

20th September, 2018

Indian Paper Industry

The Paper Industry is classified into four segments:

1. Printing and Writing (30%)
2. Packaging and Paper Board (51%)
 - Duplex Boards (used in small packaging: FMCG)
 - Kraft Paper (used in packaging for transportation)
3. Speciality Papers
 - Tissue Paper (1%)
4. Newsprint (15%)

Characteristics of the Indian Paper Industry

1. Capital, Energy and Water Intensive
The paper factories in South India are facing issues in sourcing water, so one should be careful while choosing a company as the requirement of water is huge.
2. Fragmented
Small units account for ~60% of the Industry Size.

Paper can be produced by any of the following Raw Materials:

1. Wood Pulp (30-35% paper is made from wood pulp)
2. Waste Paper (45-50% paper is made from Waste Paper)
3. Agri Residue (20-22% paper is made from Agri Residue)

Indian Paper Industry

Over years, Indian Paper Industry hasn't been able to compete with the international players on account of higher cost of production due to deficit in wood pulp availability, not enough availability of waste paper etc.

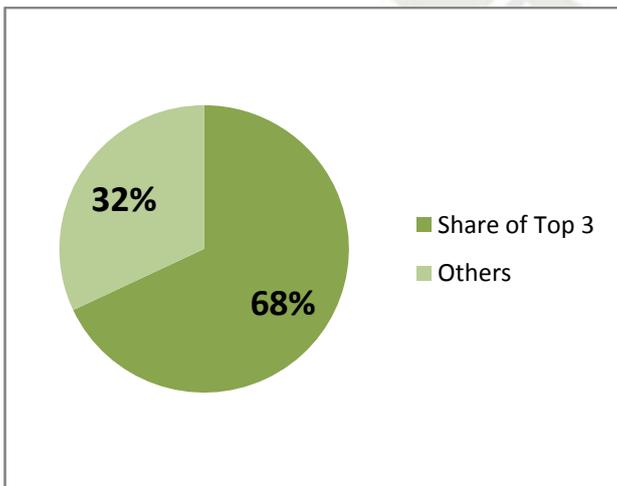
According to IPMA, cost of domestic wood in India was higher by almost \$30-40 tonnes as compared to other Asian Countries. Due to this single factor, cost of paper production in India used to be higher by \$100 a tonne.

We believe that there is a change happening in the global Pulp and Paper Industry which may favour the Indian Paper Industry.

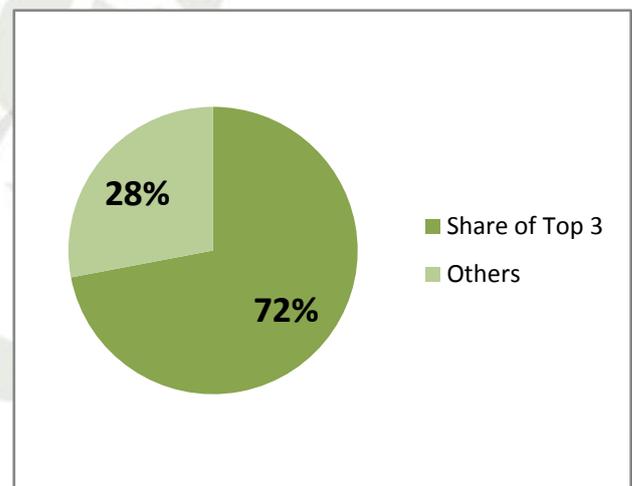
How is it different from the global industry?

Indian paper industry is highly fragmented: the top 3 players account for only 9% market share unlike 68% in USA, 72% in Indonesia and 21% in China. The Indian Paper Industry should also consolidate gradually.

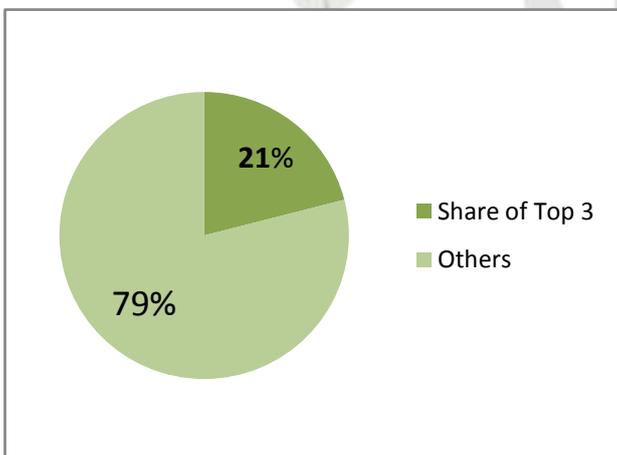
USA (70 million tonnes)



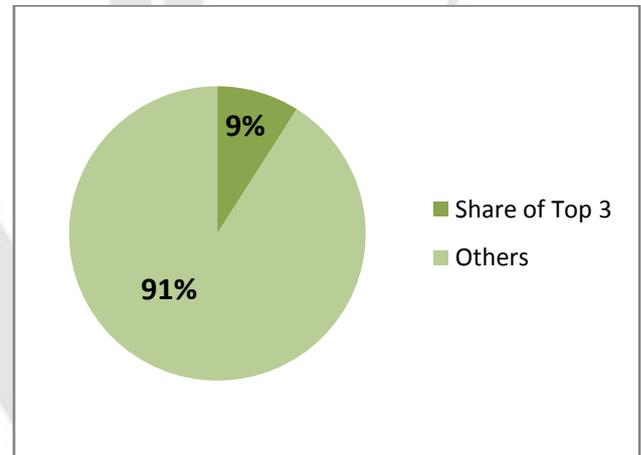
Indonesia (7 million tonnes)



China (109million tonnes)



India (17million tonnes)



Why Indian Paper Industry could flourish?

By FY2010, paper industry was facing supply deficit. Hence, the companies started expanding capacities. the industry saw significant capacity additions of 1.6 million MT during FY09 - FY11 (~15% of domestic paper capacity in FY09) particularly in the Printing and Writing Paper segment. This led to over-supply scenario, build-up of inventories together with pricing pressures.

Moreover, there was also an issue in sourcing wood pulp. There wasn't enough availability of wood pulp domestically for the new capacities added. As a result, companies had to

import higher expensive wood pulp. The companies were unable to pass on the higher prices to consumers and at the same time also faced stiff competition from cheap imports. Profits were severely impacted, especially for leveraged companies.

During the years as highlighted in the later part of the report, the industry along with government measures has taken steps to be self sufficient in sourcing wood pulp locally.

The current situation augurs well for the Indian Paper Industry. We can expect a sustainable upturn happening in this industry. Reasons:

1. No new capacity came online in the last 5 years.
2. Closure of few mills due to stressed Balance Sheet
3. Limited new capex plans for the next 3-4 years.
4. Having advantage to source wood at competitive rates as compared to global counterparts.

Many paper companies have stressed Balance Sheet. This gives opportunities to big companies with healthy financial position to do inorganic expansion. