S&P Global Ratings

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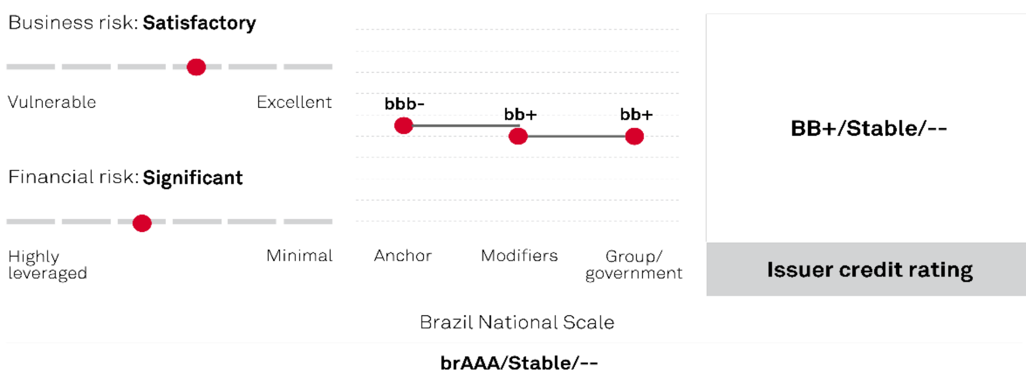
Klabin S.A.

July 13, 2023

Ratings Score Snapshot



Primary contact

Fabiana Gobbi
Sao Paulo
55-11-3039-9733
fabiana.gobbi
@spglobal.com

Secondary contact

Luisa Vilhena
Sao Paulo
55-11-3039-9727
luisa.vilhena
@spglobal.com

Credit Highlights

Overview

Key strengths	Key risks
A leading position in Brazil's paper packaging production segment, with longstanding relationships with clients.	Exposure to cyclicality in the forest and paper products industry, which has volatile input costs and selling prices.
Exposure to packaging brings cash predictability versus its exposure to the forest and paper industry.	Higher pulp cash cost in 2023 due to need of third-party wood.
Vertical integration bolsters profitability.	Higher tolerance for debt during investment cycles compared to peers.
Ability to convert paper production into packaging.	

Costs to remain under pressure until 2024, but margins will remain above peers. We expect Klabin's pulp cash cost to stay pressured during the first production cycle of PUMA II, but partially offset by other costs. Currently, the company is continuing to buy third-party wood to support the start-up of the second paper machine (PM 28) of the PUMA II project, which started in June 2023.

In first-quarter 2023, the company's pulp cash cost was $261/ton, an increase of about 2.5% compared to fourth-quarter 2022 and 5.7% higher than first-quarter 2022. We expect lower chemical and fuel costs due to lower Brent oil prices and decreasing energy costs due to Klabin's increased use of the biomass gasification plant. However, we expect its pulp cash cost to remain higher until it has a higher mix of its own wood in use.

We forecast the company to post a lower EBITDA margin compared to 2022--at about 35%-37% in 2023--due to lower pulp prices and the higher cash cost this year. Klabin's EBITDA margin should return to close to 40% in the coming years as inflation lowers and efficiency measures compensate for even lower pulp prices in 2024.

Business diversification is a key strength. With the start-up of the PM 28 paper machine of PUMA II on June 9, 2023, Klabin is increasing the share of coated board in its total revenues to 25%-30% in the coming years. It now has a total installed capacity of coated board of 1.2 million tons a year, from 750,000 tons previously, amid a resilient market with solid pricing dynamics. The coated board segment will continue demonstrating growth prospects amid the substitution of single-use plastic, growing urbanization, and increasing use of renewables. We believe the Kraftliner market will remain under pressure until the end of 2023, with a deceleration in Klabin's exports given slowing global demand and still elevated inflation and interest rates. Still, we think the company's ability to convert paper production into corrugated boxes will balance overall volumes. We expect pulp to represent almost 30% of Klabin's revenues in 2023, but to decrease in the subsequent years to between 20% and 25%, while paper and packaging increase their share of revenue.

Financial policy limits ratings upside. The company’s financial policies permit net debt to EBITDA of up to 4.5x during investment cycles (internal projects or mergers and acquisitions [M&As] totaling at least $1 billion), which in our view limits the rating, considering Klabin operates in the cyclical forest and paper industry. Moreover, Klabin will continue paying dividends of 15%-25% of adjusted EBITDA if its leverage is below 4.5x. When not making large investments, the company’s net debt to EBITDA (measured in U.S. dollars) must remain at 2.5x-3.5x.

