



Applied Value Pulp & Paper Report

Quarterly Analysis

Q1, 2022

Applied Value

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Applied Value Pulp & Paper Report

Executive Summary & Introduction

Financial Benchmarking

Market Trends

Applied Value Presentation



Applied Value's quarterly Pulp & Paper Report is focused on financial benchmarking and market trends impacting the industry

In this Pulp & Paper Report, Applied Value provides essential financial benchmarking focused on the latest quarter and 12-month period while also offering a brief update on the latest market trends.

The report provides a clear, understandable, and useful analysis of the relative performance of a selection of global Pulp & Paper companies. It also provides an overview of the industry and relevant market trends that occurred during the quarter.

Growth

Industry growth latest 4 quarters and LTM

Growth in the latest quarter per company segment, and region



EBITDA Margins

Average Industry EBITDA margin latest 4 quarters and LTM

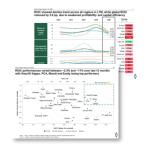
EBITDA margin for the latest quarter per company, segment and region



ROIC

ROIC per region for the latest two 12month periods

ROIC development per company and region for LTM



Operational Costs Breakdown

Operational Costs Breakdown latest quarter per company and region

Operational Costs development YoY per company and region



Market Trends

Pulp & Papers market price movements

Commodity prices and currency movements





Pulp & Paper Report, Q1 2022

The report is based on the financial performance of 25 leading Pulp & Paper companies from Europe, North America, Latin America & Asia

Companies included in Financial Benchmarking in the Q1 2022 report

Market	Company	Revenue LTM (BEUR)	Country	Board	Paper	Tissue	Wood Products	Pulp	Other
Europe	Essity	12.4				✓			✓
	Stora Enso	10.7		✓	✓		✓	✓	✓
	Smurfit Kappa	10.1			✓		✓	✓	✓
	UPM	10.1			✓		✓	✓	✓
	Metsä Group	6.2		✓	✓	✓	✓	✓	✓
	Södra	2.8							✓
	BillerudKorsnäs	2.6		✓	✓			✓	✓
	SCA	2.1		✓	✓	✓	✓	✓	✓
	Holmen	2.0		✓	✓		✓		✓
	WestRock	18.2		✓	✓				✓
North America	International Paper	18.0		✓	✓		✓	✓	✓
	Packaging Corp. of America	7.3		✓	✓				✓
	Graphic Packaging	7.0		✓	✓				✓
	Sonoco	5.4		✓	✓				✓
	Resolute Forest	3.4	 		✓	✓	✓	✓	✓
	Cascades	2.9	*	✓	✓	✓			✓
LAT	Suzano	7.9			✓			✓	✓
	Empresas CMPC	6.0	*	✓	✓		✓	✓	✓
	Klabin	3.3		✓	✓		✓	✓	✓
Asia	Oji Holding	10.9	•	✓	✓		✓		✓
	Nippon Paper	7.7		✓	✓		✓		✓
	Shanying	4.9	*:	✓	✓		✓		✓
	Shandong Sunpaper	4.8	*}	✓	✓				✓
	Daio Paper	4.5		✓	✓	✓			✓
	Hokuetsu	1.9	•		✓			✓	✓

Source: Capital IQ, Quarterly Reports



Benefits from consistent demand and higher selling prices in all markets, positive Y-o-Y sales growth and EBITDA improvements recorded in Q1'22

Financial Benchmarking: Highlights in Q1 2022

Key takeaways

Revenue Growth

- > In Q1'22, industry revenue across all markets continued growth momentum from last quarter. Driven by higher selling prices of all grades of pulp and paper products, average revenue increased 21% compared to Q1'21 and 5% compared to Q4'21.
- Quarterly revenue by segment showed that pulp and paper remained robust, increasing 5% and 14% Y-o-Y respectively; whereas board, wood products, and tissue came down to the level of Q1'21.
- > Södra, Graphic Packaging, and Sonoco were top industry performers in this quarter with reported Y-o-Y revenue growth of +42.4%, +36.1%, +30.9%.

Top performers







Profitability & Costs

- > EBITDA margins of pulp, wood products, paper, and board segments recovered from last quarter and increased 10 pp. 5 pp. 8pp., and 6 pp. respectively. Only tissue recorded a continued drop of 3 pp. to a negative quarterly EBITDA margin of -4% due to increased energy costs.
- Many of the European and LATAM players saw profitability improvements, compared to the same time last year, with SCA, Södra, and BillerudKorsnäs recording the strongest growth, whereas Asian companies suffered an EBITDA margin decrease Y-o-Y.
- European companies experienced improvements in both raw material over sales and personnel costs over sales in Q1'22, driven by higher selling prices.
- Many players experienced COGS ratio increases, but SG&A over sales dropped for most players; although Japanese industry players achieved significant reduction in SG&A ratio, they remained relatively high comparing to peers.







