



Applied Value Pulp & Paper Report

Quarterly Analysis

Q4, 2019

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Applied Value Pulp & Paper Report

Executive Summary & Introduction

Financial Benchmarking

Market Trends

Special Section: Corrugate Market

Applied Value Presentation



Average industry ROIC declined -2.0 pp. in 2019 compared to last year, mainly explained by an uncertain market outlook and lower prices

Financial Benchmarking: Highlights in Q4 2019

Key takeaways

Top performers

Revenue Growth

- › Industry sales declined by ~4 pp. in Q4 '19 compared to Q4 '18, following the declining trend in pulp and paper prices
- › Europe, North America, Asia and Latin America reported an average revenue growth of -5%, -3%, -5% and -5% respectively in Q4'19 compared to previous year
- › The top performers of the quarter are Essity, Holmen and WestRock, reporting a revenue growth of +8.3%, +6.2% and 2.2% respectively



HOLMEN

Profitability & Costs

- › In Q4 '19, global average Raw Material cost over sales were 53%, down by 1% Y-o-Y, with SCA as the top performer reporting the lowest ratio of 32%
- › Average COGS over sales was 76% in Q4 '19, overall flat compared to last years' levels, with International Paper continuing to perform best-in-class at 67%
- › Average SG&A cost over sales increased by 1.3 pp. last quarter compared to same period last year
- › Quarterly EBITDA margins were down across all regions barring Asia in Q4, ending 2019 at 14.7%, 11.8%, 32.1% and 11.1% for Europe, North America, LATAM and Asia respectively



INTERNATIONAL  PAPER

Return On Invested Capital (ROIC)

- › ROIC performance fell in 2019 for all regions except Asia, resulting in a drop by -2.0 pp. in industry average ROIC ending up at 6.4% in LTM
- › European actors have suffered from worsening capital efficiency which led to United States claiming the highest regional average ROIC in 2019 at 7.1%
- › Packaging Corp. of America and Smurfit Kappa had the strongest ROIC margins in 2019 at 12.1% and 11.7% respectively



 Smurfit Kappa Group



Q4 2019 was characterized by steady market environments with pulp prices stabilizing at historically low levels

Market Trends: Highlights in Q4 2019

Key takeaways

Industry News

- › The overall market environments were in general stable during the final months of 2019, in mid January 2020 US and Chinese officials signed the phase-one trade agreement, expected to eliminate China's 5% import duty on US kraft linerboard
- › Weakness in the European economy as well as continued digitization of paper products reduced graphic paper demand and put pressure on manufacturers to lower prices
- › Global demand for printing & writing paper is seasonally low. In North America, total demand for printing and writing paper decreased by 12%

Pulp Prices

- › Pulp prices slowed their decline in all regions in Q4 '19 but are still trading at their lowest levels since December 2018. Prices in Northern Europe, US East, and Asia are down at approx. 32%, 26% and 29% during 2019
- › Unless any dramatic changes occur to key fundamentals, prices are expected to remain stable for the first quarter of 2020

Graphic Paper & Packaging

- › Graphic paper prices flattened in Q4 '19 after falling significantly earlier in the year, however Newsprint prices continued to fall rapidly in Q4 '19, with a decrease of 12 pp. compared to previous year
- › Although down for the full year of 2019, Packaging paper prices remained stable during Q4 indicating continued belief that demand for sustainable packaging will grow in the future

Commodities & Currencies

- › Oil increased by ~11% during Q4 '19 and ended the year at ~59 USD/Barrel
- › Natural gas prices ended the year significantly down at -42% in Europe and -43% in the United States
- › US dollar depreciated slightly compared to other currencies in Q4 '19 slightly offsetting the long-term trend. SEK, EUR, GBP, CNY and BRL are down by -4.9 pp., -2.9 pp., -0.4 pp., -2.1 pp. and -10.5 pp. respectively in LTM compared to USD, continuing to benefit European and Latin American export

Note: WTI Spot Crude Oil prices are per 30 Sep 2019.

Source: RISI, Interim & Annual Results.



Applied Value's quarterly Pulp & Paper Report is focused on financial benchmarking and market trends affecting 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. Moreover, it provides an overview of the industry and relevant market trends that occurred during the quarter.

Growth

Industry growth latest 4 quarters and LTM

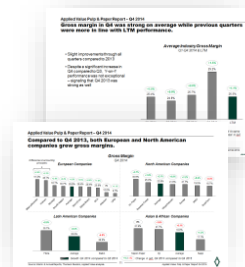
Growth in the latest quarter per company and region



EBITDA Margins

Average Industry EBITDA margin latest 4 quarters and LTM

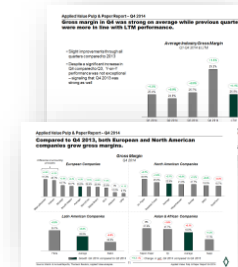
EBITDA margin for the latest quarter per company and region



ROIC

ROIC per region for the latest two 12-month periods

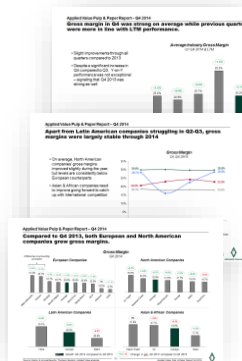
ROIC development per company and region for LTM



Operational Costs Breakdown

Operational Costs Breakdown latest quarter per company and region

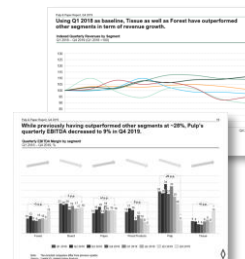
Operational Costs development YoY per company and region



Segment Analysis

Indexed revenue growth by Segment

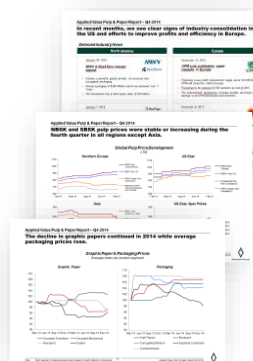
Segment EBITDA development over the last 2 years



Market Trends

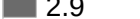
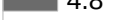
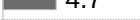
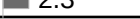
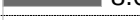
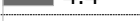
Pulp & Papers market price movements

Commodity prices and currency movements



The report is based on the financial performance of 23 leading Pulp & Paper companies from Europe, North America, Latin America & Asia

Companies included in Financial Benchmarking in the Q4 2019 report

Market	Company	Revenue LTM (BEUR)	Country	Board	Paper	Tissue	Wood Products	Pulp	Other
Europe	Essity	 12.3				✓			✓
	UPM	 10.2			✓		✓	✓	✓
	Stora Enso	 10.1		✓	✓		✓	✓	✓
	Smurfit Kappa	 9.0		✓	✓				✓
	Metsä Group	 5.5		✓	✓	✓	✓	✓	✓
	Ahlström-Munksjö	 2.9			✓				✓
	BillerudKorsnäs	 2.3		✓	✓			✓	✓
	Södra	 2.2					✓	✓	✓
	SCA	 2.0		✓	✓		✓	✓	✓
	Holmen	 1.6		✓	✓		✓		✓
North America	International Paper	 19.9		✓	✓			✓	✓
	WestRock	 16.4		✓	✓			✓	✓
	Packaging Corp. of America	 6.2		✓	✓				✓
	Graphic Packaging	 5.5		✓					✓
	Sonoco	 4.8		✓	✓	✓	✓	✓	✓
	Domtar	 4.7			✓	✓		✓	✓
	Resolute Forest	 2.6			✓	✓	✓	✓	✓
LAT AM	Suzano	 5.8			✓	✓		✓	✓
	Klabin	 2.3		✓	✓			✓	✓
Asia	Oji Holding	 12.4		✓	✓	✓	✓	✓	✓
	Nippon Paper	 8.6		✓	✓	✓	✓	✓	✓
	Daio Paper	 4.4		✓	✓	✓			
	Hokuetsu	 2.2		✓	✓			✓	



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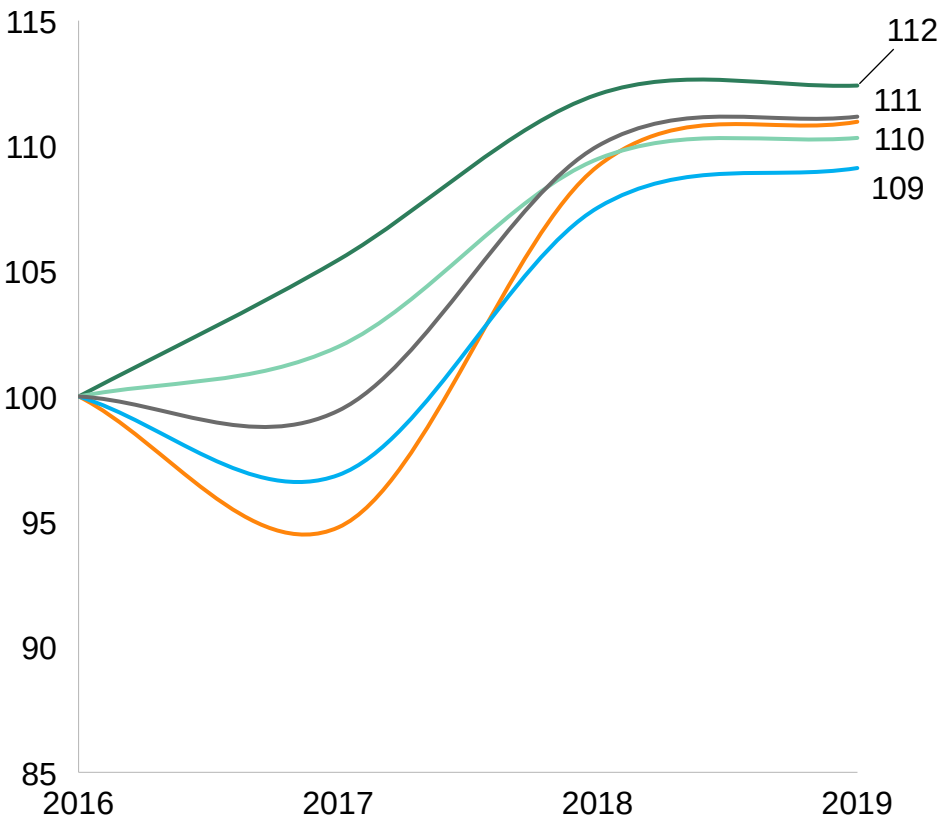


 Smurfit Kappa Group

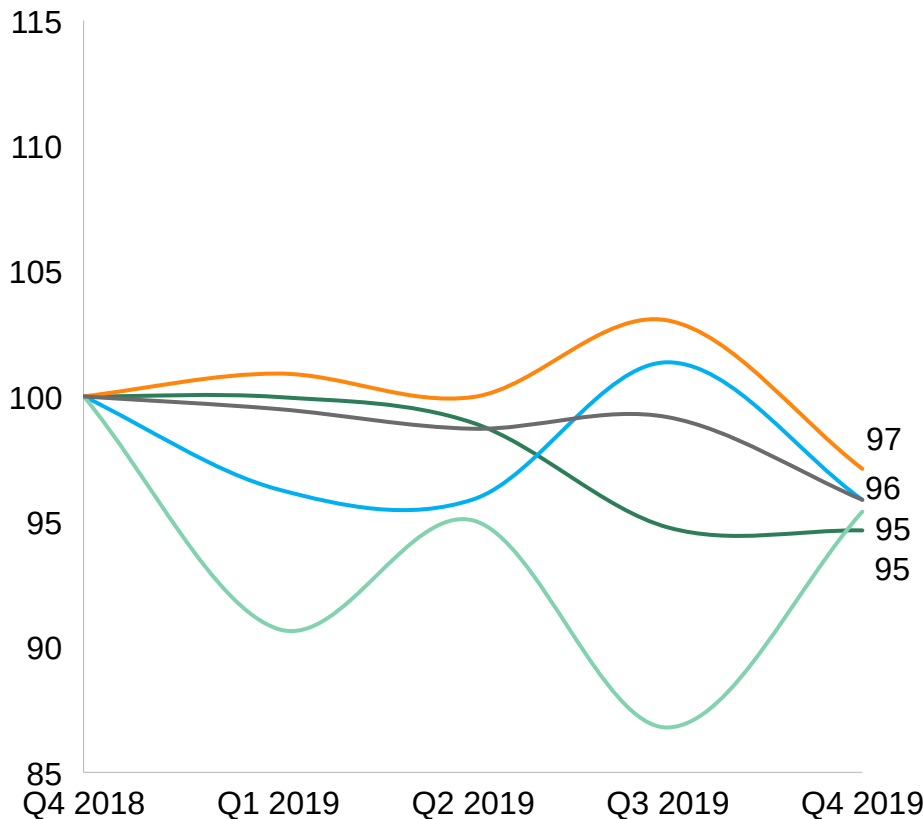


Revenue growth rates subsided in 2019 across the entire industry and no region displayed increased revenues in Q4 2019 vs. Q4 2018

Indexed Yearly revenues, 2016-LTM (index 2016=100)



Indexed Quarterly revenues, Q4'18-Q4'19 (index Q4'18=100)



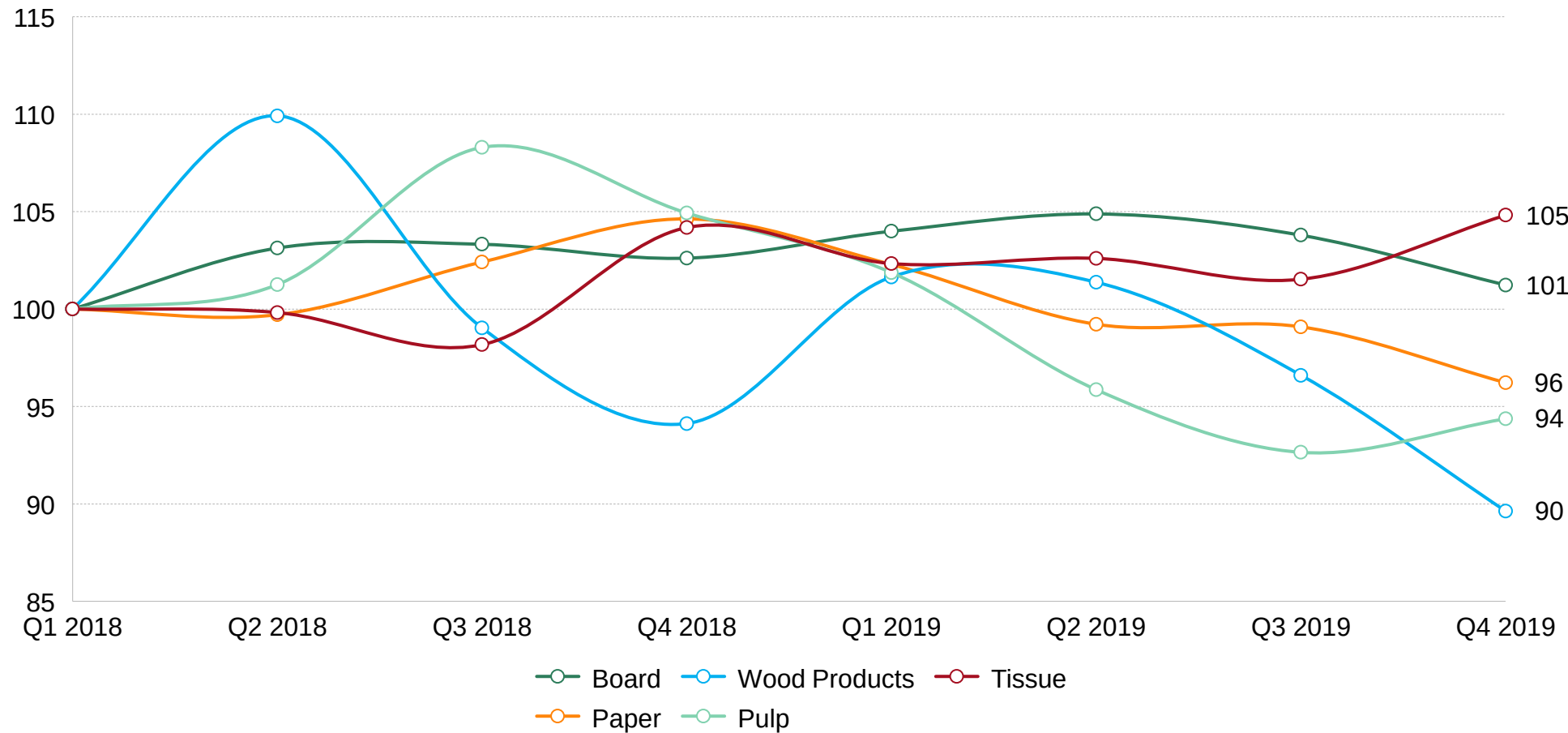
— Europe — North America — Asia — Latin America — Global

Note: Suzano has been excluded due to the merger with Fibria
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



Using Q1 2018 as baseline, Tissue as well as Forest have outperformed other segments in terms of revenue growth

Indexed Quarterly Revenues by Segment, Q1 '18 – Q4 '19 (Q1 '18 =100)

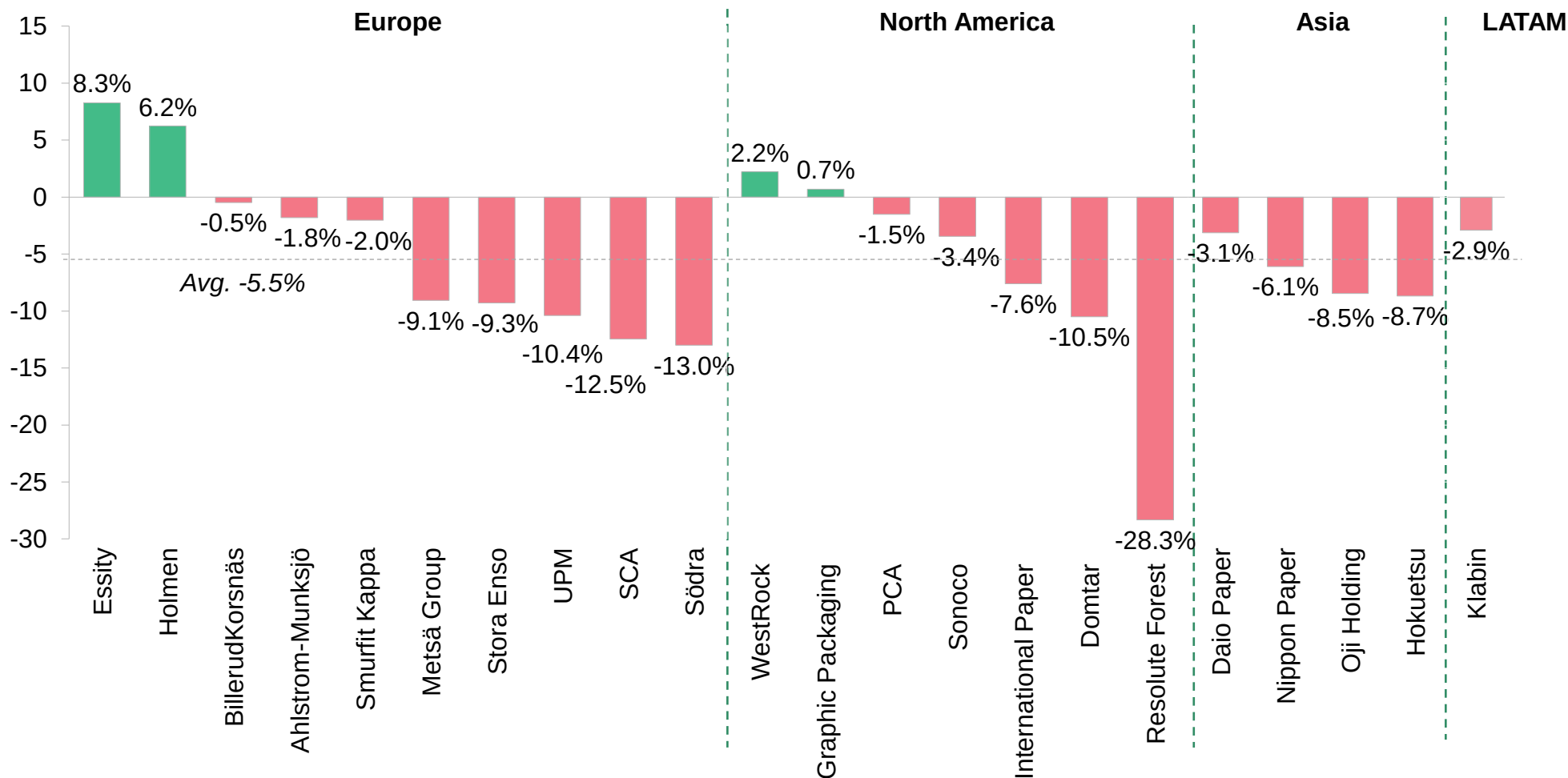


Note: The included companies differ from previous quarter
Source: Capital IQ, Applied Value Analysis.



Only three benchmarked companies showed positive total revenue development with Essity outperforming at 8.3% growth Year-on-Year

Revenue growth, Q4 '19 vs. Q4 '18, %



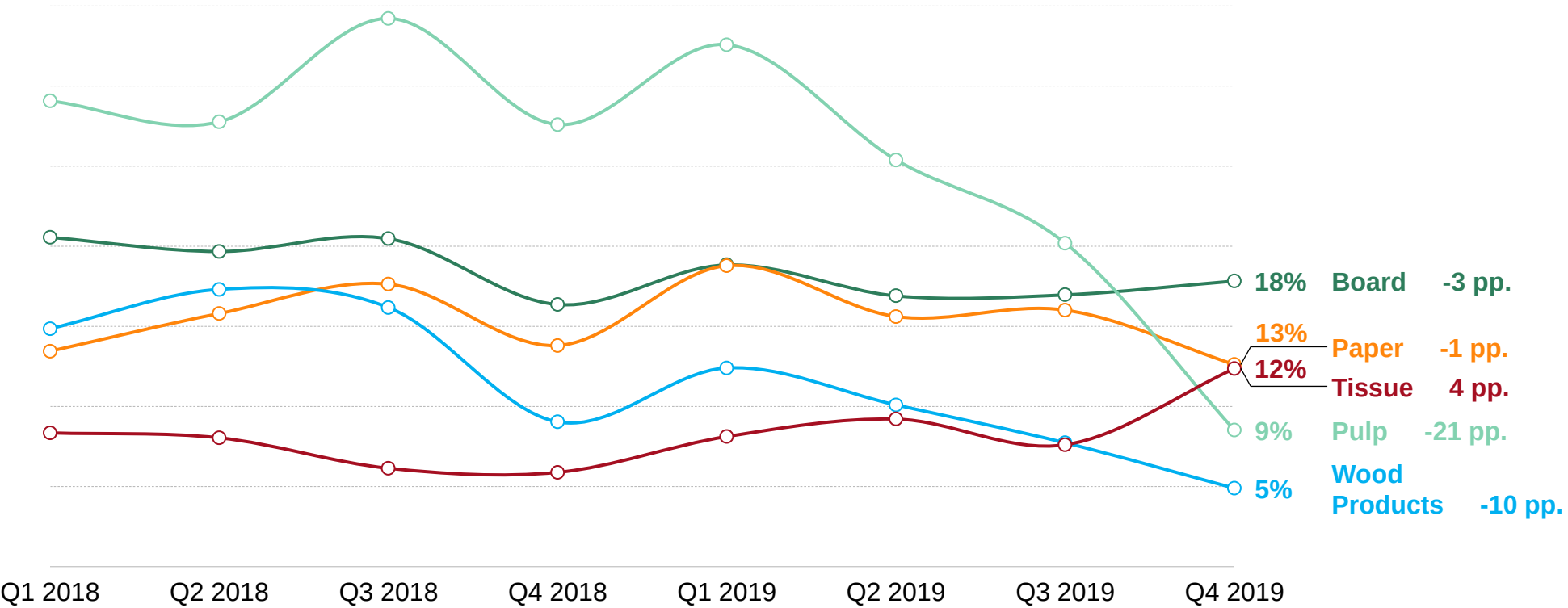
Note: 1) Suzano is excluded due to merger with Fibria.

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



While previously having outperformed other segments at 28% EBITDA margin, Pulp segment experienced a decreasing margin to 9% in Q4 2019

Quarterly EBITDA Margin by segment, Q1 '18 – Q4 '19, %

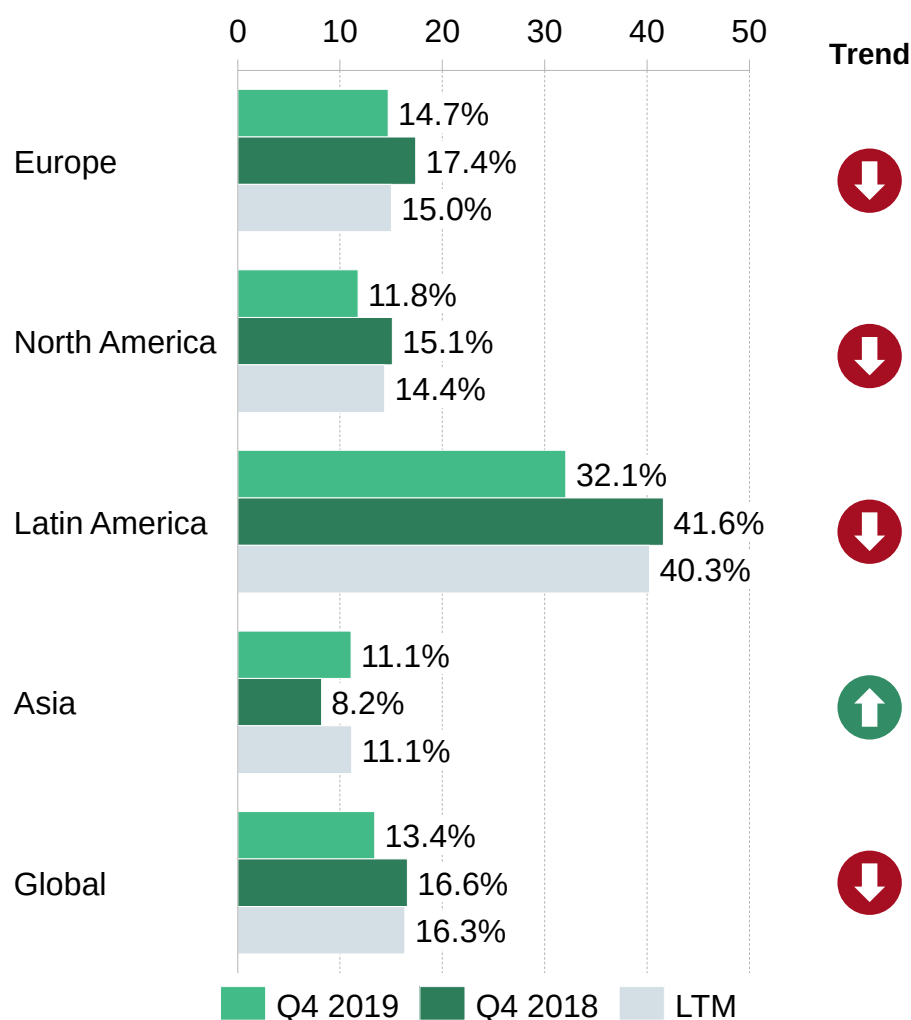


Note: The included companies differ from previous quarter,
Source: Capital IQ, Applied Value Analysis.



Average industry EBITDA margin declined Year-on-Year in all markets except in Asia where it increased by 2.9 pp. in Q4 2019

EBITDA margin by region, Y-o-Y

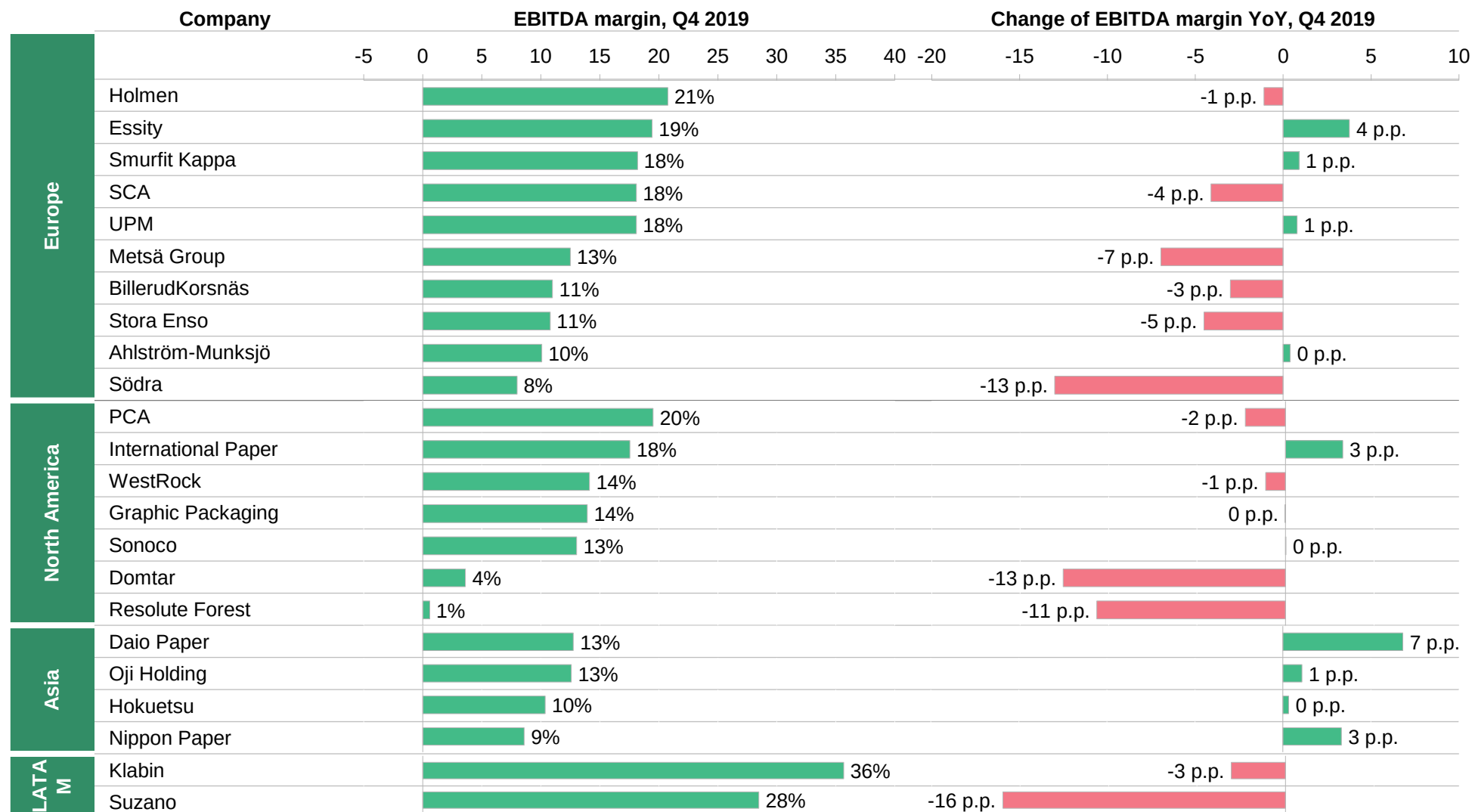


Industry News

- › Italy's **Cartiera Pieretti was declared bankrupt** in Dec 2019, The company's mill producing testliner and coreboard had an annual capacity of 50K Tonnes
- › Oji Holdings Corporation decided to **expand the thermal paper production** at its Brazilian arm, The company announced a **\$120 million investment** to add 70,000 tonnes/yr of capacity which is expected to come online in early 2022
- › **BillerudKorsnäs' CEO Petra Einarsson** resigned in early November with immediate effect, Lennart Holm has been appointed as acting CEO
- › **A P&P industry worker strike took place in Finland** between 26th of January and February 11th, The strike involved ~9000 workers, spanned 12 mills. The mechanical forest industry strike, which also began on Jan. 26th, is affecting saw- and plywood mills.
- › International Paper announced that it has **completed the sale of its controlling interest in International Paper APPM Limited**, an India-based printing paper business, to West Coast Paper Mills Limited for approximately \$85 million

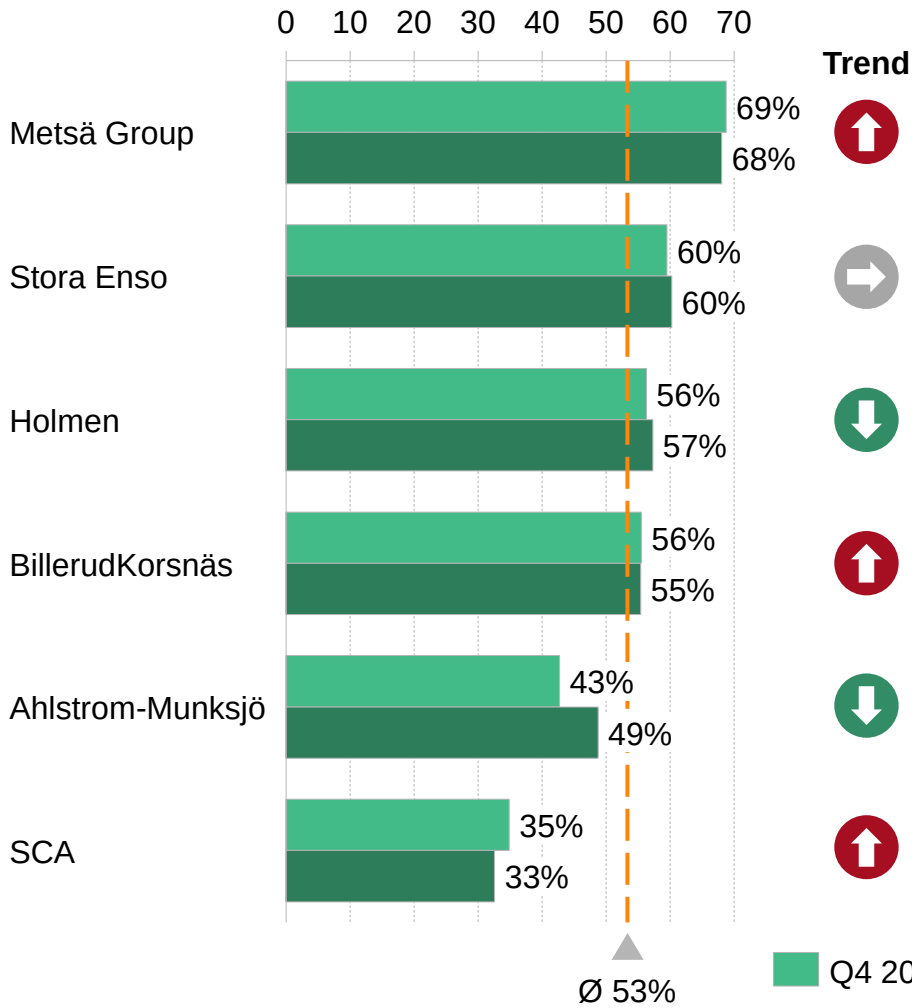


In Q4 2019, there was a broad negative profitability trend across all markets but Asia when comparing Q4 '19 against Q4 '18

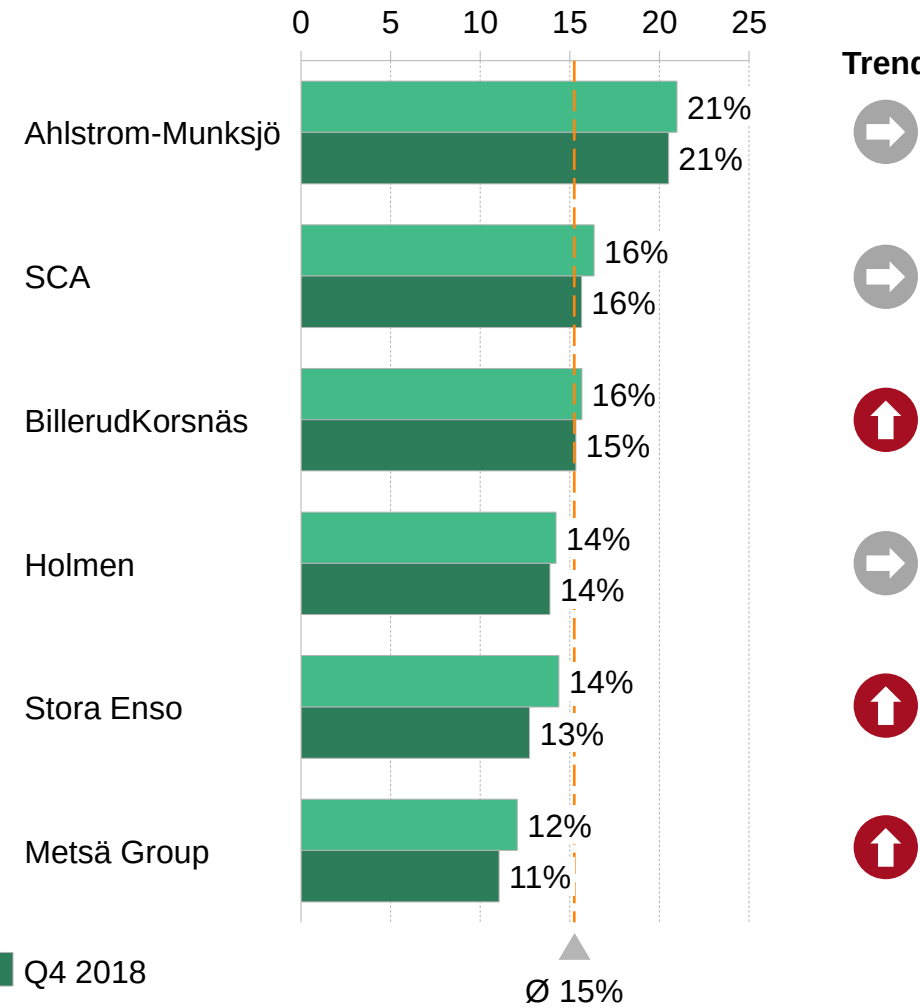


Most peers managed to maintain stable Raw Material costs over Sales, although with an increased portion of Personnel costs over Sales

Raw material over Sales, Q4 '19 vs Q4 '18, %



Personnel costs over Sales, Q4 '19 vs Q4 '18, %

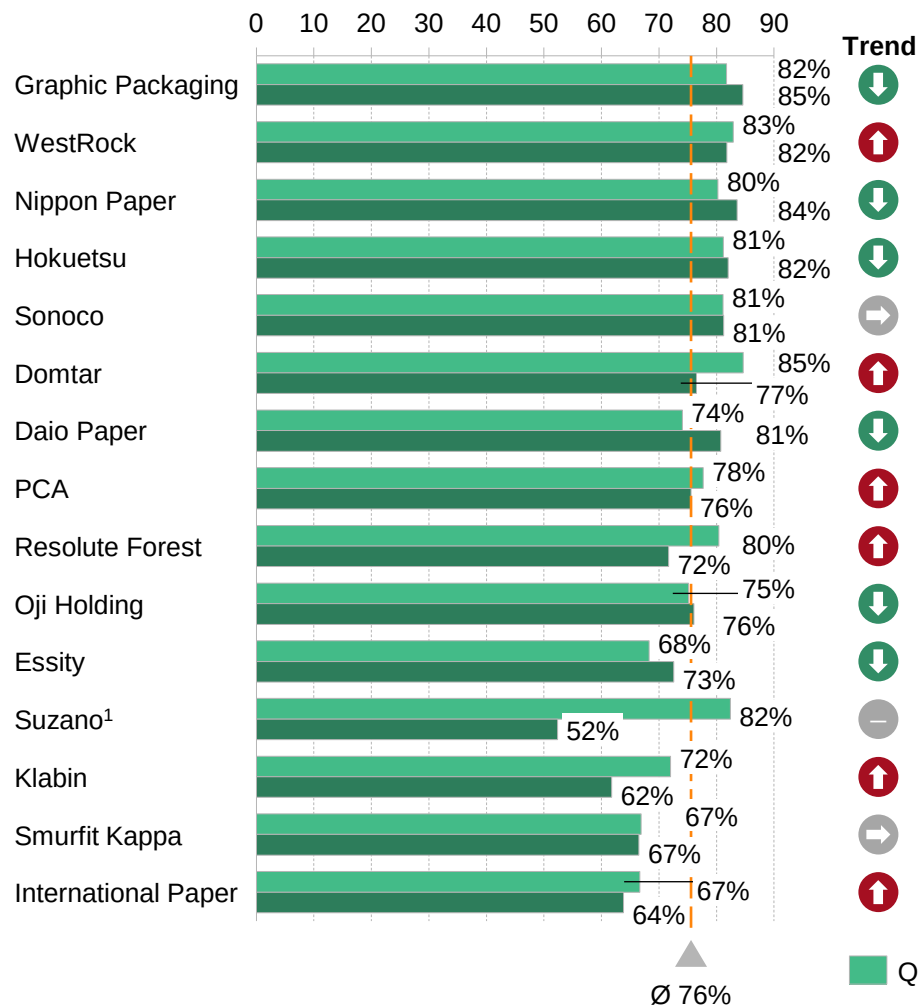


Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.

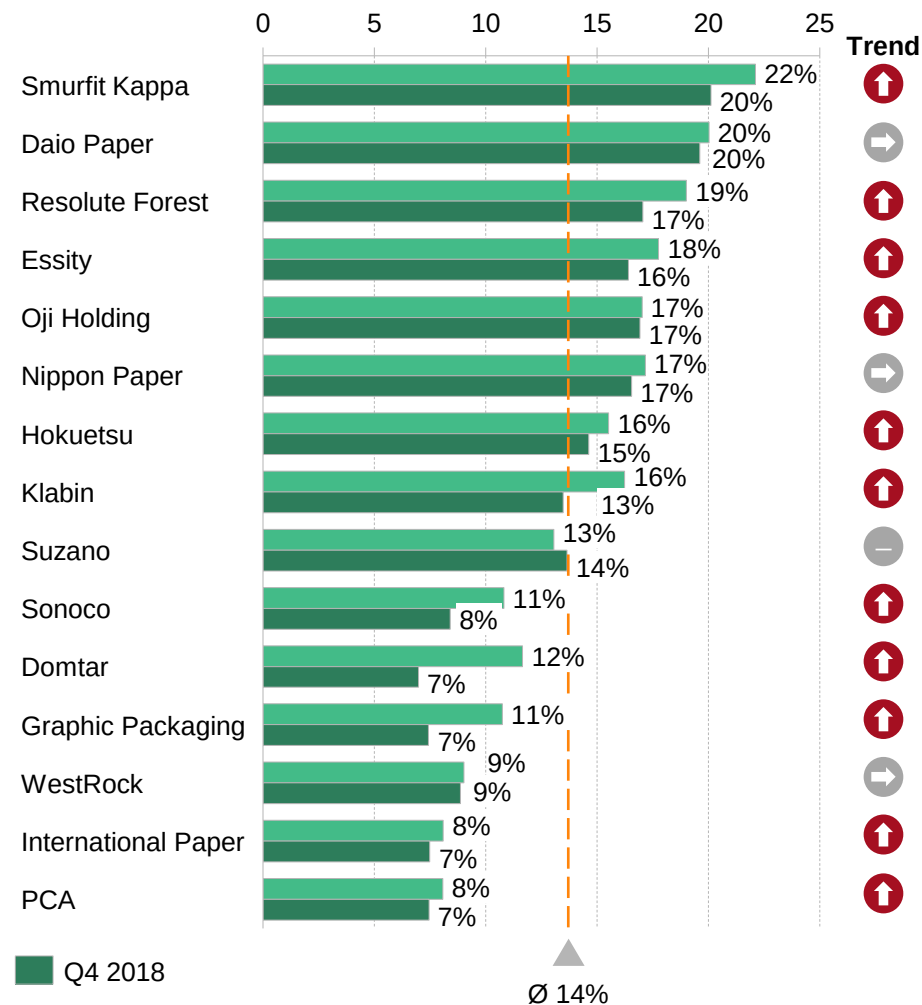


While some peers managed to reduce COGS over Sales, Daio paper, Nippon paper and Westrock managed to maintain SG&A margin Y-o-Y

COGS over Sales, Q4 '19 vs Q4 '18, %



SG&A over Sales, Q4 '19 vs Q4 '18, %

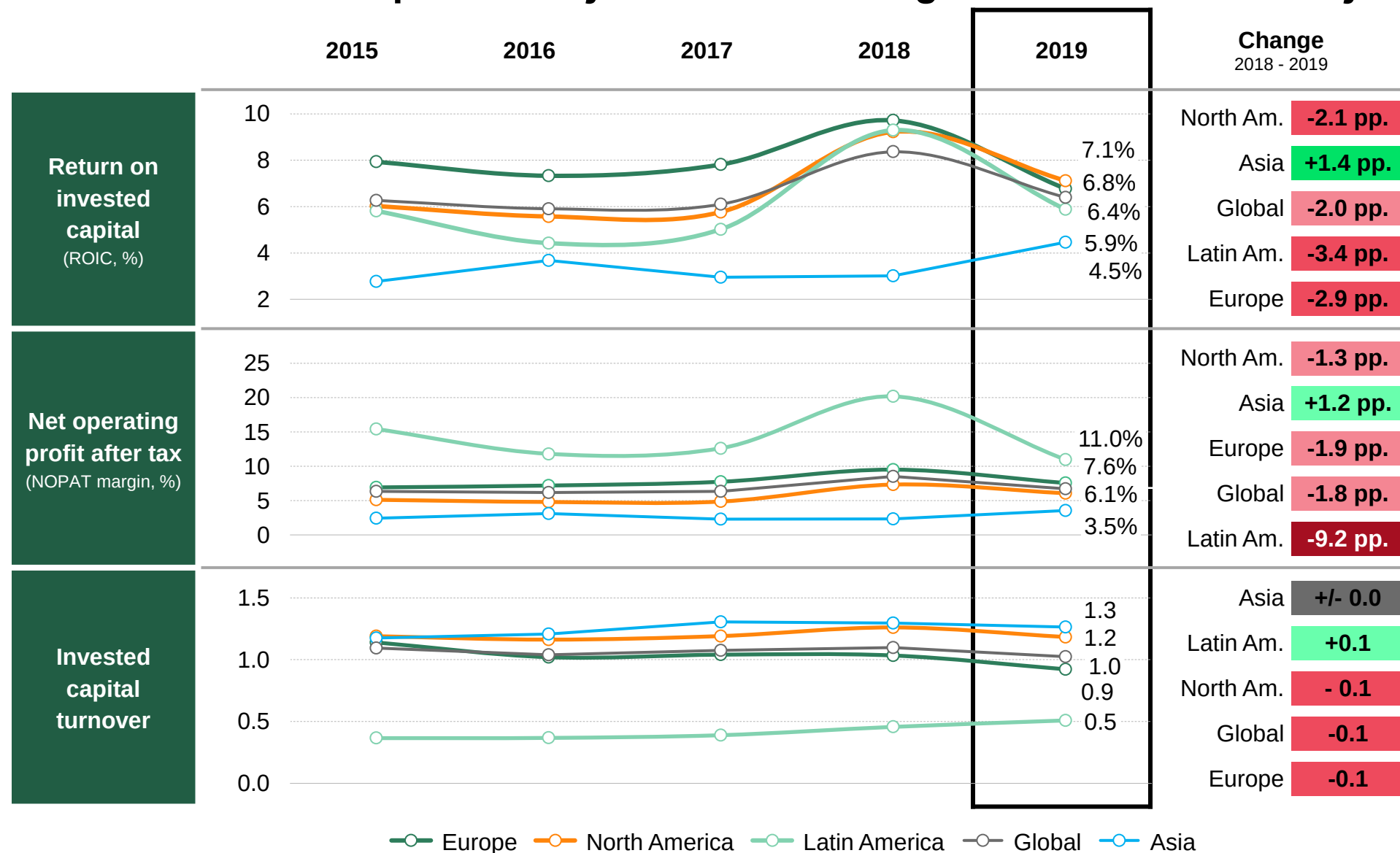


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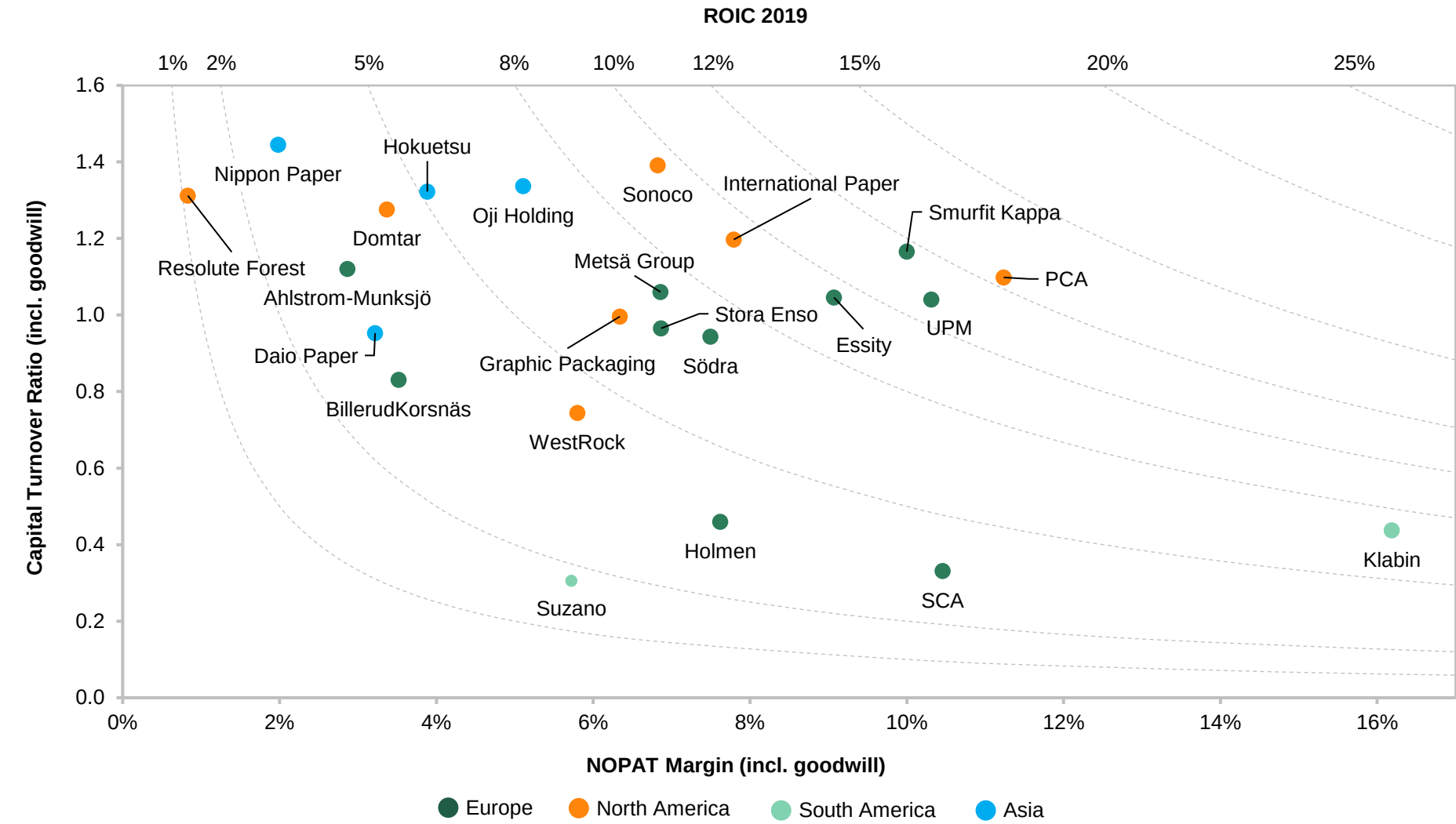
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



ROIC Performance has dropped across all regions in 2019 except for Asia which has increased profitability while maintaining best in class efficiency



Over the last 12 months, ROIC performances varied between ~2% and ~12% with PCA, Smurfit Kappa and UPM as best performers



Notes: ROIC = Return on Invested Capital (actual return that the company has generated after tax).
Source: Capital IQ, Annual & quarterly reports, Applied Value Analysis.



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Market Trends: Highlights in Q4 2019

Key takeaways

Industry News	› The overall market environments were in general stable during the final months of 2019, in mid January 2020 US and Chinese officials signed the phase-one trade agreement, expected to eliminate China's 5% import duty on US kraft linerboard › Weakness in the European economy as well as continued digitization of paper products reduced graphic paper demand and put pressure on manufacturers to lower prices › Global demand for printing & writing paper is seasonally low. In North America, total demand for printing and writing paper decreased by 12%
Pulp Prices	› Pulp prices slowed their decline in all regions in Q4 '19 but are still trading at their lowest levels since December 2018. Prices in Northern Europe, US East, and Asia are down at approx. 32%, 26% and 29% during 2019 › Unless any dramatic changes occur to key fundamentals, prices are expected to remain stable for the first quarter of 2020
Graphic Paper & Packaging	› Graphic paper prices flattened in Q4 '19 after falling significantly earlier in the year, however Newsprint prices continued to fall rapidly in Q4 '19, with a decrease of 12 pp. compared to previous year › Although down for the full year of 2019, Packaging paper prices remained stable during Q4 indicating continued belief that demand for sustainable packaging will grow in the future
Commodities & Currencies	› Oil increased by ~11% during Q4 '19 and ended the year at ~59 USD/Barrel › Natural gas prices ended the year significantly down at -42% in Europe and -43% in the United States › US dollar depreciated slightly compared to other currencies in Q4 '19 slightly offsetting the long-term trend. SEK, EUR, GBP, CNY and BRL are down by -4.9 pp., -2.9 pp., -0.4 pp., -2.1 pp. and -10.5 pp. respectively in LTM compared to USD, continuing to benefit European and Latin American export

Note: WTI Spot Crude Oil prices are per 30 Sep 2019.

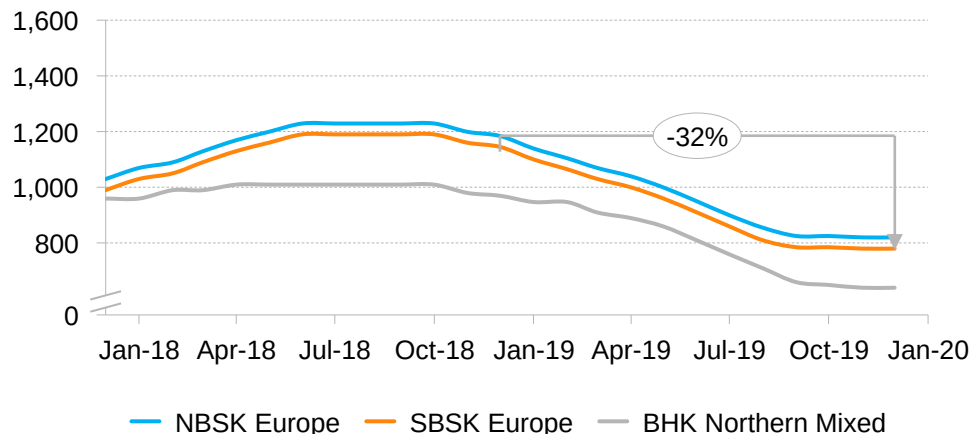
Source: RISI, Interim & Annual Results.



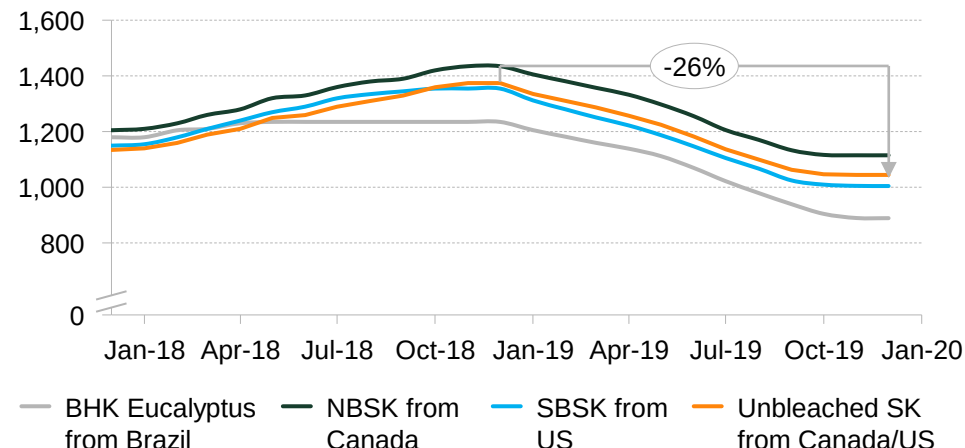
Global pulp prices decreased by 26-33% in full year 2019 but flattened across all regions in the final quarter in 2019

Global Pulp Price Development, Last 24 Months

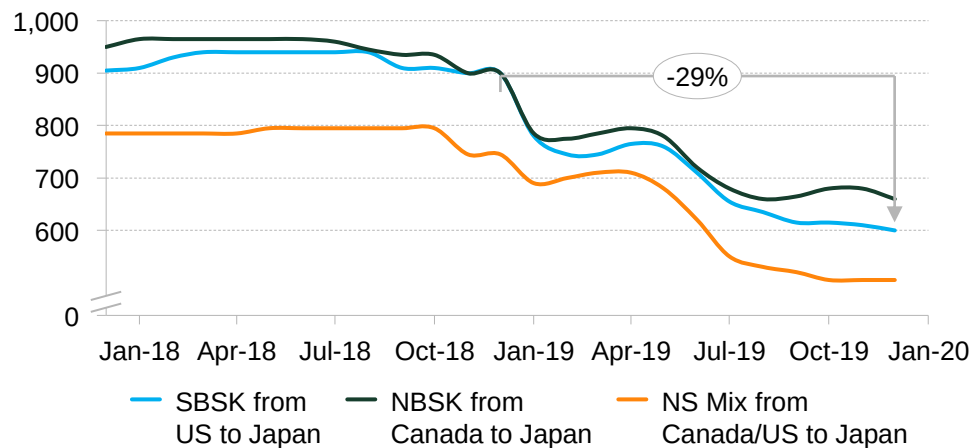
Northern Europe, USD/Tonne



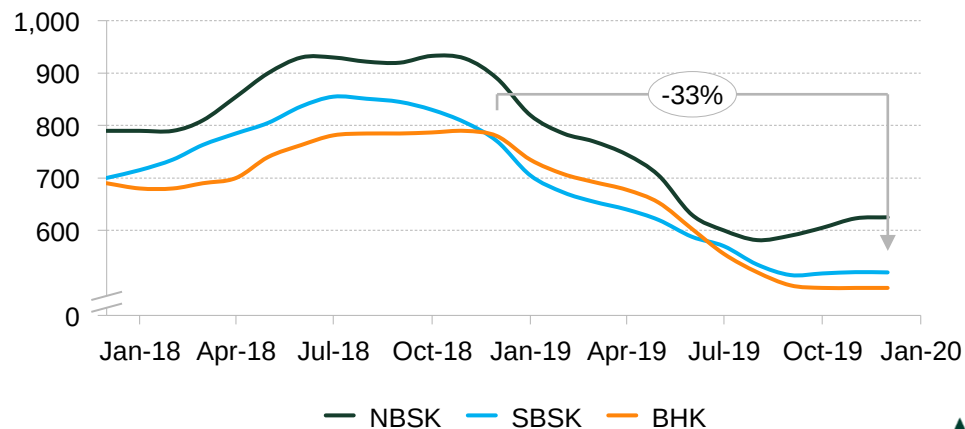
US East, USD/Tonne



Asia, USD/Tonne



US East spot prices, USD/Tonne



Note: Midpoint price levels.

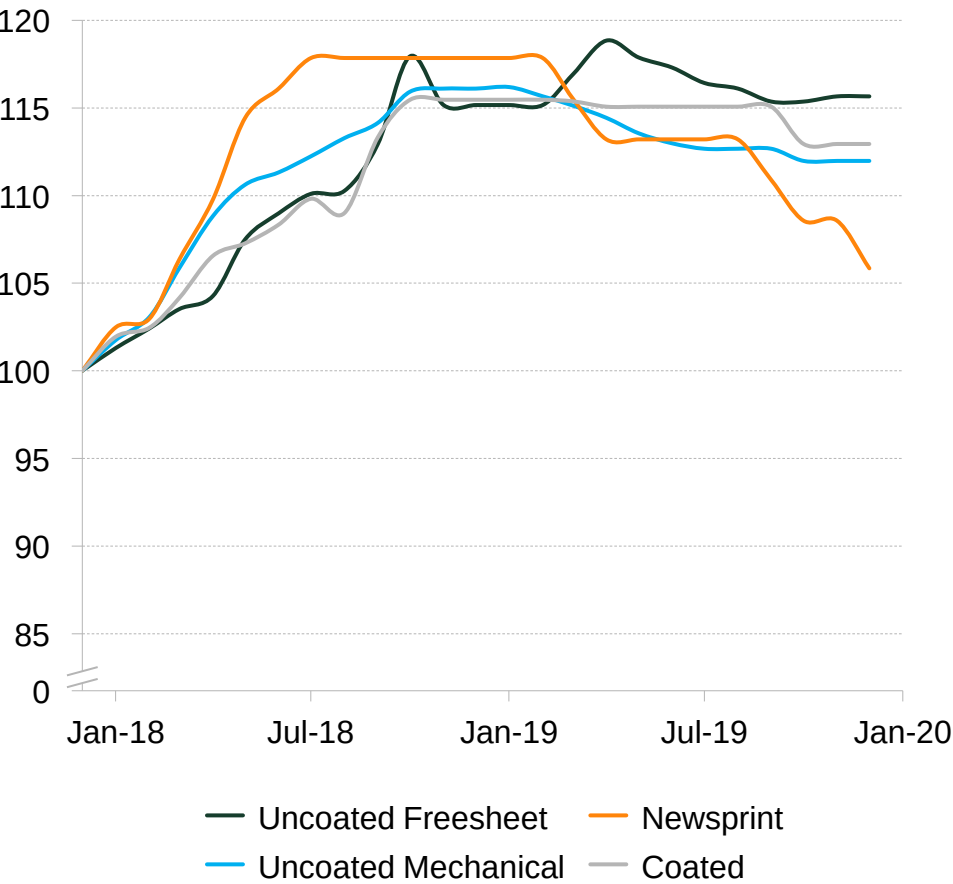
Source: RISI PPI Pulp & Paper Week.



Newsprint prices continued to decline in Q4 2019, while packaging prices remained stable during the quarter

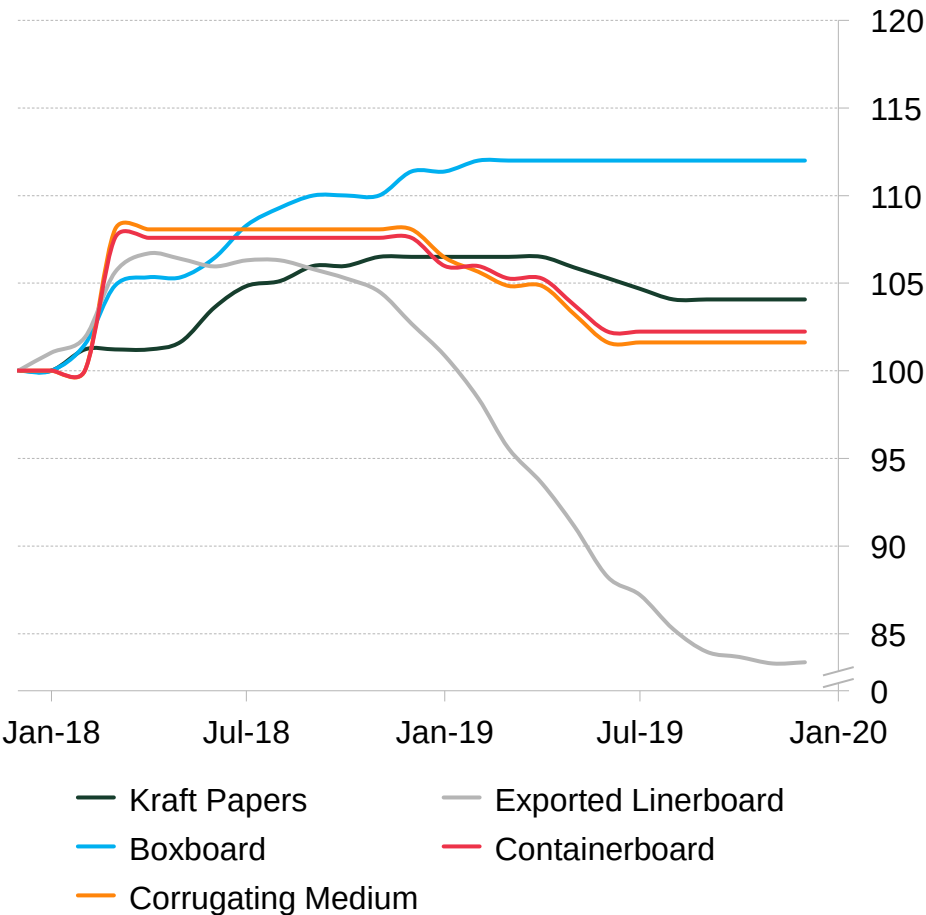
Graphic paper prices

Avg. indexed price per product segment, USD/ton



Packaging paper prices

Avg. indexed price per product segment, USD/ton



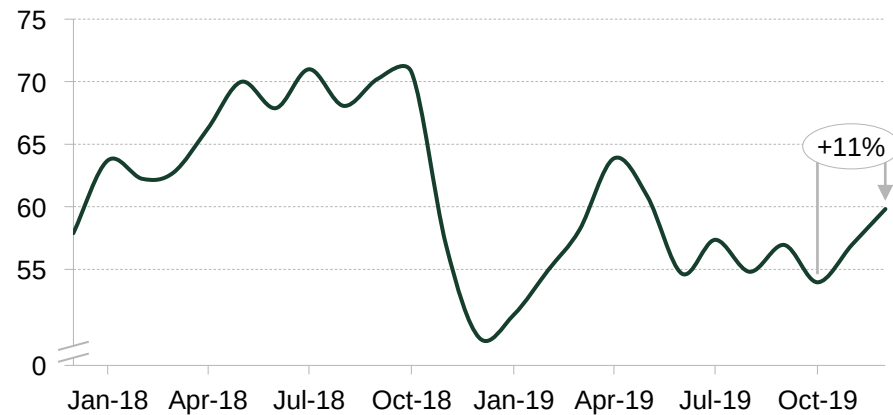
Note: Midpoint price levels.
Source: RISI PPI Pulp & Paper Week.



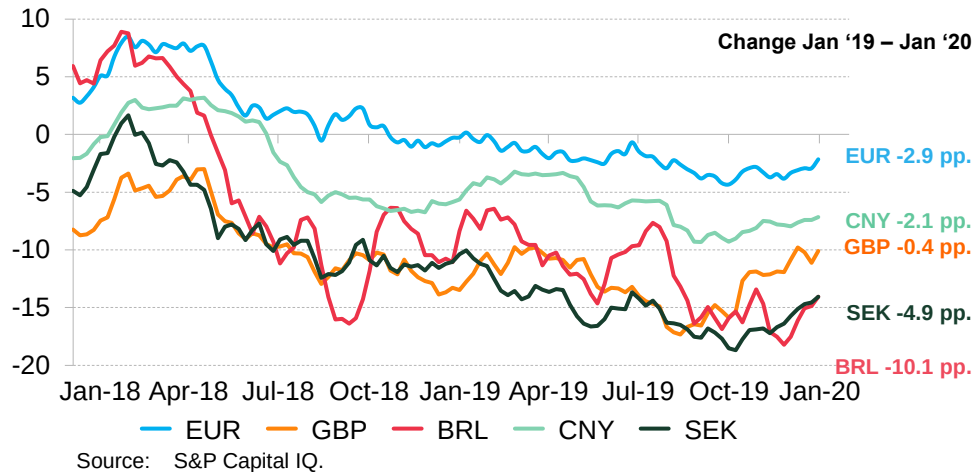
Global Oil prices increased by 11% while the dollar weakened slightly against the monitored currencies in Q4 2019

Commodity & Currency Price Development, Last 24 months

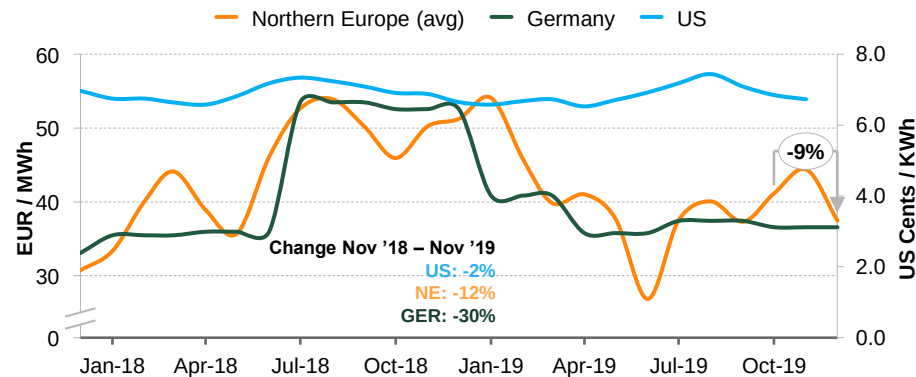
WTI Spot Crude Oil, USD/Barrel



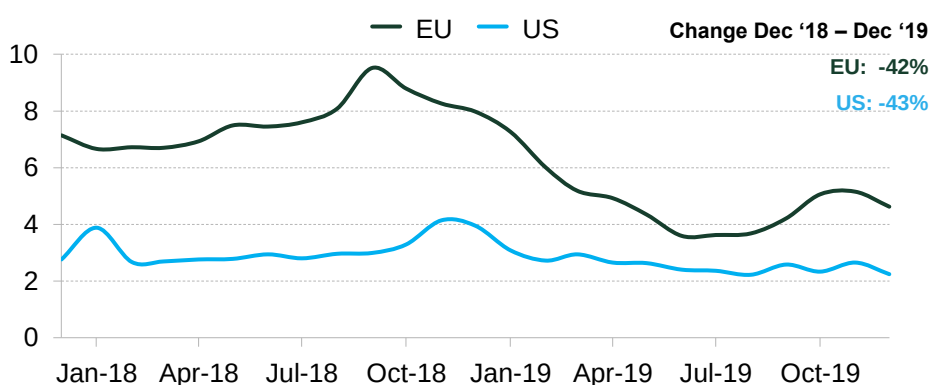
Currency appreciation against USD, %



Electricity



Natural Gas, USD/mmbtu



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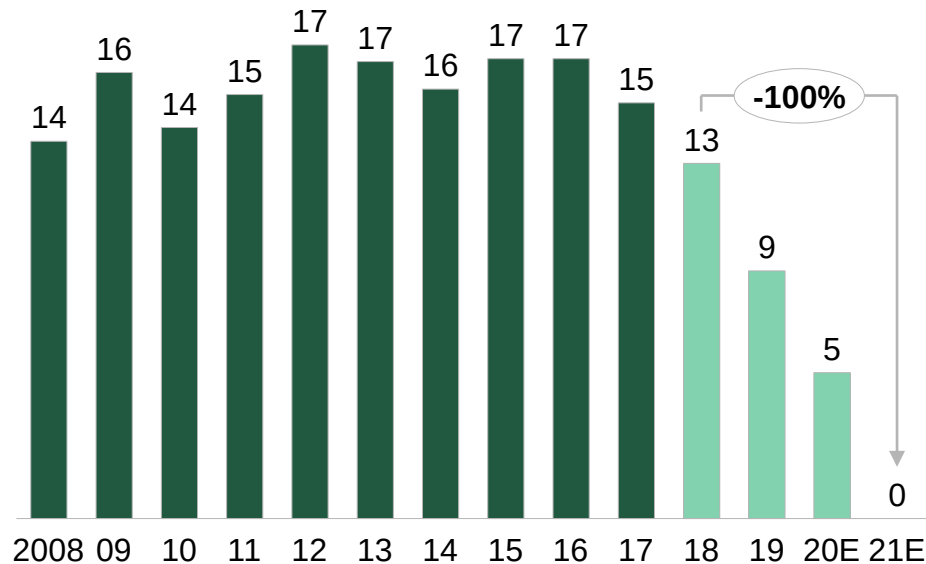
On a recent timeline, key corrugate input costs have declined as trade policies and a shift to more recycled material apply downward pressure

Type	Region	Indicators	% Change During Last				Key takeaways
			1M	3M	6M	12M	
Paper prices	US	Price of US Kraft liner (+)	0.0%	0.0%	-2.7%	-3.9%	- Trade conflict with China has been a major downward driver of prices in the US and EU - paper export to China has been decreasing
		Price of US White top liner (+)	0.0%	0.0%	-1.0%	-2.0%	
		Price of US Semi chemical flute (+)	0.0%	0.0%	-3.0%	-5.9%	
		Price of US OCC (+)	0.0%	0.0%	-34.8%	-61.0%	
	EU	Price of EU Kraft liner (+)	+0.1%	-4.6%	-13.0%	-21.9%	- As a result of soft overseas demand pulp stock levels are high, dragging down the paper prices “National Sword” policy reduces China OCC imports and causes OCC prices decrease globally
		Price of EU White top liner (+)	0.0%	-2.5%	-4.8%	-11.2%	
		Price of EU Semi chemical flute (+)	0.0%	-0.7%	-9.0%	-10.8%	
		Price of EU OCC (+)	-13.0%	-21.6%	-39.4%	-50.6%	
Demand	China	Value - import virgin fiber from US (+)	-13.3%	-13.0%	-4.7%	-34.4%	- Slowing down economy, trade conflict, and “National Sword” policy reduce China imports from US and EU - E-commerce is expected to increase demand in the future
		Value - import paper scrap from US (+)	-2.7%	-8.7%	-24.8%	-11.6%	
		Value - import virgin fiber from EU (+)	-9.3%	-21.6%	-10.9%	-19.0%	
		Value - import paper scrap from EU (+)	-2.7%	-11.6%	-1.4%	-6.4%	
Supply	US	Volume - production of pulp & paper (-)	+2.7%	+3.1%	+4.4%	-2.4%	- US production volume has been climbing up after hit the bottom - Overseas suppliers are keen to establish a position in Europe, offer competitive prices and boost EU imports
	EU	Volume of paper & pulp import (-)	NA	NA	NA	+3.3%	



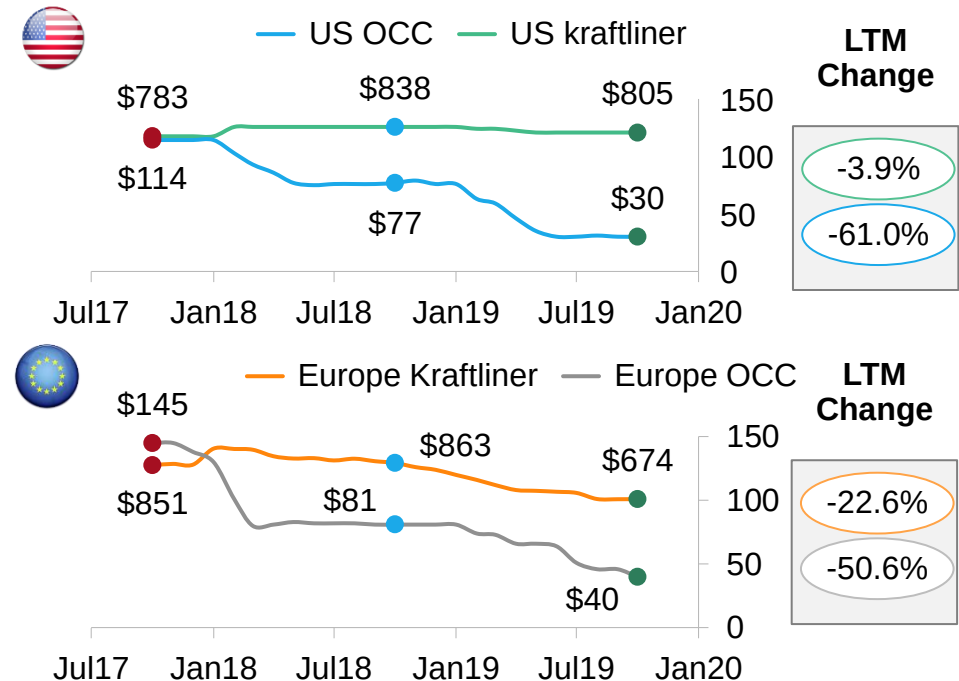
The price of Old Corrugated Containers (OCC) has decreased across the industry as a result of China's "National Sword" policy reducing OCC import

China imported OCC volume, MMT



- › Currently, Chinese containerboard producers are being allocated annual quotas/permits to import OCC with stringent quality requirements
- › OCC import permits are expected to be reduced to zero, effectively banning the import of OCC to China by 2021

OCC vs. kraftliner price in US and Europe, USD/MT



- › OCC prices have been decreasing significantly since early 2018, in both US and Europe
- › OCC price decrease contributed downward pressure on EU paper prices, but had little influence on US paper prices



Both NA and Europe will see further decline of containerboard prices, but with potentially increase of export demand, oversupply would be solved

Region	Grade	6 months	2020-2022	2022+	Key Takeaways
North America	Virgin				- U.S. containerboard capacity is expected to increase by 3%+ in 2020, and with virgin fiber export at cash cost level, export volume growth will offset the extra capacity and stable the domestic prices - Industry remains weak in the short-to-mid term, with historical low OCC prices, market sees an oversupply of recycled fiber, but will potentially be absorbed by China's import and demand for substituting virgin fiber - US OCC prices are currently at the bottom, but new demand from SE Asia and US new recycled containerboard capacity will push up the prices in the short-to-mid term
	Recovered				
	OCC				
Europe	Virgin				- Due to the low OCC prices, oversupply of recovered grade of paper will remain in 2020-21 - With both virgin and recovered fiber below the incentive prices for new capacity, supply/demand will look more favorable from beyond 2022, with potential project cancellations and China increase import volume - With new capacity of recovered fiber and new demand from SE Asia, OCC prices are expected to increase in mid-to-long term
	Recovered				
	OCC				

Note: Virgin includes unbleached kraft linerboard, white-top kraft linerboard, etc. Recovered includes test linerboard, recycled linerboard, recycled fluting, etc.
Source: RISI, Applied Value Analysis



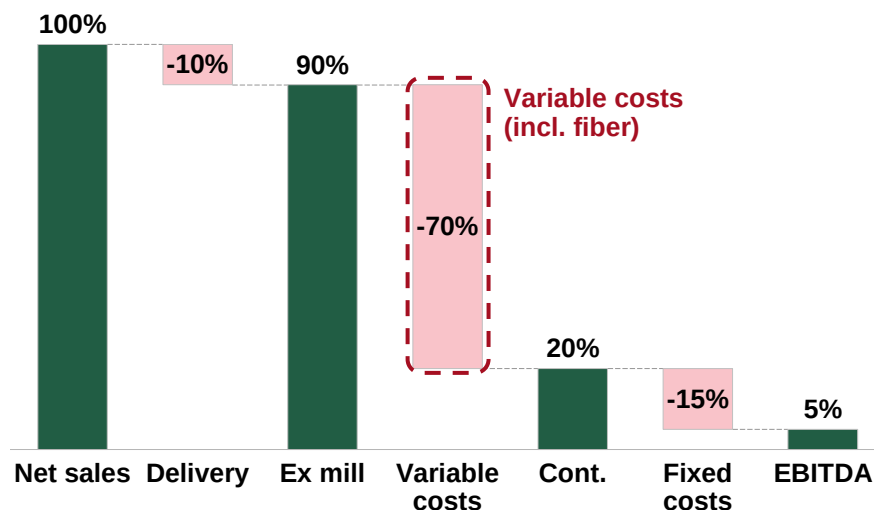
Corrugate suppliers have been making strategic investments aimed at vertical integration, increasing their leverage and profitability

Applied Value assisted a global Pulp and Paper Manufacturer to understand drivers for differences in financial performance between mills. The key driver for differences was found within variable costs, where deeper analysis showed vertical integration to be the factor with highest possible impact with respect to feasibility and associated investments.

Mill A – Non-integrated mill

- Mill A produces **packaging materials** from **market pulp**. Thus buying market pulp and shipping packaging products

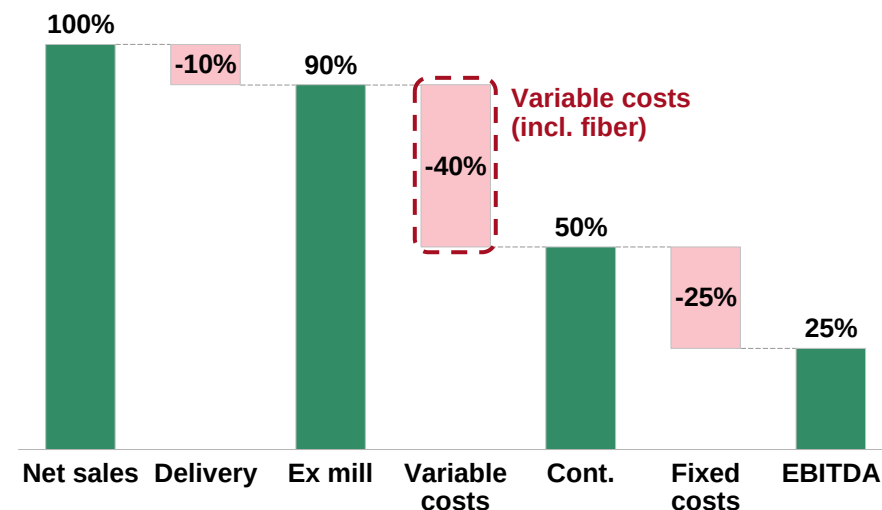
Financial Performance, % of net sales



Mill B – Integrated mill

- Mill B produces **pulp** from scratch and refine to **packaging materials**, comparable packaging materials as Mill A. Thus buying pulpwood & chemicals and shipping packaging products and excess market pulp

Financial Performance, % of net sales

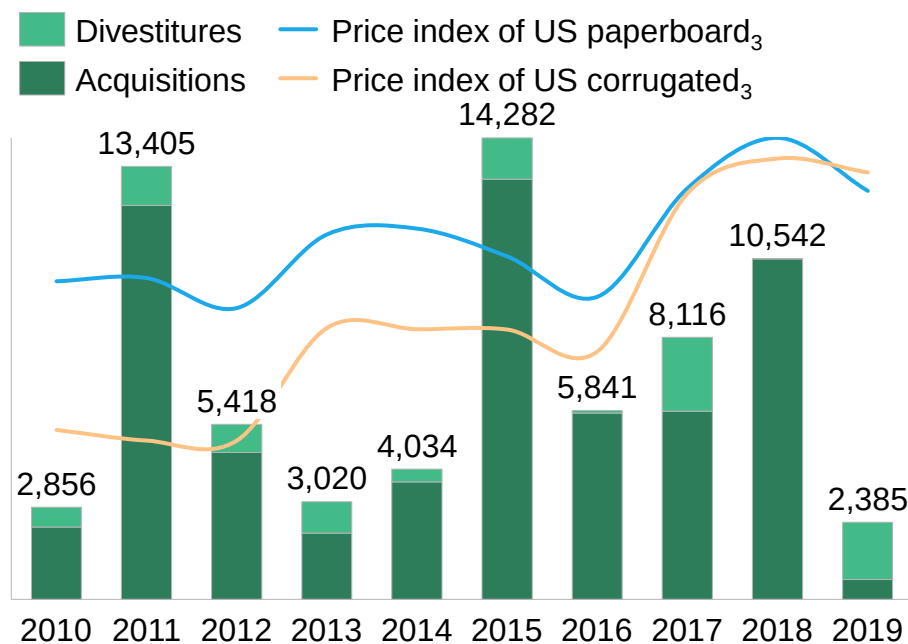


Integration of Mill A showed a potential of saving 30 pp. in variable costs, whilst increasing fixed costs by 10 pp. resulting in an **increased EBITDA margin of 20 pp. to 25%**



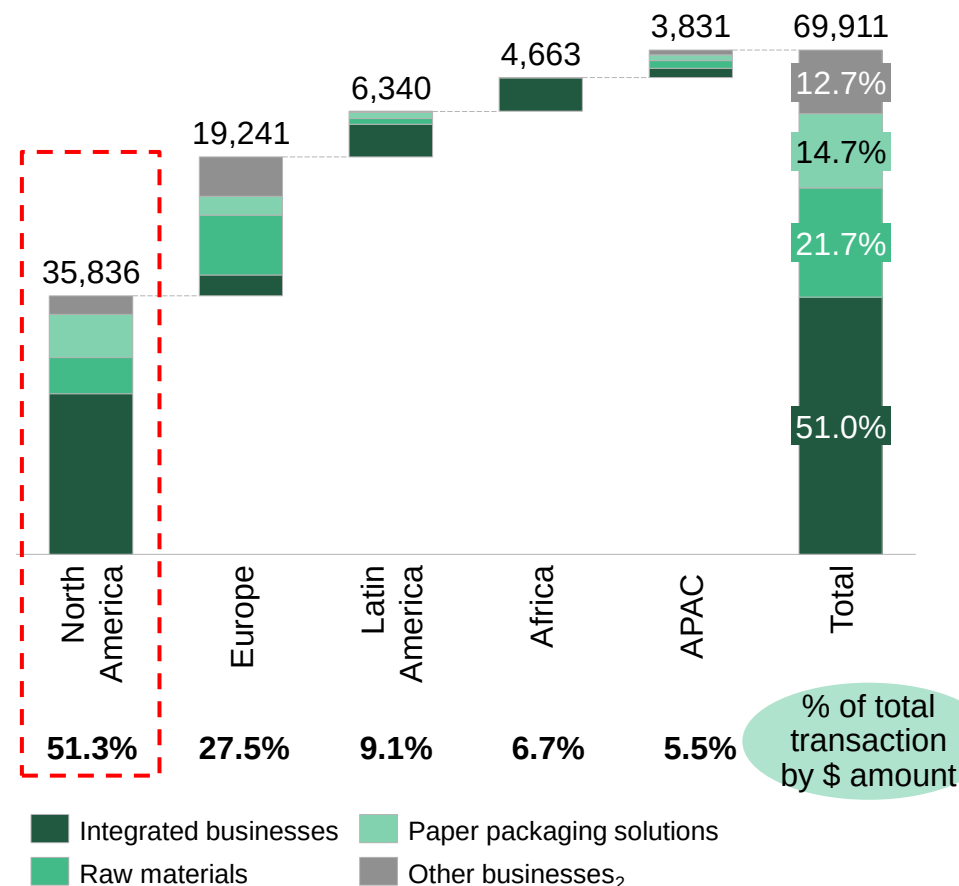
Over the past decade, the corrugate supply base has been characterized by vertical integration and consolidation, increasing supplier leverage

Global transaction amount in last 10 years, by transaction type₁, 2010-2019, MUSD



- More than half of the M&A activity over the last decade occurred in North America
- Over the same time horizon, NA has seen a rising trend in corrugated prices

Global transaction amount in last 10 years, by region and target business type₁, MUSD



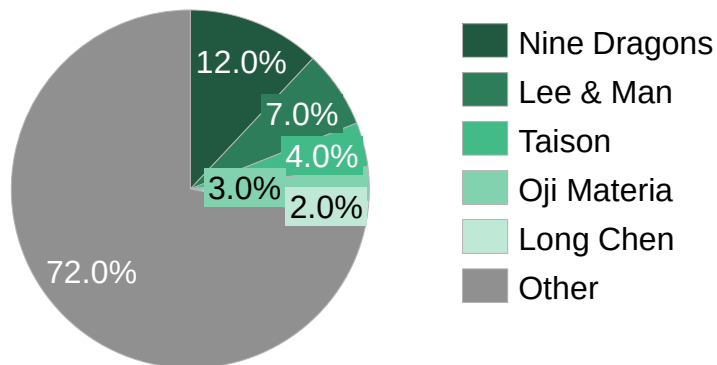
Note: 1. Above calculation is based on 201 M&A deals that has published deal size. There are 138 M&A deals do not have published deal size, so they are not considering in above analysis. 2. "Other business" includes, office building, healthcare products, hygiene products, energy, etc. 3. Index Dec. 1982 = 100.

Source: Capital IQ, US Bureau of Labor Statistics

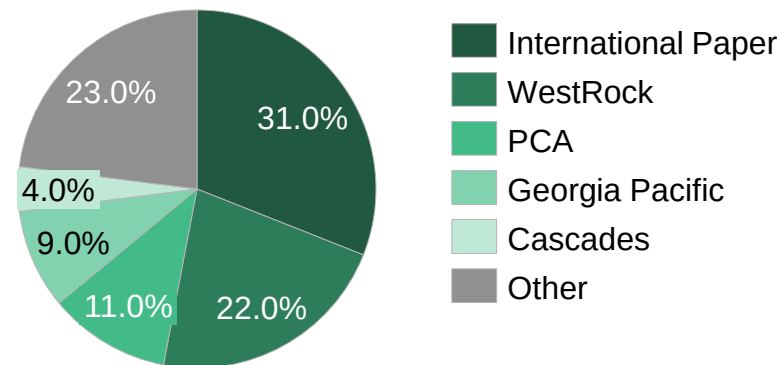


As supplier consolidation continues North America stands out as being the most consolidated market with top 5 suppliers managing 77% of capacity

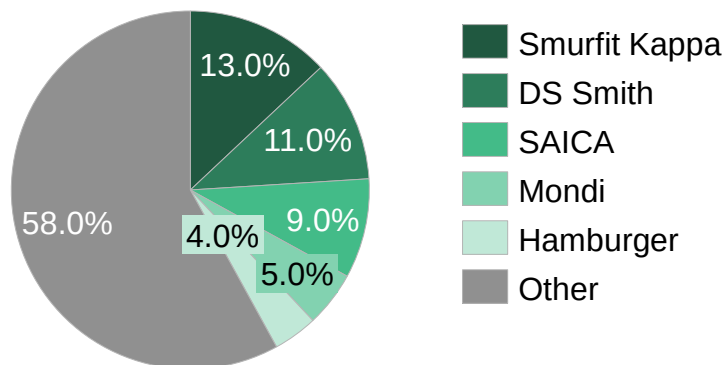
Asia capacity by producer, 2019
(51% of global capacity)



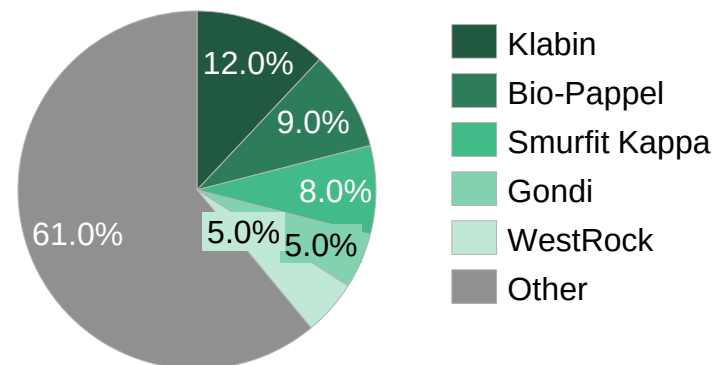
North America capacity by producer, 2019
(21% of global capacity)



European capacity by producer, 2019
(21% of global capacity)

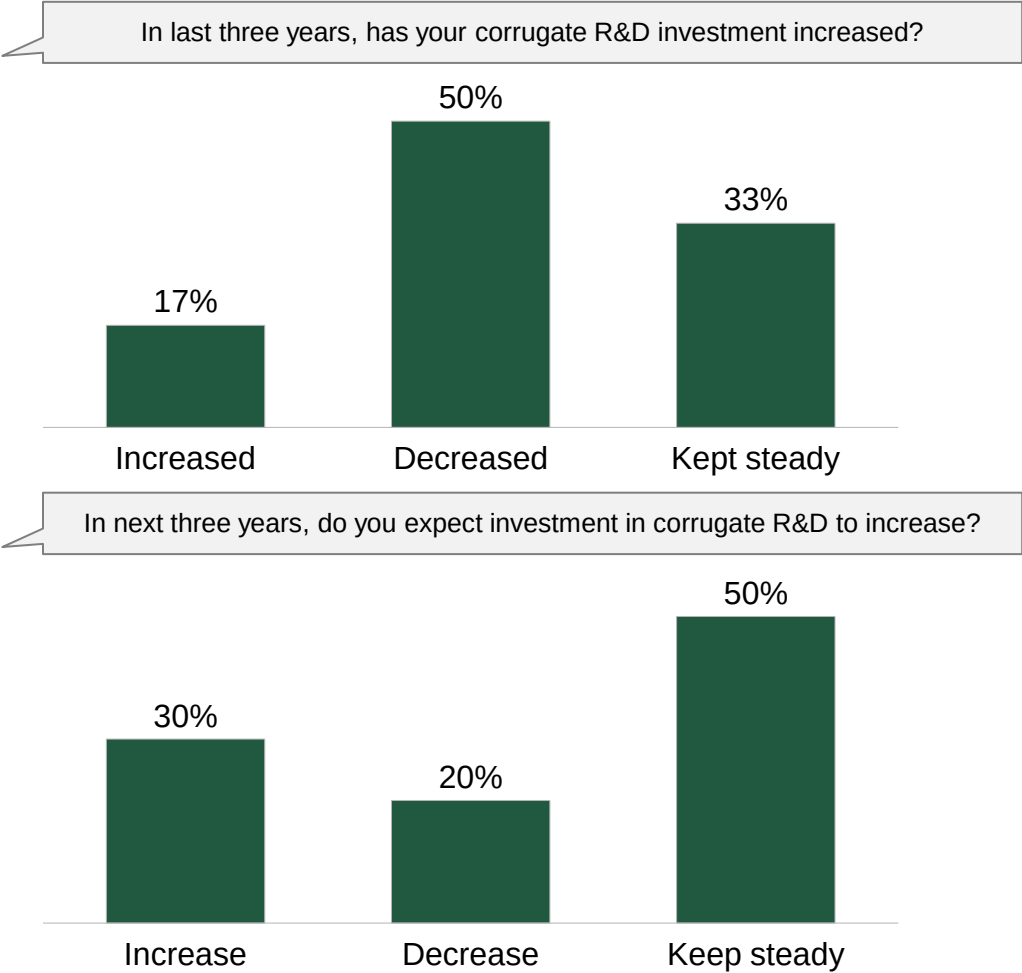


Latin America capacity by producer, 2019
(5% of global capacity)



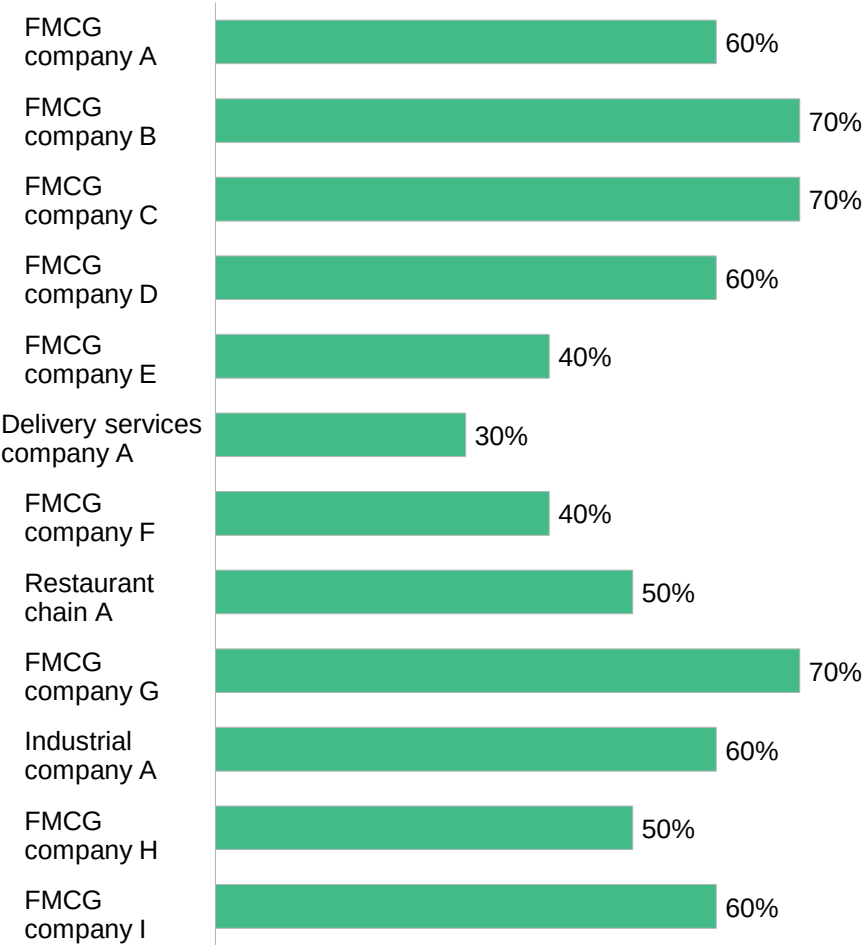
Consolidation has increased supplier leverage, allowing sellers to push down COGS as a portion of sales, while buyers are looking to VE for savings

R&D Investment Outlook



Source: Applied Value analysis.

Percent of Savings Attributed to VE, by Company



With box size optimization being the most widely used VE initiative Paper degrade and BCT right-sizing stands out as being the most valuable

Level of usage ↑	Company	FMCG company A	FMCG company B	FMCG company C	FMCG company D	FMCG company E	Restaurant chain A	FMCG company F	FMCG company G	% usage	% Impl. rate ¹
	Box size optimization	✓	✓	✓	✓	✓	✓	✓	✓	91%	15%
	Size optimization	✓	✓	✓	✓	✓	✓	✓	✓	82%	18%
	Flute adjustment	✓	✓	✓	✓	✓		✓	✓	73%	9%
	Paper Degrade	✓	✓	✓	✓				✓	73%	13%
	Palletization efficiency	✓	✓	✓		✓	✓	✓	✓	73%	22%
	Right-sizing BCT	✓	✓	✓	✓	✓			✓	64%	11%
	White to brown paper	✓	✓		✓	✓		✓	✓	64%	19%
	Decreasing # of colors	✓	✓		✓	✓	✓		✓	64%	8%
	Gap flapping	✓	✓		✓	✓	✓		✓	64%	10%
	Artwork standardizing	✓	✓			✓	✓		✓	45%	39%
	Asymmetric papers	✓	✓	✓					✓	36%	5%
	Returnable cases	✓		✓	✓	✓				36%	13%

Additional initiatives

- › No other VE initiatives have been identified across peers in terms of optimizing the corrugated spend
- › The main notable initiative includes switching from corrugate altogether to folding carton

Buyer - NA

"We were able to save ~\$0.2 per sheet by moving from a corrugated box to folding carton for Beer in Canada"



How would you order the VE initiatives based on value created? (Top 5 selections)

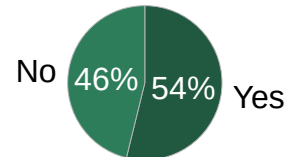
- 1 Paper degrade
- 2 Right-sizing BCT
- 3 Palletization efficiency
- 4 Size optimization
- 5 Box size optimization



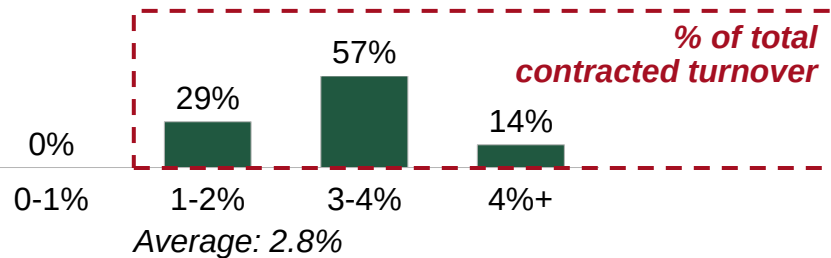
Explicit contract cost-out targets are common in EU and NA, with internal and contractual targets hovering around 3% of total spend

Contractual VE cost-out targets

Do you have contracts that contain explicit cost-out targets?



If so, in what range are your targets?



Highest reported cost-out target (as percentage of total contracted turnover)



5%

Cost-out targets mainly present in Western markets

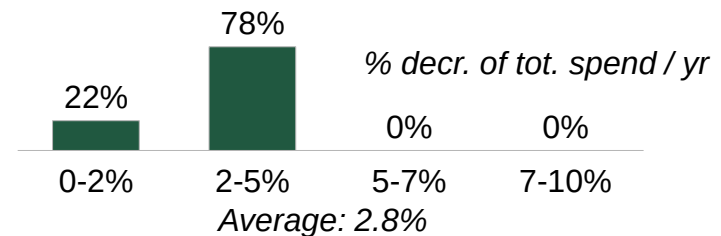


FMCG peers

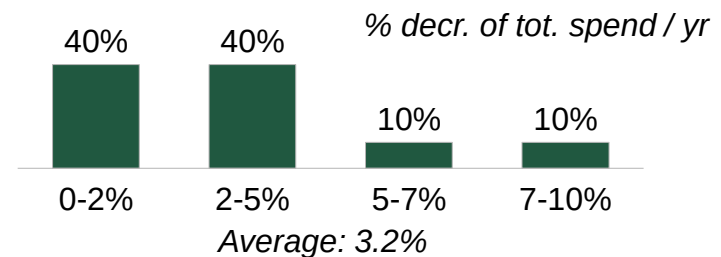


Internal VE targets and results

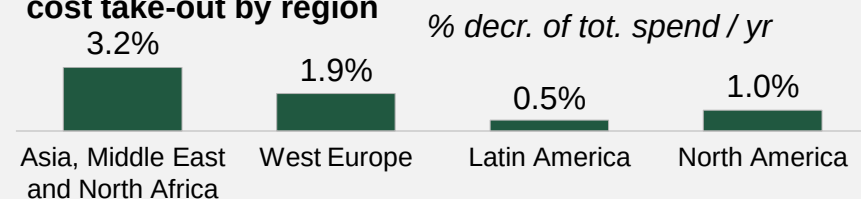
What is your target of VE initiatives?



What is your avg. historical perf. of VE initiatives?



A leading food and beverage company 2019 reported VE cost take-out by region



Applied Value Pulp & Paper Report

Executive Summary & Introduction

Financial Benchmarking

Market Trends

Special Section: Corrugate Market

Applied Value Presentation



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

1997

Background as an internal change agent in the **Kinnevik Group**...



K I N N E V I K

...today, a hands-on consultancy supporting clients **across industries**

2019

Industries of Expertise

- Telecom & Media
- Chemicals & Process
- Industrials & Engineering
- Consumer Goods
- Automotive



Applied Value Group



Investments



Management Consulting



Social Responsibility

Selected portfolio companies

 HUMAN CARE
Your Life. Your Way.

 COSMOSID®

 rivermeadow

 BAKE MY DAY

 ETEEL

 Division 5 Inc
STEEL FABRICATION



APPLIED VALUE

 HAND IN HAND

 Straight Ahead
MINISTRIES
OFFERING KIDS AWAY OUT

 Exodus



ROI driven



Fact-based



Practical over theoretical



Hands-On



Global perspectives

Applied Value challenges and supports repeat global clients across industries from three offices

Selected clients



Applied Value offices and footprint



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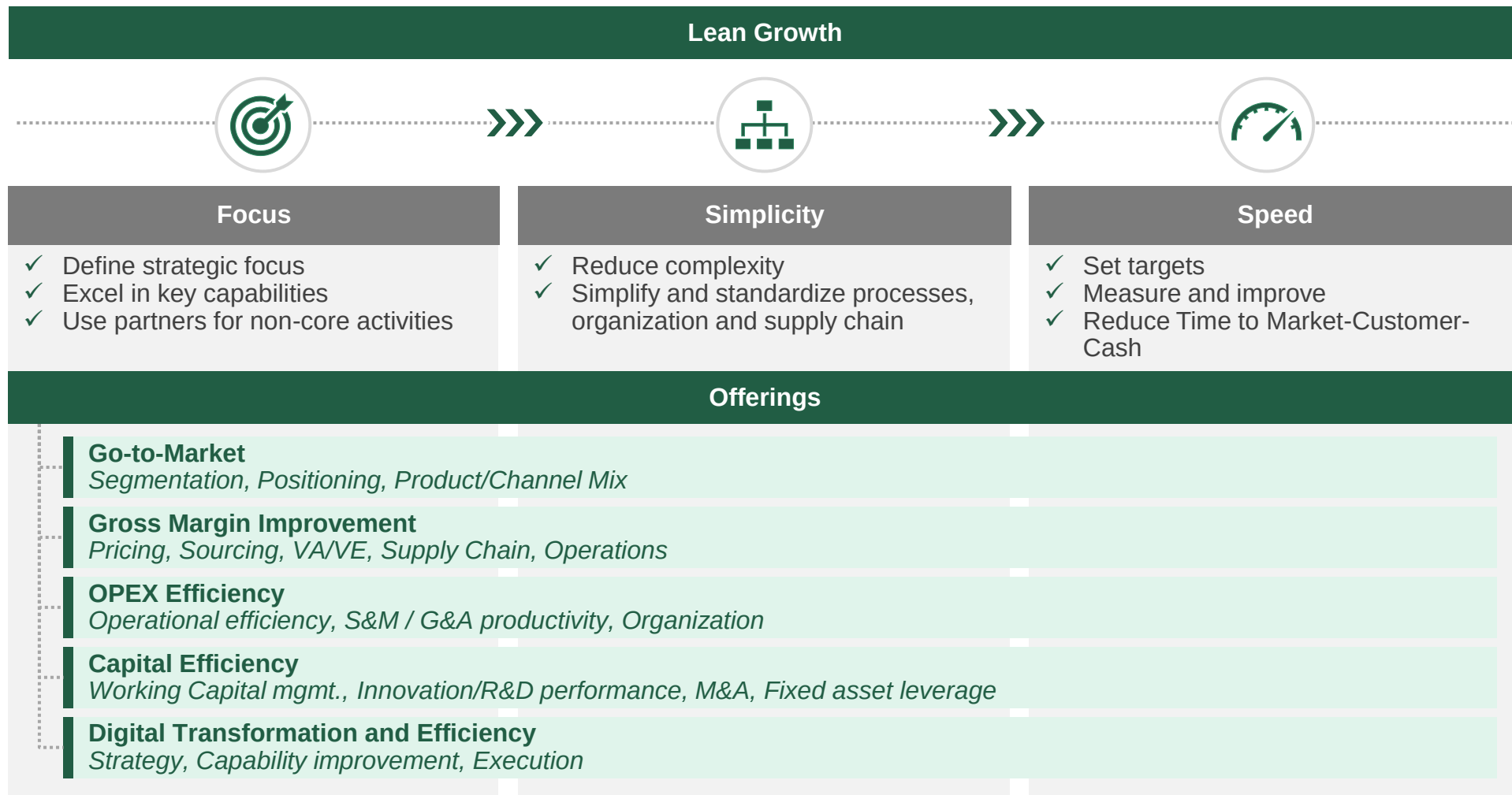
Shanghai

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



Pulp & Paper is one of our three main client industries

Industry	Examples of Applied Value Engagements		Client results
Pulp & Paper	› Turnkey engagement to improve margins and capital turnover over a five-year period › Engagements included: staff optimization, product mixture optimization, capital rationalization, sourcing, and other key areas		› EBIT improved from 4% to 20% over a 4-year period › Capital Turnover Ratio was improved from 0.55 to 0.9
Telecom	› More than 200 engagements carried out in close collaboration with clients for over 10+ years › Acted as key advisor in major turnaround › Prime focus on organizational and sourcing efficiency in an industry with continuous cost pressure		› Operating expenses cut by more than 60% during turnaround › Clients have consistently outperformed industry
Automotive	› Consecutive work for 10+ years within Sourcing across multiple commodities, including more than 200 fact-based negotiations supported for 50+ commodities › Hands on strategy and implementation support of steel purchasing for 8+ years		› Continuous return of 8-12 times fee to client › Clients have consistently managed to buy steel below market prices



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 50+ engagements 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 **creating immediate impact** and **driving change** for our clients



Applied Value has strong expertise in several areas relevant for driving improvements in the Pulp & Paper industry

Applied Value's Pulp & Paper Expertise

Applied Value Expertise	Improvement levers	Typical results
Commercial Excellence	› Product and customer focus › Pricing › Sales process and organization › People, culture, and incentives	› 20-30% reduction of SG&A costs › Improved customer and product profitability › Top line growth
Process Speed	› Complexity reduction › Change of policies › Elimination of low-value add activities › Streamline Ways-of-Working	› “Order-to-Cash” lead time reductions of 20-40%
Mill Efficiency	› Operational benchmarking › Maintenance efficiency › Operator and production overhead efficiency › OEE improvements	› 5-30% cost reduction, depending on category
Sourcing Excellence	› Commercial strategy › Value Analysis / Value Engineering › Consumption strategy	› 4-12% reduction of COGS in long-term Sourcing Programs › 15-25% reduction of spend in selected categories (mainly indirect material)





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APPLIED VALUE GROUP