 26% YTD as of Aug implying a reduction of 1.4mnMT of pulp production from integrated players or 2.1mnMT on an annualized basis (Exhibit 10). Imported wood chip prices in Asia are currently trading at ~\$180/MT (Exhibit 11) which implies that wood costs alone for pulp producers in Asia amount to close to ~\$400/MT.

Assuming wood costs account for around 74% of Asian pulp producer costs, total pulp cash costs on a per ton basis should be close to \$545/MT. RISI currently estimates the production cost of higher cost integrated pulp capacity in China ranges between \$530-550/MT. Given a good portion of higher cost integrated pulp production in China remains offline, a restart of this capacity is likely to push wood chip prices higher. Therefore, we believe prices would likely need to reach levels close to at least \$600/MT to encourage these players to restart. On the other hand, this potential restart is the main reason why we see a potential short-term price cap at the ~\$600-650/MT levels.

Exhibit 8: Market pulp unplanned downtime (kMT)

RISI estimates close to 1.6mnMT of supply disruptions YTD up until August 2023, already above the 1.5mnMT/year 2018-2022 average

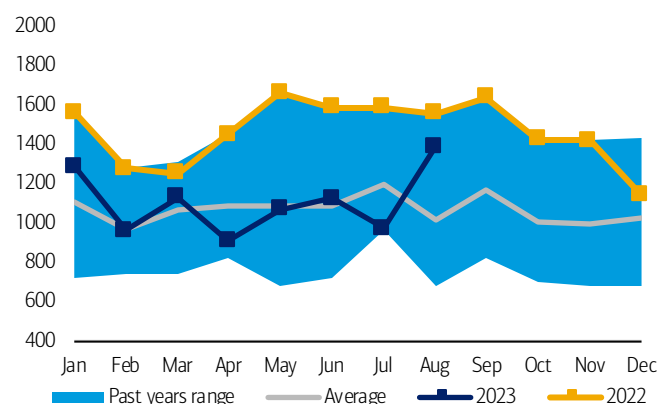


Source: BofA Global Research, Fastmarkets RISI

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Exhibit 9: Chinese hardwood chip imports (kMT)

Wood chip imports into China are down 26% YTD as of Aug...



Source: BofA Global Research, China NBS

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Exhibit 10: Estimated Chinese hardwood chip imports effect on its domestic integrated pulp production (kMT)

... implying a reduction of 1.4kMT of pulp production from integrated players or 2.1kMT on an annualized basis

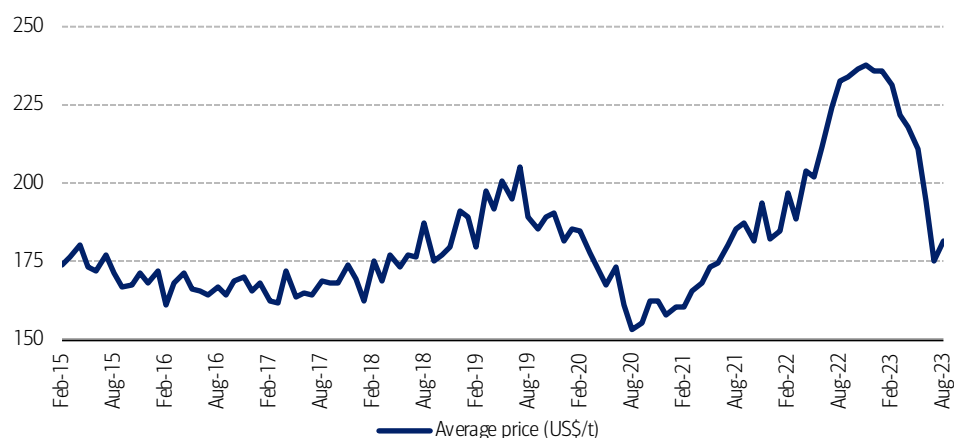
Integrated pulp production delta y/y (Kt)	
2022 YTD woodchip imports (Kt)	11,946
2023 YTD woodchip imports (Kt)	8,853
Woodchip imports delta (Kt)	3,093
Pulp yield	45%
Delta integrated pulp produced (Kt)	1,392
Annualized woodchip imports delta (Kt)	4,639
Pulp yield	45%
Annualized delta integrated pulp produced (Kt)	2,088

Source: BofA Global Research estimates, China NBS

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Exhibit 11: Average imported hardwood chip prices in China (US\$/MT)

Imported wood chip prices in Asia are currently trading at ~\$180/MT which implies that wood costs alone for pulp producers in Asia amount close to ~\$400/MT