Return On Invested Capital (ROIC)

- > Driven by increasing profitability, the global average ROIC reached 8.5%, increasing 3.2 pp. Y-o-Y.
- Europe and North America's ROIC jumped by 4.3 pp. and 3.1 pp, reaching 9.4% and 9.6% and thereby surpassing the global average
- > Resolute Forest remained the top industry performer with ROIC >25% achieved





Hikes in energy costs and supply-demand imbalance characterized Q1'22, with M&A bringing more leverage to supply side

Market Trends: Highlights in Q1 2022

Key takeaways

Industry News

- > Europe paper markets continued to face skyrocketing energy costs, rising natural gas prices have increased manufacturing costs of paper making and forced some paper mills to idle their operations temporarily in March'22.
- Although demand remained robust in Q1'22, it is expected to come back to normal levels soon, as buyers are reducing orders and enter wait-and-see period.
- > Together with more than 1.3 million ton of new capacity ramping up this year, European paper markets are likely to be rebalanced.
- A few M&A deals were disclosed in the past months: Smurfit Kappa acquired two corrugated packaging firms in UK and Argentina and BillerudKorsnäs completed its acquisition of Verso.

Pulp Prices

- > European and US pulp prices rebounded by 21% and 17% in Q1'22, driven by limited supply and logistic restrictions.
- Asian pulp prices showed slight increases, climbing to the level of same period last year.

Graphic Paper & Packaging

- All paper grades apart from kraft papers saw upward trajectories, caused by high demand, low paper availability, logistical constraints, and increasing production costs.
- > Graphic paper and packaging paper prices have risen more than 20% and 30% comparing to pre-pandemic levels.

Commodities & Currencies

- > Oil prices topped at the multi-year high, landing at ~109 USD/barrel, an increase of 51% Q-o-Q.
- Natural gas and electricity prices soared to historical highs in the quarter, with over 5x and 3x higher Y-o-Y in Europe, mainly due to geopolitical turbulence caused by Ukrainian war.
- Most currencies depreciated against USD in Q1'22. US dollar is strengthens as Fed rate increases.



Source: RISI, Interim & Annual Reports.

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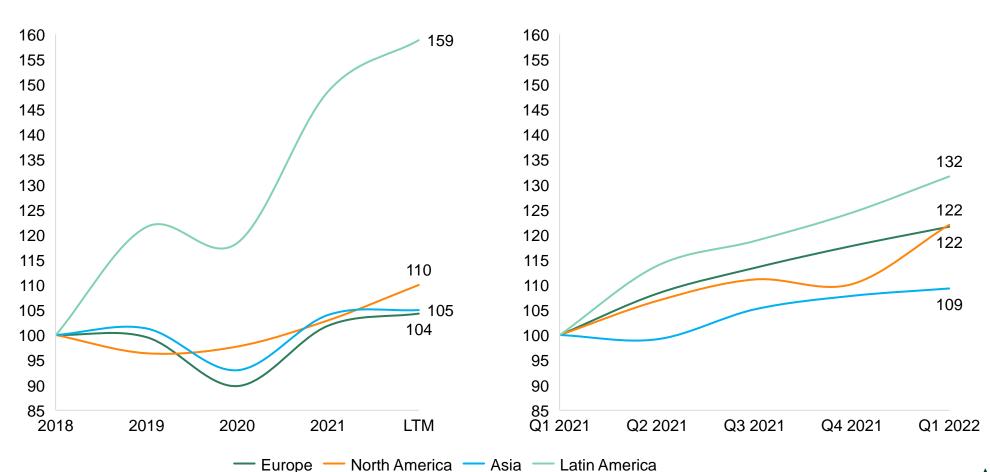


Source: RISI, S&P Capital IQ, Interim & Annual Reports.

Europe and Asia's revenue stablized at the same level, whereas LATAM and North America saw a revenue jump by 6% and 11% on a quarterly basis

Indexed Yearly Revenues, 2018-LTM (index 2018=100)

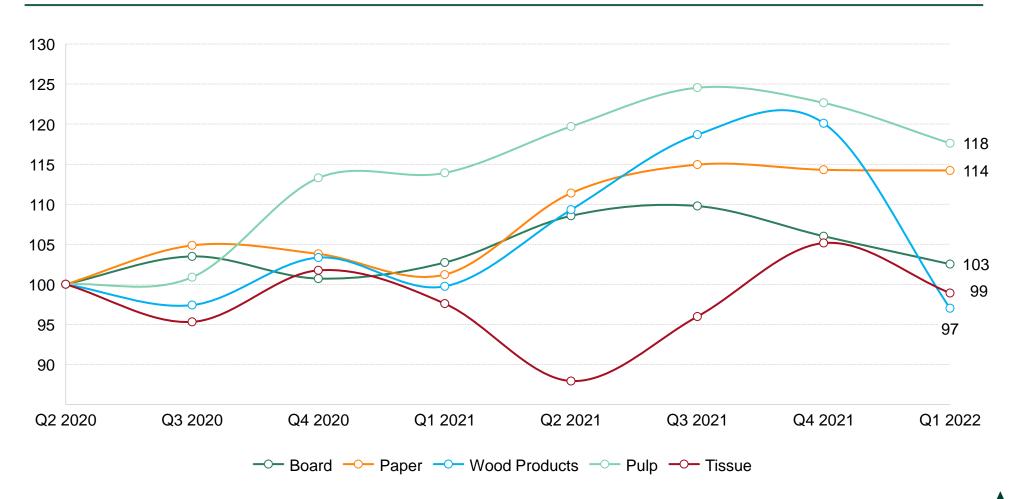
Indexed Quarterly Revenues, Q1'21-Q1'22 (index Q1'21=100)





In Q1'22, Wood products, tissue and board dropped to the level of Q1'21, but pulp and paper kept robust revenue growth of 5% and 14% respectively

Indexed Quarterly Revenues by Segment, Q2'20 – Q1'22 (Q2'20 =100)



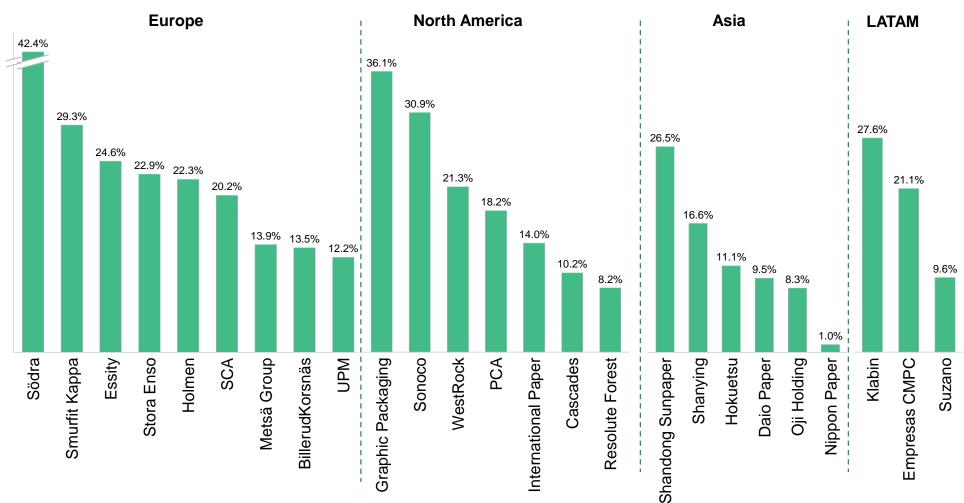
Note: The included companies differ from previous quarter

Source: S&P Capital IQ, Applied Value Analysis.



All industry players marked YoY revenue growth with the best performers being Södra, Graphic Packaging, and Sonoco

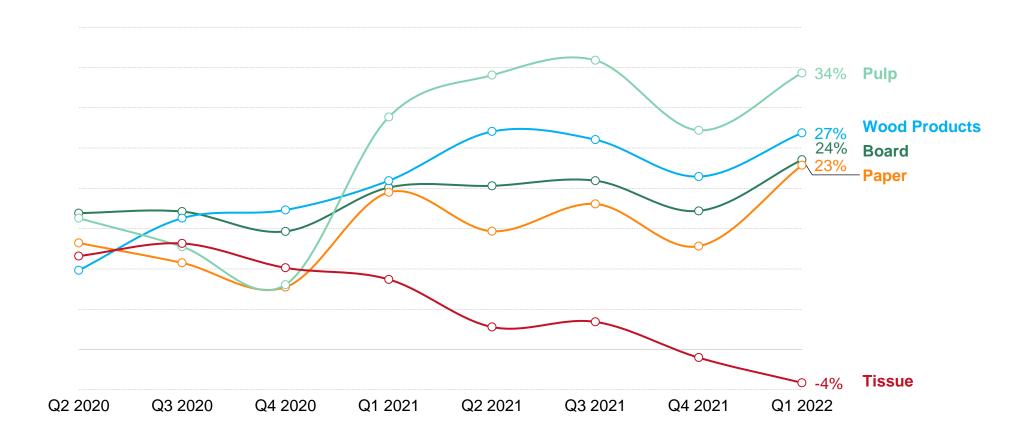
Revenue Growth, Q1'22 vs. Q1'21, %





Tight market and significantly higher selling prices contributed to higher profit margin across all segments, except tissue

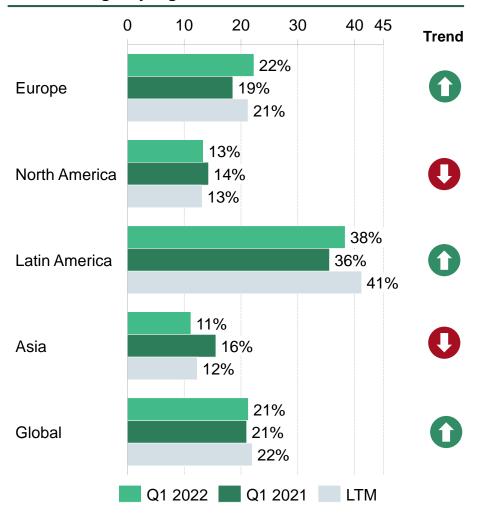
Quarterly EBITDA Margin by segment, Q2'20-Q1'22, %





With rising selling prices, EBITDA margins saw increases in Europe and LATAM in Q1'22, whereas Asia experienced a significant decrease

EBITDA margin by region, Y-o-Y

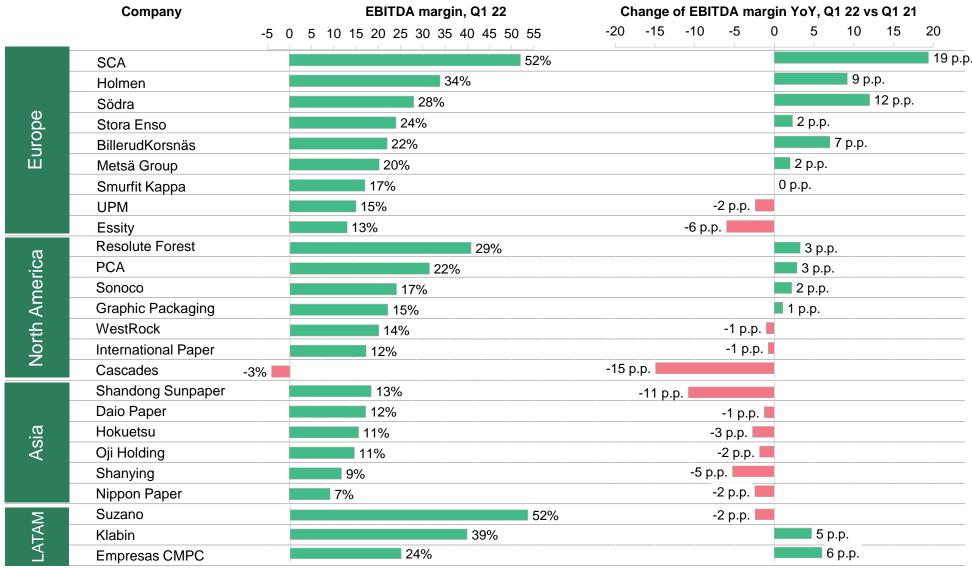


Industry News

- Mondi has switched glassine-based release liners to certified glassine-based release liner paper, which is mainly used for labels, tapes, and medical applications. The change is part of Mondi's approach to sustainability.
- BillerudKorsnäs announced the completion of its acquisition of Verso for a purchase price of ~\$825 million USD in cash in Mar'22
- US containerboard capacity is expected to decline in Q3'22 from the closure and conversion of two machines, but an additional 2 million tons/year of containerboard capacity is to start up by yearend.
- Rising energy costs and disrupted logistics and supply chains are the main concerns caused by the war in Ukraine for paper and packaging producers in Europe.
- Smurfit Kappa Group is expanding in Argentina with the acquisition of corrugated packaging firm Argencraft, located in the Buenos Aires. It is also strengthening its presence in the UK with the acquisition of corrugated packaging manufacturer Atlas Packaging.



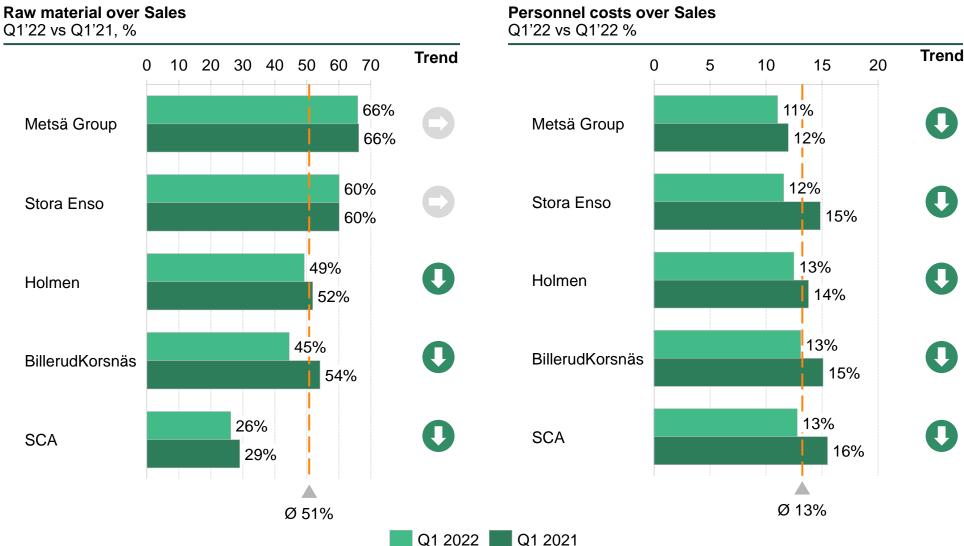
Most companies listed enjoyed positive YoY profitability – SCA, Södra, and BillerudKorsnäs showed the strongest EBITDA growth



Source: Interim & Annual Reports, S&P Capital IQ, Applied Value analysis.

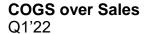


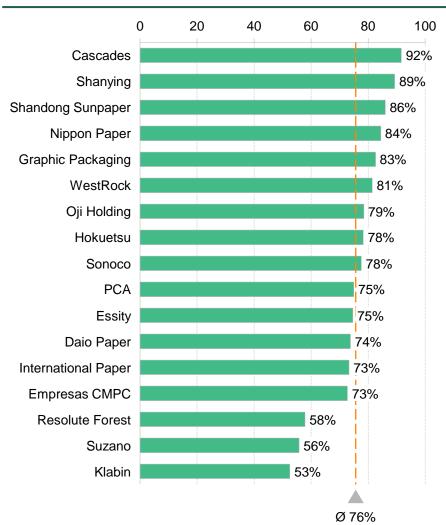
European peers experienced decreases in both raw material over sales and personnel costs over sales



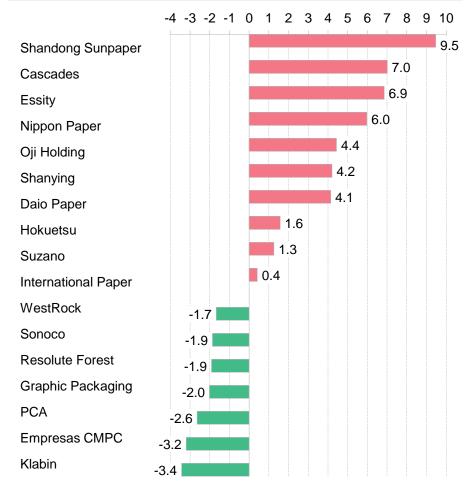


Most industry peers saw COGS over Sales increased, Klabin was able to reduce its COGS ratio by 3.4 pp. to 53%





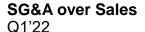
COGS over Sales Development by Company Delta (Q1'22 vs. Q1'21), pp.

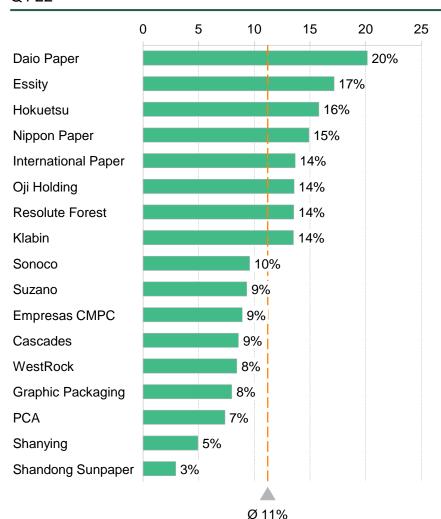




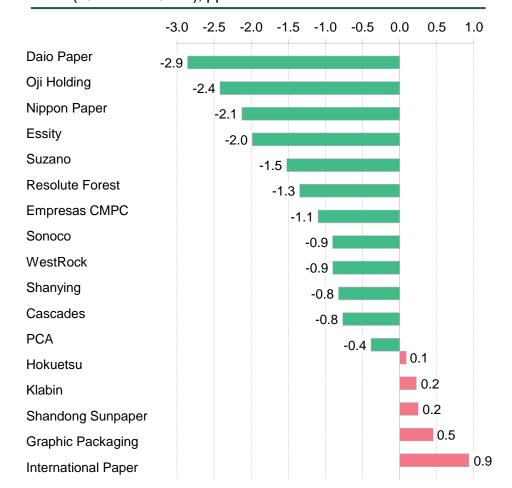
Source: S&P Capital IQ, Interim & Annual Reports, Applied Value Analysis.

SG&A ratio improved for most companies, although Japanese peers achieved significant reduction, they remain relatively high compared to peers





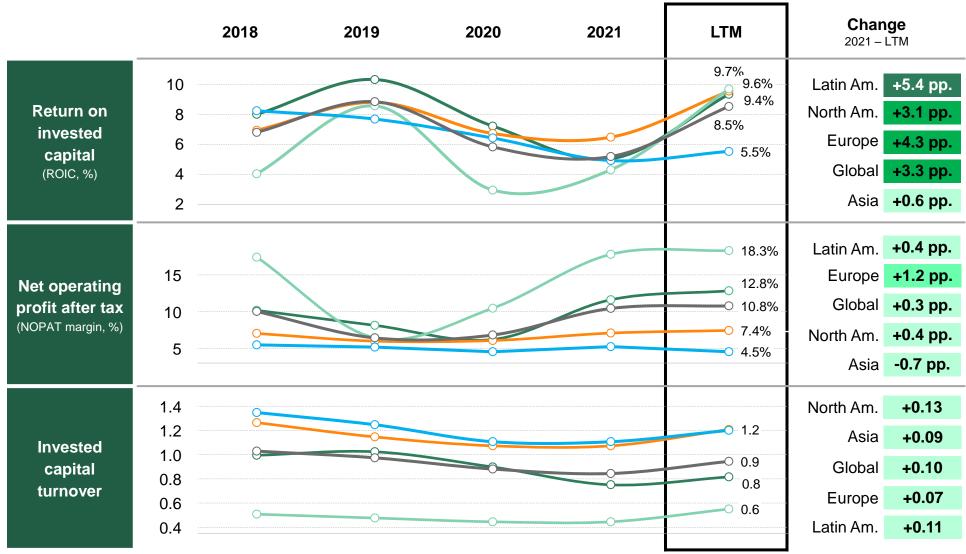
SG&A over Sales Development by Company Delta (Q1'22 vs. Q1'21), pp.





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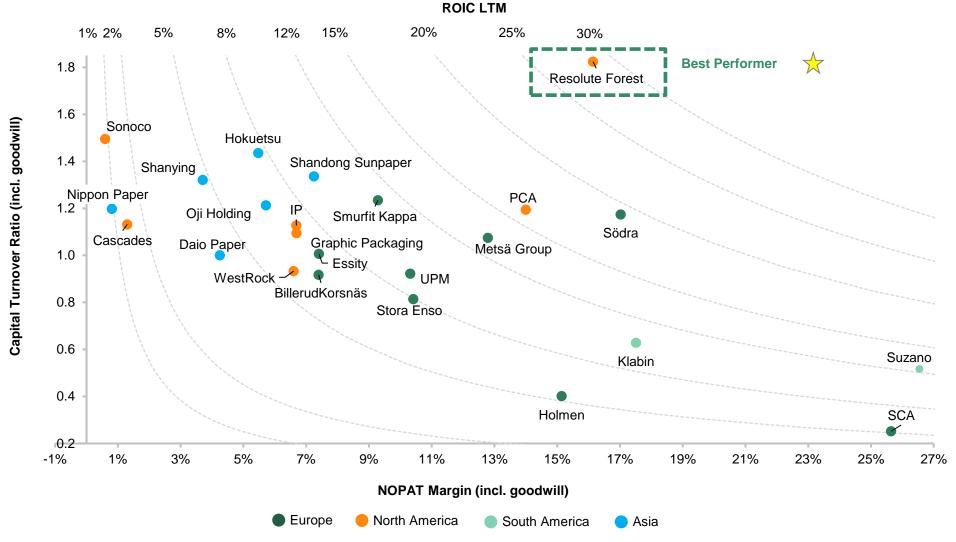
All regions demonstrated increases in LTM ROIC compared with 2021, with Latin America presenting the strongest uptick momentum



— Europe — North America — Latin America — Asia — Global



In Q1' 22, ROIC performances varied between 0.6% and 29% with European companies generally outperform peers in other regions

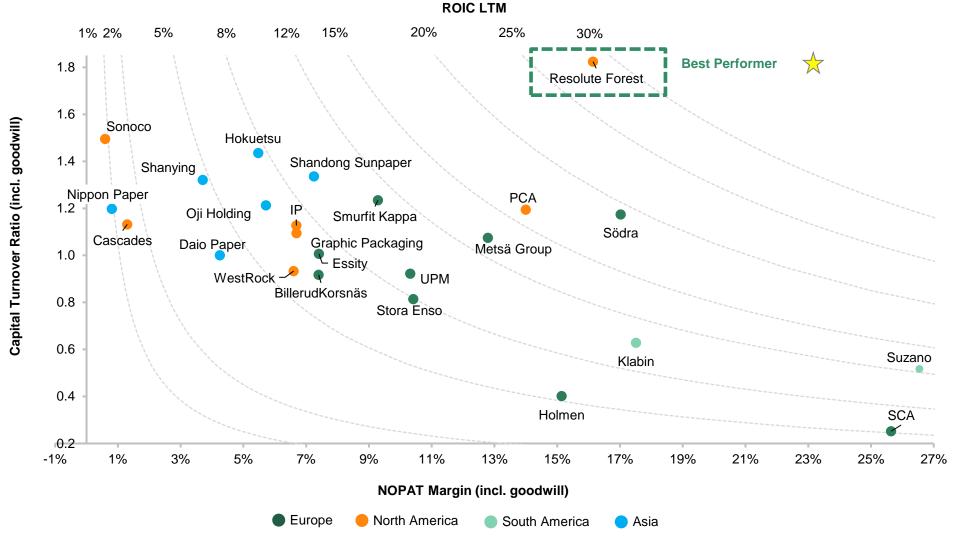


Notes: ROIC = Return on Invested Capital (actual return that the company has generated after tax).

Source: S&P Capital IQ, Interim & Annual Reports, Applied Value Analysis.



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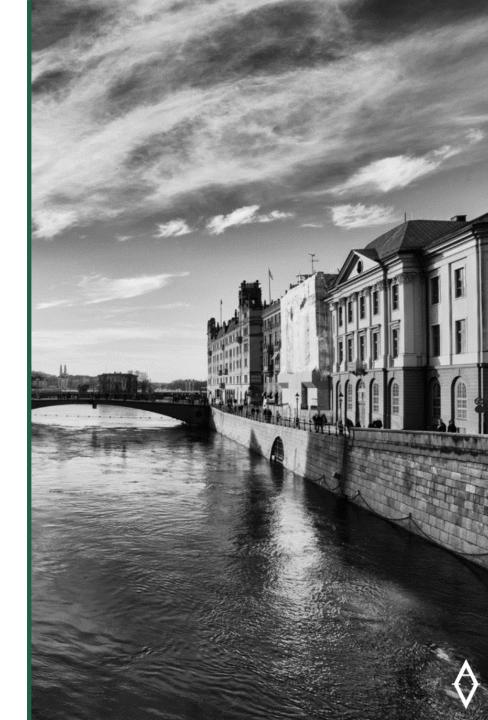
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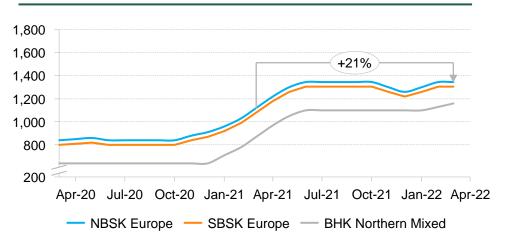


Source: RISI, Interim & Annual Reports.

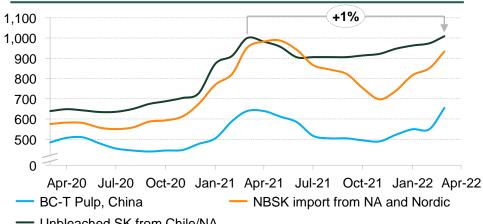
Pulp prices showed upward trajectories in Europe and US, with Y-o-Y growth rates ranging from 17% to 21%

Global Pulp Price Development, Last 24 Months





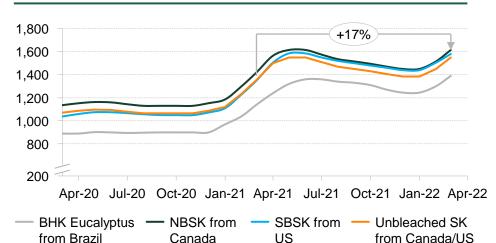
Asia, USD/Tonne



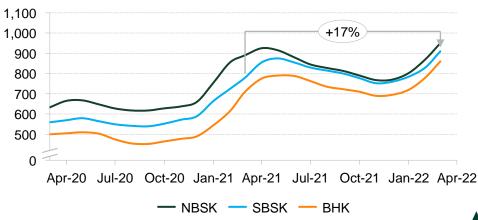
Unbleached SK from Chile/NA

Midpoint price levels. Source: RISI PPI Pulp & Paper Week.

US East, USD/Tonne



US East spot prices, USD/Tonne

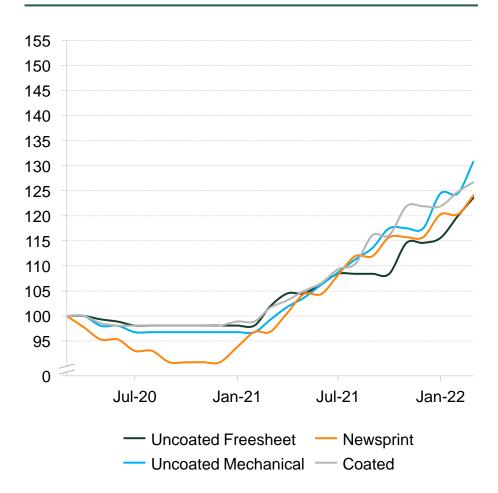




Graphic paper and packaging paper prices continued climbing in Q1' 22 due to persistent supply-demand imbalance and elevated input costs

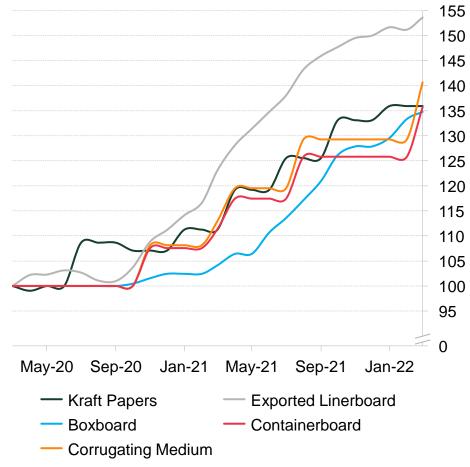
Graphic paper prices

Avg. indexed price per product segment, (index Mar'20 =100)



Packaging paper prices

Avg. indexed price per product segment, (index Mar'20 =100)



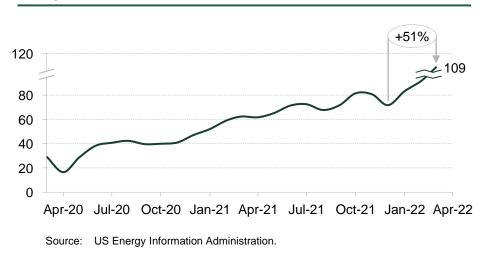
Note: Midpoint price levels.
Source: RISI PPI Pulp & Paper Week.



Energy prices skyrocketed in Q1'22, mainly due to supply shortages caused by the war in Ukraine and soaring EU gas and electricity prices

Commodity & Currency Price Development, Last 24 months

WTI Spot Crude Oil, USD/Barrel

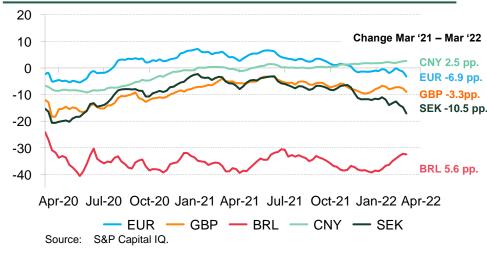


Electricity

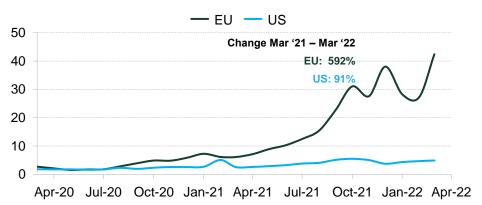


EEX (EGIX Germany).

Currency appreciation against USD, %



Natural Gas, USD/mmbtu



Source: NYMEX (Natural Gas spot price at the Henry Hub terminal in Louisiana), World Bank (EU average import border price).



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Applied Value is a management consulting & investment firm founded on the principles of lean growth and entrepreneurship



Industries of Expertise

- Chemicals and Process
- Industrial & Engineering
- Telecom and Media
- Consumer Goods
- Automotive









Applied Value Group



Investments



Management Consulting



Social **Impact**









































Practical over theoretical



Hands-On



Global perspectives



Applied Value challenges and supports global clients across industries from seven offices

Selected clients



Applied Value Offices and Footprint





Our Lean Growth framework is based on Focus, Simplicity, Speed – guiding principles to raise client performance





Applied Value has extensive experience in the Pulp & Paper industry and has helped several businesses achieve tangible results

Example of client engagements

Area		Results
\bigcirc	Turnaround	 EBIT improved from 4% to 20% over a 4-year period for an Integrated Pulp & Paper company Capital Turnover Ratio was improved from 0.55 to 0.9
	Commercial Excellence	 Market disruptive value prop, charging for service and complexity, developed and implemented Potential of 350 SEK/ton identified (excluding organizational streamlining enabled by the concept)
	Sales Efficiency & Effectiveness	 Potential SG&A reduction of 15% identified for a global Pulp & Paper company Service level differentiation and customer categorization were enablers
	True Profitability	 True profitability findings enabled EBIT improvement of 5 ppt for a leading Paper division Actions included portfolio rationalization, new pricing model and customer segmentation
	Pricing Excellence	 A fact-based pricing tool was developed for a leading Packaging company True costs and customer value were considered in the market disruptive pricing concept
(P)	Production Efficiency	 Sheeting capacity increased by 15% over a 3-month period Key actions were related to engagement and discipline, planning and material flows
O→♦ □←Ŏ	Supply Chain Optimization	 Variable cost reduction of 500 SEK / ton achieved by supply chain optimization Addressing sub-optimizations and optimizing the production cycle were key initiatives
	Working Capital Efficiency	 Potential gross margin improvement of ~5% for a Global Wood Supply company Inventory reduction potential of 40% identified and concrete action plan handed over



Our Pulp & Paper practice has been serving world leading organizations since our founding

Overview of Applied Value's Pulp & Paper Experience

Applied Value has continuously advised global market leaders in the Pulp & Paper industry:

- > Key advisor to top executives during several successful turnarounds using our lean growth framework
- > Improving business performance of Pulp & Paper and Chemicals companies, as well as equipment & services providers

We have conducted <u>50+ engagements</u> improving Cost & Capital efficiency and Revenue Growth for our Pulp & Paper clients:

- > EBIT improvement program from 4% to 20% over a 4-year period for an Integrated Pulp & Paper Company
- > Sourcing Improvement Program covering Services / Chemicals / Logistics / MRO for a Global Packaging Company
- > External Distribution System Optimization for European Manufacturer of Liquid Paperboard and Sack Paper
- > Product Strategy for an Integrated Pulp & Paper Company
- > Operations Improvement Program to improve Unit Output and Labor Efficiency for an Integrated Pulp & Paper Company
- SG&A efficiency for an Integrated Pulp & Paper Company

We are known for driving change and creating immediate impact for our clients





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APPLIED VALUE GROUP