Outlook

The stable outlook indicates our view that we expect Klabin to continue delivering solid cash flows, mostly from capacity addition with the start-up of PUMA II, and some resilience from the packaging sector balancing weak market conditions for pulp. With that, we expect debt to EBITDA between 3.0x-3.5x, funds from operations (FFO) to debt of 20%-25%, and still weak free operating cash flow (FOCF) due to sizable capital expenditures (capex) to finalize PUMA II in the next two years.

Downside scenario

We could downgrade Klabin in the next 12-18 months if we were to expect significantly weaker leverage metrics, with debt to EBITDA above 4.0x and FFO to debt below 20% on a three-year moving average. This could occur because of a sharper decline in prices and appreciation of the Brazilian real, or due to a more aggressive growth strategy.

Upside scenario

Although unlikely in the next 12 months because of the uncertain pulp market, a positive rating action is possible if we see Klabin maintaining financial discipline through the cycles, with debt to EBITDA close to 3.0x on a three-year moving average. This would also mean that the company would keep debt to EBITDA below 3.0x when pulp prices are high.

Our Base-Case Scenario

Assumptions

- Brazil's GDP growth of 1.7% in 2023, 1.5% in 2024, and 1.8% in 2025.
- Brazil's average inflation of 5.2% in 2023, 4.2% in 2024, and 3.8% in 2025.
- Average exchange rates of about R$5.08 per $1 in 2023, R$5.15 per $1 in 2024, and R$5.23 per $1 in 2025.
- Average bleached hardwood kraft pulp (BHKP) listing in Europe close to $1,050 per ton in 2023, and between $950-$1,000/ton in 2024-2025, compared with $1,305 per ton in 2022. We apply about a 35% discount to listed prices.
- Weak global demand and an extended maintenance shutdown in the Ortigueira pulp plant should result in annual volumes of pulp produced at 1.5 million–1.6 million in 2023-2025. We expect the domestic market to compensate for weaker volumes for exports in both short and longer fiber.
- Lower global demand for pulp pressuring prices.
- Price of coated boards at R$5,600 – R$5,700 per ton in 2023 and growing 3%-6% in 2024-2025.
- Kraftliner prices at R$3,800 -R$4,000 per ton in 2023-2025.
- Corrugated boxes and industrial bags at about R$5,900 per ton in 2023 and growing 4% in 2024-2025.
- Costs and expenses related to chemicals, transportation, fuel, and energy following inflation and the start-up of PUMA II.
- Annual capex of about R$5.4 billion in 2023 (last year with PUMA II investments), R$4.0 billion in 2024, and R$4.0 billion in 2025, mostly for maintenance and completion of some other projects (Figueira and Caldeira).
- Dividend distribution at 15%-25% of EBITDA generation in the next few years.

Key metrics

Klabin S.A.--Forecast summary

Period ending	Dec-31-2019	Dec-31-2020	Dec-31-2021	Dec-31-2022	Dec-31-2023	Dec-31-2024	Dec-31-2025	Dec-31-2026
(Mil. BRL)	2019a	2020a	2021a	2022a	2023e	2024f	2025f	2026f
Revenue	10,272	11,949	16,481	20,033	19,341	20,815	22,189	22,725
Gross profit	5,614	7,051	10,217	12,633	10,274	11,622	12,577	12,677
EBITDA (reported)	4,713	5,565	8,178	9,860	7,220	8,439	9,273	9,254
Plus/(less): Other	(967)	(860)	(1,298)	(2,059)	(23)	(23)	(23)	(23)
EBITDA	3,746	4,704	6,879	7,801	7,196	8,415	9,250	9,231
Less: Cash interest paid	1,213	(1,439)	(1,635)	(2,239)	(1,627)	(1,658)	(1,551)	1,439
Less: Cash taxes paid	205	(10)	(507)	(534)	(483)	(534)	(624)	608
Funds from operations (FFO)	2,328	3,256	4,738	5,027	5,087	6,224	7,074	7,183
EBIT	2,640	3,256	5,779	7,168	4,507	5,481	6,168	6,071
Interest expense	1,486	1,622	1,614	1,841	1,625	1,655	1,548	1,437
Cash flow from operations (CFO)	2,935	5,581	3,277	5,997	5,415	6,303	7,192	7,330
Capital expenditure (capex)	2,546	4,567	3,447	7,441	5,401	4,046	3,910	3,599
Free operating cash flow (FOCF)	389	1,014	(169)	(1,444)	14	2,256	3,281	3,731
Dividends	965	294	581	1,747	1,515	1,398	1,623	2,136
Discretionary cash flow (DCF)	(576)	720	(750)	(3,190)	(1,500)	859	1,659	1,596
Debt (adjusted)	14,857	20,606	22,184	23,070	24,590	24,474	23,348	22,291
FOCF (adjusted for lease capex)	182	567	(616)	(2,211)	(310)	1,933	2,959	3,410
Interest expense (reported)	1,459	1,403	1,183	1,157	1,625	1,655	1,548	1,437
Capex (reported)	2,574	4,786	3,878	8,125	5,401	4,046	3,910	3,599
Cash and short-term investments (reported)	9,731	6,557	8,422	6,502	6,063	5,684	4,742	5,000
Adjusted ratios								
Debt/EBITDA (x)	4.0	4.4	3.2	3.0	3.4	2.9	2.5	2.4
FFO/debt (%)	15.7	15.8	21.4	21.8	20.7	25.4	30.3	32.2
EBITDA interest coverage (x)	2.5	2.9	4.3	4.2	4.4	5.1	6.0	6.4
CFO/debt (%)	19.8	27.1	14.8	26.0	22.0	25.8	30.8	32.9
FOCF/debt (%)	2.6	4.9	(0.8)	(6.3)	0.1	9.2	14.1	16.7
DCF/debt (%)	(3.9)	3.5	(3.4)	(13.8)	(6.1)	3.5	7.1	7.2
Annual revenue growth (%)	2.5	16.3	37.9	21.5	(3.5)	7.6	6.6	2.4
Gross margin (%)	54.7	59.0	62.0	63.1	53.1	55.8	56.7	55.8
EBITDA margin (%)	36.5	39.4	41.7	38.9	37.2	40.4	41.7	40.6
Return on capital (%)	12.9	14.1	21.3	22.4	12.5	14.4	15.7	15.2
Return on total assets (%)	8.2	9.3	14.9	16.0	9.2	10.7	11.9	11.5
EBITDA/cash interest (x)	3.1	3.3	4.2	3.5	4.4	5.1	6.0	6.4
EBIT interest coverage (x)	1.8	2.0	3.6	3.9	2.8	3.3	4.0	4.2
Debt/debt and equity (%)	69.6	82.5	75.8	66.6	65.6	63.2	58.9	55.5

All figures are adjusted by S&P Global Ratings, unless stated as reported. a--Actual. e--Estimate. f--Forecast. R$--Brazilian real.

Company Description

Klabin is one of Brazil's largest pulp and paper producers, focused on several forest products, and is the leading producer and exporter of paper packaging in the country. The company operates 22 plants in Brazil and one in Argentina. It owns 507,000 hectares (ha) of land with 307,000 ha of planted forests (178,000 ha of which are destined for long fiber and 129,000 for short fiber). Klabin's business units consist of forestry (wood planted from pine and eucalyptus), paper (coated boards and container boards), market pulp (hardwood, softwood, and fluff), and packaging (industrial bags and corrugated boxes).

Peer Comparison

In the forest products segment, we compare Klabin mainly with other South American companies because they benefit from access to superior natural resources, availability of wood, and similar climate conditions, translating into lower cash costs than global peers. Klabin is smaller in terms of capacity and revenues compared to Suzano S.A. and Celulosa Arauco y Constitucion S.A. Its margins are higher than Arauco's given its presence in Brazil that enables lower cash costs than the Chilean peers. With much higher exposure to pulp, Suzano has higher margins than Klabin.

Klabin ranks behind global peers in the packaging and containers segment in terms of geographic diversification, production capacity, and revenues. However, Klabin has integrated and self-sufficient production lines, which help boost its profitability.

Klabin S.A.--Peer Comparisons

	Klabin S.A.	Suzano S.A.	Celulosa Arauco y Constitucion S.A.	Smurfit Kappa Group PLC
Foreign currency issuer credit rating	BB+/Stable/--	BBB-/Stable/--	BBB-/Stable/--	BBB-/Stable/--
Local currency issuer credit rating	BB+/Stable/--	BBB-/Stable/--	BBB-/Stable/--	BBB-/Stable/--
Period	Annual	Annual	Annual	Annual
Period ending	2022-12-31	2022-12-31	2022-12-31	2022-12-31
Mil.	R$	R$	R$	R$
Revenue	20,033	49,831	37,546	72,405
EBITDA	7,801	28,225	11,236	13,238
Funds from operations (FFO)	5,027	23,540	8,235	10,645
Interest	1,841	4,501	1,428	910
Cash interest paid	2,239	4,378	1,917	780
Operating cash flow (OCF)	5,997	21,288	8,217	8,057
Capital expenditure	7,441	14,389	7,762	5,012
Free operating cash flow (FOCF)	(1,444)	6,899	454	3,045
Discretionary cash flow (DCF)	(3,190)	843	(1,560)	774
Cash and short-term investments	6,502	17,053	3,527	4,390
Gross available cash	6,502	17,053	3,527	4,390
Debt	23,070	66,223	27,461	20,572

Klabin S.A.--Peer Comparisons

Equity	11,568	33,166	43,667	28,465
EBITDA margin (%)	38.9	56.6	29.9	18.3
Return on capital (%)	22.4	24.5	11.7	19.9
EBITDA interest coverage (x)	4.2	6.3	7.9	14.6
FFO cash interest coverage (x)	3.2	6.4	5.3	14.7
Debt/EBITDA (x)	3.0	2.3	2.4	1.6
FFO/debt (%)	21.8	35.5	30.0	51.7
OCF/debt (%)	26.0	32.1	29.9	39.2
FOCF/debt (%)	(6.3)	10.4	1.7	14.8
DCF/debt (%)	(13.8)	1.3	(5.7)	3.8

Business Risk

We expect Klabin to maintain its solid market position in the Brazilian paper and packaging segments via its longstanding relationships with clients and increasing product diversification. Brazil's paper and packaging segment remains fragmented and competitive, but Klabin has a leading position with a domestic market share of 56% in Kraftliner, 33% in coated boards, 50% in industrial bags, and 23% in corrugated boxes as of the first quarter of 2023.

We believe the resilient nature of the food and beverage end-markets (67% of Klabin's paper and packaging sales), followed by consumer products (13%), coupled with access to rapidly growing and high-quality fiber in Brazil, gives Klabin an advantage over international players. Moreover, with the new industrial bag production line at Lages in the state of Santa Catarina, its sales mix has increasing exposure to flour, pet food, and coffee--segments with higher value added than cement.

The company benefits from balanced exposure to commoditized and value-added products with wide geographic presence. We forecast Klabin will sell 1.5 million–1.6 million tons of pulp, about 1.4 million tons of paper (coated boards and Kraftliner), and up to 1.2 million tons of packaging (corrugated boxes and industrial bags) in the next three years. In our view, such balanced sales volume should provide some cash flow protection amid the more abrupt and shorter pulp price cycles the industry has been experiencing.

Moreover, the company can adjust products mix and export volumes based on market demand. Our base-case assumes the company will continue selling 55%-60% of its volume domestically and the remaining exports to over 50 countries, mostly in Europe and Asia-Pacific. Klabin manages to diminish volatility through its ability to increase exports or adjust its diverse mix of products to the more profitable ones.

Financial Risk

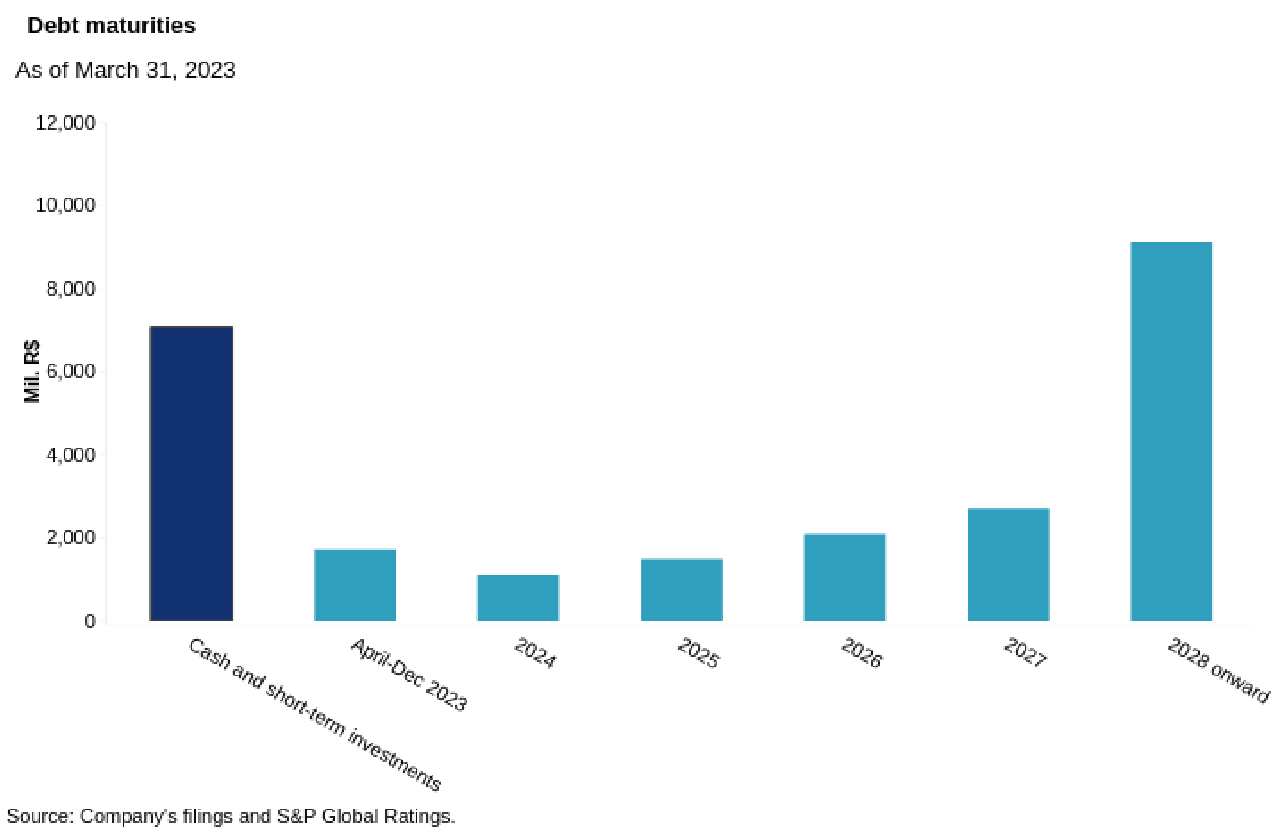
Diversified products portfolio will continue providing some cash flow protection amid volatile the pulp market, and should support continued solid cash flows in 2023. In the coming years, we expect overall high prices for paper products and packages to compensate for lower pulp prices.

With lower EBITDA margin this year and high debt levels to support future capex, we expect debt to EBITDA to be between 3.5x and 4.0x in 2023, compared with 3.0x in 2022. However, we forecast lower leverage from 2024 on of 2.5x-3.0x, with recovering margins and a mild debt reduction.

Total investments related to PUMA II have already amounted to R$11.6 billion since 2019 up to first-quarter 2023. We estimate the total for this year to be R$2.1 billion. We think the company will finance the investments with internal cash flow and with the available credit lines that total R$4.3 billion, as of March 2023. These lines provide adequate financial flexibility amid tighter financing conditions in credit markets.

Klabin redeemed in advance the outstanding amount of its 2024 senior notes ($127.2 million as of March 2023). The date of payment was July 3, 2023, with its existing cash position. In our view, the advance payment will decrease interest burden amid somewhat pressured cash flows this year.

Debt maturities



Klabin S.A.--Financial Summary

Period ending	Dec-31-2017	Dec-31-2018	Dec-31-2019	Dec-31-2020	Dec-31-2021	Dec-31-2022
Reporting period	2017a	2018a	2019a	2020a	2021a	2022a
Display currency (mil.)	R$	R$	R$	R$	R$	R$

Klabin S.A.--Financial Summary

Revenues	8,373	10,016	10,272	11,949	16,481	20,033
EBITDA	2,695	4,085	3,746	4,704	6,879	7,801
Funds from operations (FFO)	1,681	2,833	2,328	3,256	4,738	5,027
Interest expense	1,162	1,210	1,486	1,622	1,614	1,841
Cash interest paid	1,008	1,092	1,213	1,439	1,635	2,239
Operating cash flow (OCF)	1,813	2,839	2,935	5,581	3,277	5,997
Capital expenditure	925	1,096	2,546	4,567	3,447	7,441
Free operating cash flow (FOCF)	888	1,743	389	1,014	(169)	(1,444)
Discretionary cash flow (DCF)	369	903	(576)	720	(750)	(3,190)
Cash and short-term investments	8,272	7,047	9,731	6,557	8,422	6,502
Gross available cash	8,272	7,047	9,731	6,557	8,422	6,502
Debt	11,966	13,147	14,857	20,606	22,184	23,070
Common equity	7,234	6,533	6,501	4,385	7,086	11,568
Adjusted ratios						
EBITDA margin (%)	32.2	40.8	36.5	39.4	41.7	38.9
Return on capital (%)	11.3	16.8	12.9	14.1	21.3	22.4
EBITDA interest coverage (x)	2.3	3.4	2.5	2.9	4.3	4.2
FFO cash interest coverage (x)	2.7	3.6	2.9	3.3	3.9	3.2
Debt/EBITDA (x)	4.4	3.2	4.0	4.4	3.2	3.0
FFO/debt (%)	14.0	21.6	15.7	15.8	21.4	21.8
OCF/debt (%)	15.2	21.6	19.8	27.1	14.8	26.0
FOCF/debt (%)	7.4	13.3	2.6	4.9	(0.8)	(6.3)
DCF/debt (%)	3.1	6.9	(3.9)	3.5	(3.4)	(13.8)

Reconciliation Of Klabin S.A. Reported Amounts With S&P Global Adjusted Amounts (Mil. R$)

	Debt	Shareholder Equity	Revenue	EBITDA	Operating income	Interest expense	S&PGR adjusted EBITDA	Operating cash flow	Dividends	Capital expenditure
Financial year	Dec-31-2022									
Company reported amounts	27,541	9,559	20,033	9,860	6,691	1,157	7,801	8,421	1,747	8,125
Cash taxes paid	-	-	-	-	-	-	(534)	-	-	-
Cash interest paid	-	-	-	-	-	-	(1,555)	-	-	-
Lease liabilities	1,645	-	-	-	-	-	-	-	-	-
Accessible cash and liquid investments	(6,502)	-	-	-	-	-	-	-	-	-

Reconciliation Of Klabin S.A. Reported Amounts With S&P Global Adjusted Amounts (Mil. R$)

	Debt	Shareholder Equity	Revenue	EBITDA	Operating income	Interest expense	S&PGR adjusted EBITDA	Operating cash flow	Dividends	Capital expenditure
Capitalized interest	-	-	-	-	-	684	(684)	(684)	-	(684)
Dividends from equity investments	-	-	-	20	-	-	-	-	-	-
Income (expense) of unconsolid. cos.	-	-	-	(44)	-	-	-	-	-	-
Nonoperating income (expense)	-	-	-	-	630	-	-	-	-	-
Reclassification of interest and dividend cash flows	-	-	-	-	-	-	-	(1,535)	-	-
Noncontrolling/ minority interest	-	2,009	-	-	-	-	-	-	-	-
Debt: other	387	-	-	-	-	-	-	-	-	-
EBITDA - Gain/(loss) on disposals of PP&E	-	-	-	(13)	(13)	-	-	-	-	-
EBITDA: Valuation gains/(losses)	-	-	-	(1,883)	(1,883)	-	-	-	-	-
EBITDA: other	-	-	-	(140)	(140)	-	-	-	-	-
EBIT: other	-	-	-	-	1,883	-	-	-	-	-
Working capital: other	-	-	-	-	-	-	-	(199)	-	-
OCF: other	-	-	-	-	-	-	-	(6)	-	-
Total adjustments	(4,471)	2,009	-	(2,059)	477	684	(2,774)	(2,424)	-	(684)
S&P Global Ratings adjusted	**Debt**	**Equity**	**Revenue**	**EBITDA**	**EBIT**	**Interest expense**	**Funds from Operations**	**Operating cash flow**	**Dividends**	**Capital expenditure**
	23,070	11,568	20,033	7,801	7,168	1,841	5,027	5,997	1,747	7,441

Liquidity

We view Klabin's liquidity as strong, based on our expectation that its cash sources will exceed uses by about 1.9x in the next 12 months. The company's large cash position of R$7.1 billion as of

March 2023 provides financial flexibility to face unexpected downturns and to finance PUMA II and other projects.

We expect the company to maintain its cash position above R$5 billion. This balance, combined with its available revolving credit facility of $500 million and contracted credit lines that total R$4.3 billion to finance capex, should provide sufficient liquidity cushion. In addition, Klabin isn't subject to financial covenants on its debt, and it enjoys well-established, solid relationships with banks and a generally high standing in credit markets.

Principal liquidity sources

- Cash position of R$7 billion as of March 2023.
- Undrawn credit facility of $500 million.
- Cash FFO of about R$5.7 billion in the next 12 months after March 2023.
- Approved credit lines to finance PUMA II totaling R$4.3 billion.

Principal liquidity uses

- Short-term debt maturities of R$2.1 billion as of March 2023.
- Capex of about R$5 billion in the next 12 months after March 2023.
- Working capital needs of about R$350 million in the next 12 months.
- Dividends of about R$1.5 billion in the next 12 months.

Environmental, Social, And Governance

ESG Credit Indicators

E-1	**E-2**	E-3	E-4	E-5	S-1	**S-2**	S-3	S-4	S-5	G-1	**G-2**	G-3	G-4	G-5

ESG credit indicators provide additional disclosure and transparency at the entity level and reflect S&P Global Ratings' opinion of the influence that environmental, social, and governance factors have on our credit rating analysis. They are not a sustainability rating or an S&P Global Ratings ESG Evaluation. The extent of the influence of these factors is reflected on an alphanumerical 1-5 scale where 1 = positive, 2 = neutral, 3 = moderately negative, 4 = negative, and 5 = very negative. For more information, see our commentary "ESG Credit Indicators: Definition And Applications," published Oct. 13, 2021.

Pulp and paper production requires significant amounts of energy, water, and chemicals, and the process generates greenhouse gas (GHG) emissions, waste, and pollution. On the other hand, Klabin benefits from favorable climate conditions for eucalyptus and pine, which have the highest harvesting rates in the industry, as well as from owning the land. The company has an advanced land management, combining a high proportion of preserved and sustainably certified forestland.

Also, Klabin's vertical integration, the relatively short distance from forests to its pulp mills, and high degree of energy self-sufficiency (about 88% in 2022) result in a very competitive cost structure. The company's pulp cash cost is at about $261 per ton as of March 2023, a bit higher than in previous years because of the appreciation of the Brazilian real and higher input costs, but still among the lowest globally. Moreover, the company has been reducing consumption of chemicals and fossil fuels in the production process due to its biomass gasification plant.

We also see an accelerating trend of substitution of plastic packaging by paper packaging, which should favor demand growth for Klabin's products in the medium to long term. In terms of GHG emissions, Klabin has a goal to reduce emissions per ton of pulp, paper, and packaging by 25% by 2025 and by 49% in 2035 (2019 base year), as established in its sustainability-linked notes. It reduced emissions per ton by 4.4% in 2021 and 10.3% at the end of 2022.

Rating Above The Sovereign

The ratings on Klabin are two notches above our 'BB-' foreign currency rating on Brazil, reflecting our view that the company wouldn't default upon a hypothetical sovereign default. In our view, Klabin has moderate sensitivity to the domestic economy due to its partly export-oriented business. As a result, and given the company's asset concentration in Brazil, we could rate Klabin up to three notches above the Brazilian sovereign rating, and up to one notch above our transfer and convertibility assessment of Brazil.

Our main assumptions for a hypothetical Brazilian sovereign default scenario include:

- GDP falls 10% in one year, resulting in the same decline in domestic volumes of pulp, paper, and packaging.
- Inflation doubles, and the company is unable to pass through all the resulting higher costs into prices.
- A 50% depreciation of the Brazilian real, which would double Klabin's servicing costs on its foreign currency debt (in domestic currency terms) but would raise its export revenues.
- Hardwood pulp prices of $550 per ton, in line with those in mid-2009, when prices dropped to a 10-year low.
- Doubling of interest rates, increasing interest expenses of local floating-rate debt.
- A haircut of 70% applied to investments in Brazilian government securities and 10% haircut for liquid bank deposits.
- Capex at maintenance levels of about R$1.2 billion.

In this scenario, we believe the company would maintain sufficient liquidity sources to cover its needs in a 12-month period. We consider that Klabin's partly export-oriented business, with ability to redirect its paper production to other markets if the domestic market deteriorates, somewhat insulate the company from a potential Brazilian economic downturn.

Issue Ratings--Recovery Analysis

Key analytical factors

- We assume a scenario with eroding macroeconomic and industry conditions, with low pulp and paper prices for a long period, resulting in much weaker cash flows that aren't sufficient to cover the company's interest and principal payments and maintenance capex.
- In our default scenario, EBITDA would plummet about 40% from the currently projected EBITDA in 2023, after the completion of PUMA II.
- In a default scenario, we expect Klabin to reorganize, rather than liquidate, because of its solid market position in the paper and packaging segments.
- We've valued the company on a going concern basis, using a 5.0x multiple applied to our projected emergence-level EBITDA, which results in an estimated gross emergence value of about R$21.7 billion.

Simulated default assumptions

- Simulated year of default: 2028
- EBITDA at emergence: R$4.3 billion
- Implied enterprise value (EV) multiple: 5.0x

- Estimated gross EV at emergence: R$21.7 billion

Simplified waterfall

- Net EV after 5% administrative costs: R$20.6 billion
- Senior secured debt: R$3.8 billion
- Senior unsecured debt R$25.5 billion
- Recovery expectation: 65%

Note: All debt amounts include six months of prepetition interest.

Rating Component Scores

Foreign currency issuer credit rating	**BB+/Stable/--**
Local currency issuer credit rating	**BB+/Stable/--**
Business risk	**Satisfactory**
Country risk	Moderately High
Industry risk	Moderately High
Competitive position	Satisfactory
Financial risk	**Significant**
Cash flow/leverage	Significant
Anchor	**bbb-**
Diversification/portfolio effect	Neutral (no impact)
Capital structure	Neutral (no impact)
Financial policy	Neutral (no impact)
Liquidity	Strong (no impact)
Management and governance	Fair (no impact)
Comparable rating analysis	Negative (-1 notch)
Stand-alone credit profile	**bb+**

Related Criteria

- General Criteria: National And Regional Scale Credit Ratings Methodology, June 8, 2023
- General Criteria: Environmental, Social, And Governance Principles In Credit Ratings, Oct. 10, 2021
- General Criteria: Group Rating Methodology, July 1, 2019
- Criteria | Corporates | General: Corporate Methodology: Ratios And Adjustments, April 1, 2019
- Criteria | Corporates | General: Recovery Rating Criteria For Speculative-Grade Corporate Issuers, Dec. 7, 2016

- Criteria | Corporates | Recovery: Methodology: Jurisdiction Ranking Assessments, Jan. 20, 2016
- Criteria | Corporates | General: Methodology And Assumptions: Liquidity Descriptors For Global Corporate Issuers, Dec. 16, 2014
- General Criteria: Ratings Above The Sovereign--Corporate And Government Ratings: Methodology And Assumptions, Nov. 19, 2013
- Criteria | Corporates | General: Corporate Methodology, Nov. 19, 2013
- General Criteria: Methodology: Industry Risk, Nov. 19, 2013
- General Criteria: Country Risk Assessment Methodology And Assumptions, Nov. 19, 2013
- General Criteria: Methodology: Management And Governance Credit Factors For Corporate Entities, Nov. 13, 2012
- General Criteria: Principles Of Credit Ratings, Feb. 16, 2011

Ratings Detail (as of July 13, 2023)*

Klabin S.A.		
Issuer Credit Rating		BB+/Stable/--
Brazil National Scale		brAAA/Stable/--
Senior Unsecured		
Brazil National Scale		brAAA
Issuer Credit Ratings History		
29-Jun-2016	*Foreign Currency*	BB+/Stable/--
27-Oct-2015		BBB-/Negative/--
10-Sep-2015		BBB-/Watch Neg/--
29-Jun-2016	*Local Currency*	BB+/Stable/--
27-Oct-2015		BBB-/Negative/--
10-Sep-2015		BBB-/Watch Neg/--
16-Aug-2017	*Brazil National Scale*	brAAA/Stable/--
29-Jun-2016		brAA/Stable/--
27-Oct-2015		brAA+/Negative/--

*Unless otherwise noted, all ratings in this report are global scale ratings. S&P Global Ratings credit ratings on the global scale are comparable across countries. S&P Global Ratings credit ratings on a national scale are relative to obligors or obligations within that specific country. Issue and debt ratings could include debt guaranteed by another entity, and rated debt that an entity guarantees.