Source: BofA Global Research, China NBS

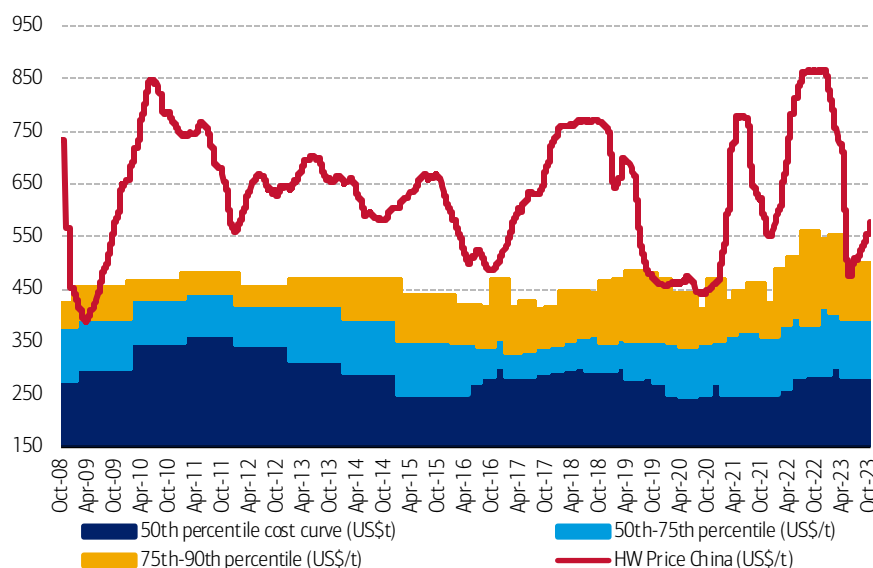
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Pulp prices tested cost support

As seen on Exhibit 12 pulp prices were below the 90th percentile of the cost curve when they bottomed. That was only seen in 2008 and 2019 before, historical pulp price bottoms. After that, prices quickly rebounded, but remain relatively close to cost curve support at current levels. On our view, this could suggest that pulp price downside for now is limited, which helps support our fairly stable pulp price estimate for 2024.

Exhibit 12: China hardwood prices vs cost curve support

At the bottom prices were below the 90th percentile and quickly rebounded



Source: BofA Global Research, Fastmarkets FOEX, Fastmarkets RISI

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Pulp Project-er #9, October 2023

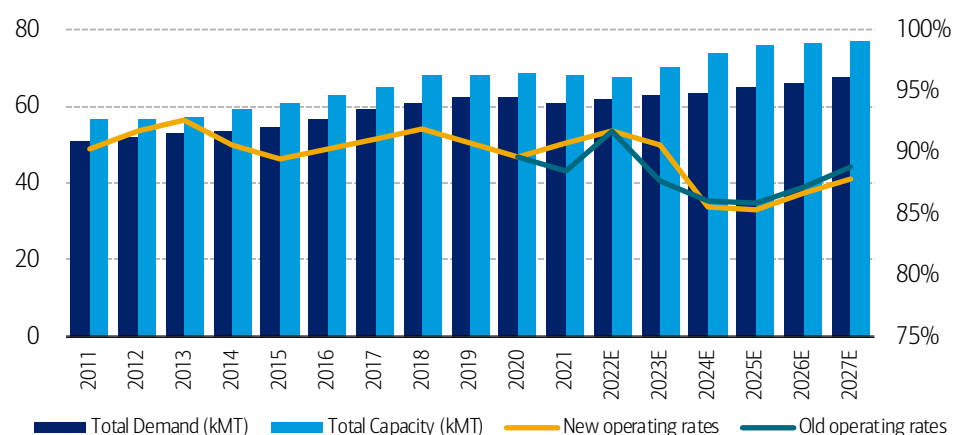
China saves the day in 2023; Demand to grow 1.4% in 24E

We expect pulp shipments growth to decelerate into 2023E and close the year expanding by ~1.4% y/y, or 880kMT, as China growing at double digits this year should more than offset steep declines for all other regions except LatAm and other Asia/Africa. For 2024, we expect a 1% y/y drop in China as woodchip imports normalize and domestic integrated pulp production rebounds, yet other key regions such as Europe and North America should post a 3-3.5% recovery after a sharp drop this year.

Exhibit 14 shows our global supply/demand (SD) model for pulp following our latest **Pulp Project-er**, project-by-project analysis of supply. Overall, operating rates look to be 90.6% this year, dropping to 85% in 2024 as supply comes online, primarily from Suzano's 2.550mnMT/yr Cerrado project starting up in June 2024, coupled with the ramp-up of Arauco's 1.560mnMT/yr MAPA and UPM's 2.1mnMT/yr Paso de los Toros which started up this year, and supply disruptions normalizing from a very elevated level this year above 2mnMT.

Exhibit 13: BofA – Global market pulp supply/demand (mnMT) and operating rates (%; LHS) summary

Operating rates look to be 90.6% this year, dropping to 85% in 2024 as supply comes online...



Source: BofA Global Research estimates, Fastmarkets RISI, Hawkins Wright, PPPC, Brian McClay & Associates

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Exhibit 14: BofA – Global market pulp supply/demand model (kMT)

... primarily from Suzano's 2.550kMT/yr Cerrado project starting up in June 2024, coupled with the ramp-up of Arauco's MAPA and UPM's Paso de los Toros

BofA Market Pulp Supply Demand Model	2017	2018	2019	2020	2021	2022E	2023E	2024E	2025E	2026E
Total Demand (kMT)	59,212	60,801	62,206	62,604	60,947	61,838	62,717	63,608	64,861	66,162
% change y/y	4.3%	2.7%	2.3%	0.6%	-2.6%	1.5%	1.4%	1.4%	2.0%	2.0%
USA	6,832	6,818	6,964	7,222	6,768	6,903	6,282	6,471	6,438	6,406
Canada	600	636	727	915	1,048	1,069	973	1,002	997	992
West Europe	12,921	13,106	12,634	11,378	11,868	12,105	10,290	10,650	10,596	10,543
East Europe and CIS	3,564	3,744	3,801	3,678	3,942	3,883	3,417	3,519	3,555	3,590
Latin America	3,701	3,631	3,324	3,547	3,553	3,695	3,769	3,882	4,037	4,199
China	20,568	21,414	22,959	24,850	23,232	23,000	27,255	26,982	27,926	28,904
Japan	1,901	1,930	2,002	1,834	1,772	1,949	1,715	1,801	1,783	1,765
Asia/Africa	6,814	7,061	7,580	7,243	6,754	7,125	7,268	7,486	7,711	7,942
Nordic Countries	1,925	2,070	1,856	1,558	1,652	1,685	1,432	1,482	1,475	1,468
Oceania	386	391	359	379	358	422	317	333	343	353
Total Capacity (kMT)	65,035	68,070	68,404	68,554	68,069	67,878	70,014	74,618	76,520	76,815
Net Additional Capacity	2,140	3,035	334	150	(485)	998	2,298	3,037	1,903	295
Net Hardwood additional capacity						1,150	2,327	2,338	1,903	295
Net Softwood additional capacity						(153)	(30)	699	0	0
Delta of unplanned downtime			(564)	582	716	(1,189)	(162)	1,567	0	0
Unplanned Closures/downtime		(1,450)	(2,014)	(1,432)	(716)	(1,905)	(2,067)	(500)	(500)	(500)
Producer Inventories (kMT)	4,751	6,484	6,362	5,244	6,060	6,485	7,186	6,986	6,986	6,986
Producer Inventories (days of supply)	29	39	37	31	36	38	42	40	39	39
Inventory consumption		1,733	(122)	(1,118)	816	425	701	(200)	0	0
Operating rates (%)	91.0%	91.9%	90.8%	89.7%	90.7%	91.7%	90.6%	85.0%	84.8%	86.1%

Source: BofA Global Research estimates, Fastmarkets RISI, Hawkins Wright, PPPC, Brian McClay & Associates

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Project-er update suggests oversupply in 2024**Fine tuning in estimates marks our Project-er supply work this time around**

Along with the demand adjustment above, we refined our supply forecasts (details are in the **Pulp Project-er** section that follows).

- The delay of Arauco's 1.56mnMT/yr BHK MAPA project to 1Q23, based on Arauco's reports. With the slower speed of ramp up we remove 683kMT from the project from 2023;
- UPM started up Paso de los Toros in April and has been ramping up the project. We expect it to add 1,024kMT of capacity in 2023, 79kMT above our previous estimate;
- Suzano announced they anticipated the startup of the Cerrado project to June 2024 vs a previous guidance of 2H24. We were already assuming volumes since July, so keep estimates for conservatism;
- We are adding China's Shandong Huatai Paper 700kMT/yr BHK pulp line for its flagship mill in Dongying city at Shandong province. We assume that 400kMT/yr of capacity will be market pulp;
- We add to our model recent closures of mills, including Stora Enso's Sunila, IP Pensacola, GP Foley, Arauco's Licancel, Westrock Tacoma mill. Together they combine for ~1mnMT/yr of capacity, between BSK, UKP and fluff. We also include ND Paper Old Town, which we assume will be closed until 2H24, removing ~350kMT of production between 2023 and 2024 and Mondi integrating around 200kMT of UKP volumes from its Hinton mill, recently acquired from West Fraser in 2027.

Compared to our prior model, our total capacity forecasts decline by ~3.5mnMT in 2023 and by ~1.4mnMT in 2024 – primarily driven by a ~2,067kMT hit from unplanned downtime this year vs our previous forecast of 500kMT, coupled with some indefinite capacity closures and project delays as we detail further below.

Exhibit 15: BofA – Old vs New supply/demand model (kMT)

We are updating our capacity forecasts following the project delays and unplanned closures

		2021A	2022E	2023E	2024E	2025E	2026E
Total Demand	New	60,947	61,838	62,717	63,608	64,861	66,162
	Old	60,468	63,162	64,342	65,495	66,693	67,936
	Change	0.8%	-2.1%	-2.5%	-2.9%	-2.7%	-2.6%
Total Capacity (after unplanned downtime)	New	68,069	67,878	70,014	74,618	76,520	76,815
	Old	69,199	69,082	73,459	76,057	77,669	77,924
	Change	-1.6%	-1.7%	-4.7%	-1.9%	-1.5%	-1.4%
Net additional capacity	New	(485)	998	2,298	3,037	1,903	295
	Old	(51)	998	3,047	2,598	1,613	255
	Change	851.0%	0.0%	-24.6%	16.9%	18.0%	15.7%
Capacity utilization (%)	New	90.7%	91.7%	90.6%	85.0%	84.8%	86.1%
	Old	88.6%	91.7%	87.6%	86.1%	85.9%	87.2%
	Change	220 bps	0 bps	300 bps	-110 bps	-110 bps	-110 bps

Source: BofA Global Research estimates, PPPC, Fastmarkets RISI, Hawkins Wright, Brian McClay & Associates

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Exhibit 16 illustrates that between 2022-26E roughly 8.3mnMT of accumulated potential pulp production was removed from our model estimates, most of this in 2023-24 given the abovementioned higher unplanned downtime and some project delays/closures.

Exhibit 16: BofA market pulp supply model – Summary of global capacity changes (kMT)

Between 2022-26E roughly 8.3mnMT of potential pulp production was removed from our model

	2022E	2023E	2024E	2025E	2026E	Accumulated 2022-26
Total pulp capacity - NEW	67,878	70,014	74,618	76,520	76,815	
Total pulp capacity - OLD	69,082	73,459	76,057	77,669	77,924	
Change on capacity forecasts	(1,204)	(3,446)	(1,439)	(1,109)		(8,347)

Source: BofA Global Research estimates, PPPC, Fastmarkets RISI, Hawkins Wright, Brian McClay & Associates

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Exhibit 17 below summarizes the key changes to our supply assumptions by mill/project.

Exhibit 17: Summary of key capacity changes by mill/project (kMT)

Our supply forecast adjustments yield a ~1.4mnMT fewer of capacity in 2023 and ~1.24mnMT in 2024 including fluff and unbleached kraft pulp (UKP)

Company	Mill	2023E			2024E			2025E		
		New	Old	chg	New	Old	chg	New	Old	chg
Bleached Hardwood Kraft (BHK)										
Arauco	Arauco (Horcones) - MAPA	878	1,560	(683)	1,560	1,560	-	1,560	1,560	-
Huatai Paper (Dongying)	Shandong	-	-	-	70	-	70	360	-	360
UPM	Paso de Los Toros/Durazno	1,024	945	79	1,890	1,890	-	2,100	2,100	-
Total - BHK		1,901	2,505	(604)	3,520	3,450	70	4,020	3,660	360
Bleached Softwood Kraft (BSK)										
Canfor Pulp	Prince George (Pulp & Paper) Mill	-	9	(9)	-	9	(9)	-	9	(9)
Metsä Fibre	Kemi Mill	453	497	(43)	1,080	1,080	-	1,080	1,080	-
Stora Enso	Sunila Mill	278	370	(93)	-	370	(370)	-	370	(370)
Total - BSK		731	876	(145)	1,080	1,459	(379)	1,080	1,459	(379)
Fluff										
Daio	Mishima	17	30	(13)	50	90	(40)	50	90	(40)
GP Cellulose	Foley Cellulose Mill (Perry Mill)	115	230	(115)	-	230	(230)	-	230	(230)
International Paper	Pensacola Mill	86	172	(86)	-	172	(172)	-	172	(172)
Total - Fluff		218	432	(214)	50	492	(442)	50	492	(442)
Unbleached Kraft Pulp (UKP)										
Canfor Pulp	Prince George (Pulp & Paper) Mill	-	136	(136)	-	136	(136)	-	136	(136)
Arauco	Licancel Mill	75	150	(75)	-	150	(150)	-	150	(150)
Nine Dragons (ND Paper)	Old Town Mill	69	275	(206)	138	275	(138)	275	275	-
WestRock	Tacoma Mill	62	67	(6)	-	67	(67)	-	67	(67)
Total - UKP		205	628	(422)	138	628	(490)	275	628	(353)
Total - all fibers		3,055	4,441	(1,386)	4,788	6,030	(1,242)	5,425	6,240	(815)

Source: BofA Global Research estimates, PPPC, Fastmarkets RISI, Hawkins Wright, Brian McClay & Associates

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As in the past, we have broadly organized the discussion below between Hardwood and Softwood, which includes fluff and unbleached kraft. In cases where there is no net reduction in tonnes, but capacity is merely swung out of softwood into the other grades, that is shown in the “decrease” sections with an asterisk (*). We also added designations for projects/mills that combine different grades: UKP = unbleached kraft pulp; BSK = bleached softwood kraft; BHK = bleached hardwood kraft, or bleached eucalyptus pulp (BEK); DP = Dissolving pulp; and Fluff.

Bleached hardwood kraft

Increases / accelerations

Arauco (Copec) – MAPA (Horcones)

Arauco has started its 1,560kMT/yr MAPA project in Chile in December 2022, but operations actually began on March 2023 after several delays (the project was initially designed to startup in 2Q21). According to the Chief Financial officer, Gianfranco Trufello, production has been increasing as expected and reached 325kMT in July. The company expects to achieve full capacity by 1Q24. To account for this we assume MAPA is operating at 75% op. rate during 2023, which would add ~807kMT and then achieve 100% op. rate in 2024.

UPM – Paso de los Toros

UPM started operations at its 2.1mnMT/yr Paso de los Toros mill in April, and it is at the ramping up phase, after they shipped their first batch of pulp in June. The mill should run 3 quarters in 2023 and we assume an operating rate of 65% this year, 90% capacity in 2024 and achieve full capacity in 2025. To account for this, we forecast ~1,024kMT for 2023 and ~866kMT for 2024.

Bracell – Lençóis Paulista

Last year, Bracell announced they were going to temporally switch one of their new BEK pulp production lines in Lençóis Paulista to produce DP, during January 2023. We assume one line fully at BHK and the other roughly 50/50 DP in 2022/23 and then fully running at DP in 2024 as they reportedly increase their viscose capacity and integrate volumes into tissue capacity. To account for this, continue to the project Bracell producing ~1,400kMT in 2024.

Suzano – Cerrado

Suzano pushed forward the start-up of its Cerrado project to June 2024 (vs. 2H24 before). We assume a 70% ramp-up in 2024 (running 6 months), then 90% in 2025 and 100% in 2026. We keep our forecast to the mill’s total production at ~893kMT in 2024, and reaching full ramp up of 2,550kMT/yr by 2026.

Arauco – Sucuriú

Arauco is investing in a new 2.5mnMT/yr BEK pulp mill in Mato Grosso do Sul in Brazil. Sucuriú is expected to startup in 2028, and capex is estimated at around US\$3bn. Currently they have been purchasing land, but so far there is no board approval for the project. Arauco estimates it will reach 2024 with 70-80% of the total needed land and has several negotiation fronts open to supply the needed wood. According to a company commentary to Brazilian media, the project will be Arauco’s most competitive mill, with average distance of 150km, between forestry and mills. We do not include the project in our supply forecasts for now.

Paracel – Concepcion (Paraguay)

We now included in the model Paracel’s 1.8mnMT/yr project in Concepcion, Paraguay. However, the company has not secured all the funding yet for the project. They are now working in purchasing and planting the required land and they expect to have at least 40Kha of planted forests by the end of 2023 and to begin mill construction in 2024. They plan to startup in 2027. We do not include the project in our supply forecasts for now.

Shandong Huatai Paper – Dongying

China's Shandong Huatai Paper has ordered a new 700kMT/yr BHK pulp line for its flagship mill in Dongying city at Shandong province. The startup is planned to the end of 2024 with 400kMT/yr of market pulp capacity. We assume the start up at 4Q24 at a 60% operating rate adding ~70kMT, achieving 90% in 2025 adding ~290kMT and 100% in 2026.

Bleached softwood kraft, UKP and fluff**Increases / accelerations****Metsä Fibre – Kemi Mill**

Metsä announced that they are upgrading their Kemi mill in Finland, replacing the existing 0.6mnMT/yr line with a new line with 1.5mnMT/yr of BHKP and BSKP capacity. They expected to start the net capacity of 800kMT of NBSK in September of 2023. We estimate ~173kMT of added capacity in 2023 and achieving the full 800kMT in 2024.

Daio Paper – Mishima

Daio paper increased their Fluff capacity at their Mishima site by 90kMT/yr in 3Q23. According to Hawkins Wright, some of this capacity will be integrated in the company's absorbent hygiene production. We estimate 50kMT will be market pulp capacity added.

Decreases / delays**Stora Enso – Sunila Mill**

Stora Enso recently announced the closure of its the Sunila in Finland mainly due higher costs caused by wood price increase, making the site non cost competitive. The mill had ~370kMT/yr NBSK capacity and we assume it ran for 9 months in 2023 and was officially shut down in 4Q23.

Nine Dragons (ND Paper) – Old Town Mill

In March, ND Paper announced that Old Town's paper mill was going to take and "extended downtime", mainly due to high fiber and energy costs. In our model, we assume the mill ran for a quarter in 2023 and will return by 2H24 and ran at full capacity from 2025 onwards. Taking this into account we estimate total production at ~69kMT in 2023, ~138kMT in 2024 and operating fully at ~275kMT in 2025.

International Paper – Pensacola

International Paper's Pensacola mill will take downtime for undetermined time. We assume the mill ran for half of 2023 and was then closed.

Georgia-Pacific – Foley Cellulose Mill (Perry Mill)

Georgia-Pacific announced in September the permanently closure of its 513Kt/yr fluff and specialty dissolving pulp mill. According to the company the mill could not be competitive in the long term. We estimate that 230Kt of this capacity is fluff and forecast ~115Kt down in 2023 and the rest in 2024.

Westrock – Tacoma Mill

WestRock announced the closure of the Tacoma mill in September with ~67Kt of market UKP capacity to continued increase containerboard integration.

Arauco – Licancel

Arauco announced the undetermined closure of its Licancel mill in August 2023, after the mill being halted in June 2023, after a river overflow and depreciation of asserts. We assume the mill ran for six months in 2023 and was then closed and keep it closed.

West Fraser/Mondi – Hinton

Mondi acquired Hinton mill in 2023 and plans to put a kraft paper line and integrate most of the volumes in 2027. We assume Mondi integrates 200kMT of the 250kMT/yr site capacity in 2027.

Appendix

Exhibit 18: BofA – Pulp price forecasts detailed by month/quarter (US\$/MT)

We lower our forecasts for China hardwood net pricing to US\$580/MT in 2024 and US\$600/MT in 2025

	China (net)				Europe (list)			
	BHKP	m/m change	NBSK	m/m change	BHKP	m/m change	NBSK	m/m change
Average 2021	654		853		1,008		1,196	
Average 1Q22	639	71	850	103	1,150	10	1,291	(19)
Average 2Q22	805	166	985	135	1,245	96	1,381	90
Average 3Q22	862	57	975	(9)	1,368	122	1,480	99
Average 4Q22	860	(2)	922	(53)	1,380	12	1,463	(17)
Average 2022	792		933		1,286		1,404	
Jan-23	801	(50)	886	(14)	1,380	(0)	1,419	(19)
Feb-23	754	(47)	899	13	1,337	(43)	1,397	(22)
Mar-23	722	(32)	909	9	1,285	(52)	1,376	(21)
Average 1Q22	759	(101)	898	(24)	1,334	(46)	1,397	(66)
Apr-22	578	(144)	759	(149)	1,221	(64)	1,353	(22)
May-22	482	(97)	698	(61)	1,087	(134)	1,309	(45)
Jun-22	500	19	671	(27)	984	(103)	1,258	(50)
Average 2Q22	520	(239)	710	(188)	1,097	(236)	1,307	(90)
Jul-22	512	12	652	(20)	886	(98)	1,207	(51)
Aug-22	530	18	659	7	818	(68)	1,170	(37)
Sep-22	550	20	681	22	805	(13)	1,149	(21)
Average 3Q22	531	11	664	(46)	836	(261)	1,175	(131)
Oct-22	580	30	705	25	807	2	1,147	(2)
Nov-22	610	30	730	25	859	52	1,179	32
Dec-22	620	10	740	10	879	21	1,159	(19)
Average 4Q22	604	73	725	62	848	12	1,161	(14)
Average 2023	603		749		1,029		1,260	
1Q24	614	10	734	8	930	82	1,180	18
2Q24	584	(30)	709	(25)	941	12	1,191	12
3Q24	551	(33)	676	(33)	888	(53)	1,138	(53)
4Q23	571	20	706	30	950	62	1,150	12
Average 2024	580		706		927		1,165	
2025 - LT	600		706		1,100		1,250	

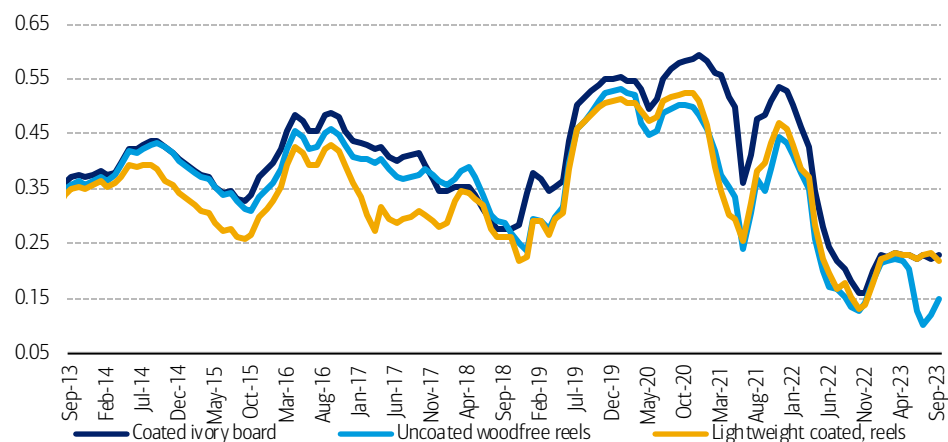
Source: BofA Global Research estimates

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China paper margins

Exhibit 19: Margin indicator for graphic paper and paperboard

Declining China paper margins should mean pulp purchases and prices decelerate in China



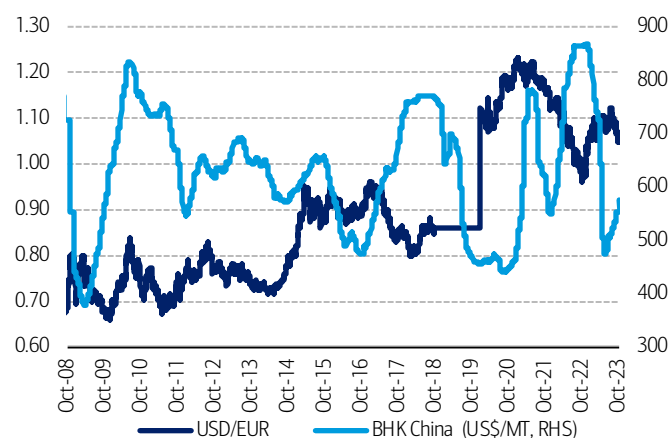
Source: BofA Global Research, FOEX, Fastmarkets RISI

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Macro and inventories trends

Exhibit 20: USD/EUR vs. BHK China

BHK China prices are rising while USD/EUR is dropping

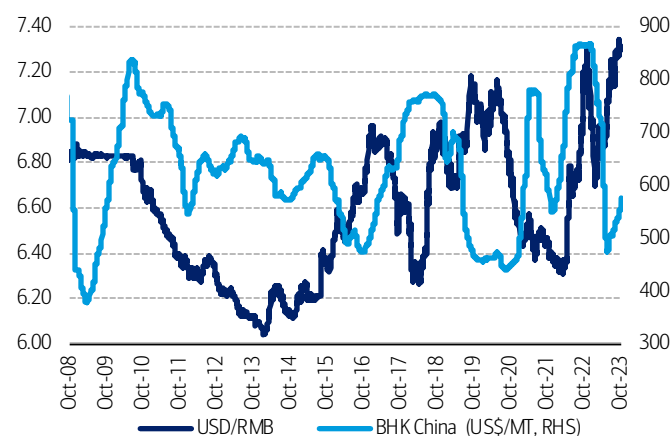


Source: BofA Global Research, FOEX, Bloomberg

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Exhibit 21: USD/RMB vs. BHK China

BHK China prices are rising with USD/RMB

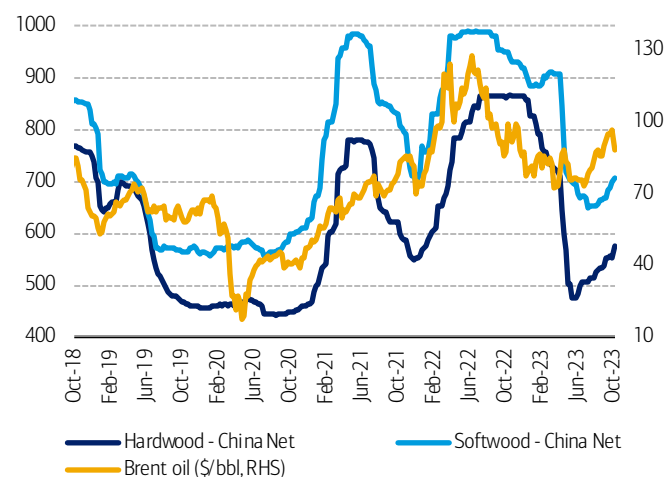


Source: BofA Global Research, FOEX, Bloomberg

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Exhibit 22: China net pulp prices (US\$/MT) vs. Brent oil prices (US\$/bbl)

The correlation between China HW and Brent is at 64%

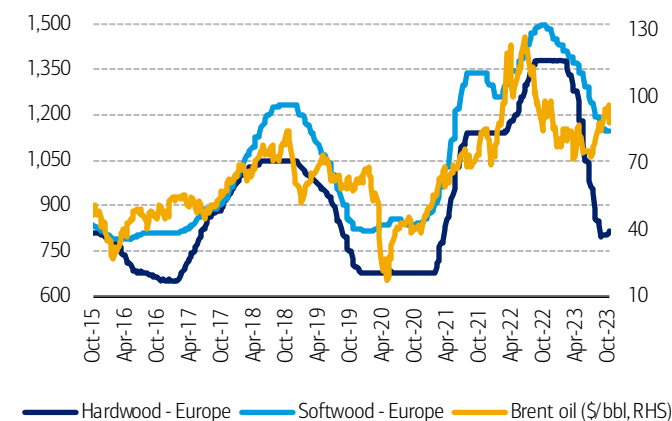


Source: Bloomberg, FOEX

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Exhibit 23: Europe net pulp prices (US\$/MT) vs. Brent oil prices (US\$/bbl)

The correlation between Europe HW and Brent is at 79%

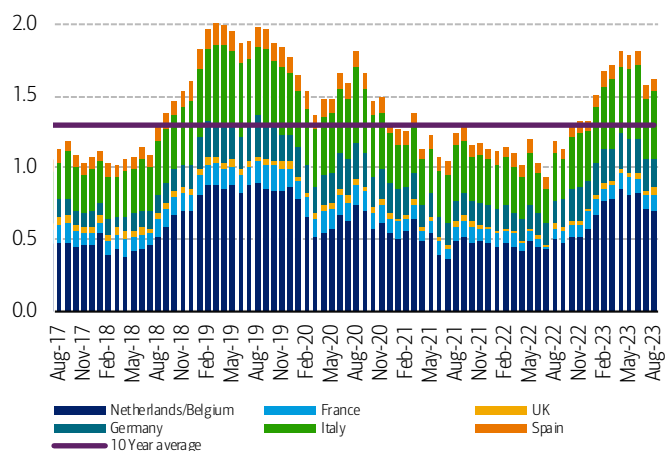


Source: Bloomberg, FOEX

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Exhibit 24: Stocks of pulp in European ports

Inventories of woodpulp at European ports up 35.7% y/y and 2.9% m/m in August to 1,617Kt

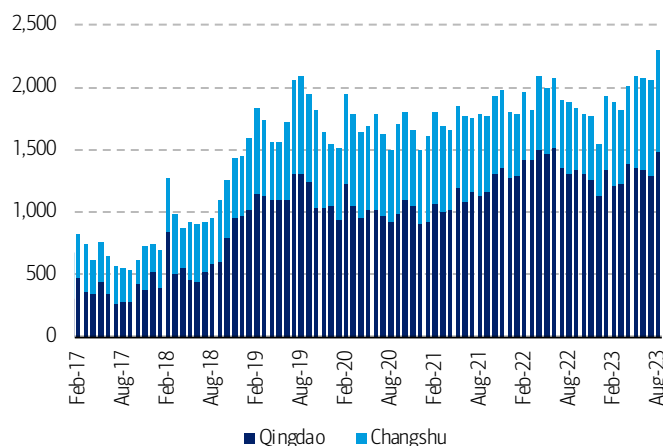


Source: BofA Global Research, Europulp

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Exhibit 25: Stocks of pulp in China ports (Kt)

Inventories at China's two main ports increased 12.1% m/m in August



Source: BofA Global Research, RISI

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Exhibit 26: Utipulp – European pulp consumption and consumer inventories (Kt)

European consumer pulp inventories were down m/m in July at 664.9K

Softwood - Europe		Jul-23	Jun-23	m/m (%)	Jul-22	y/y (%)
Consumption (Kt)		248.2	232.2	6.9%	309.1	-19.7%
Inventories (Kt)		213.1	212.0	0.5%	200.7	6.2%
Inventories (in days of supply)		24	23	4.3%	20	20.0%
Hardwood - Europe		Jul-23	Jun-23	m/m (%)	Jul-22	y/y (%)
Consumption (Kt)		480.7	460.9	4.3%	629.9	-23.7%
Inventories (Kt)		408.7	418.5	-2.4%	377.9	8.1%
Inventories (in days of supply)		24	24	0.0%	18	33.3%
Total kraft pulp		Jul-23	Jun-23	m/m (%)	Jul-22	y/y (%)
Consumption (Kt)		772.9	741.8	4.2%	987.9	-21.8%
Inventories (Kt)		664.9	675.3	-1.5%	613.6	8.4%
Inventories (in days of supply)		24	24	0.0%	19	26.3%

Source: BofA Global Research, Utipulp

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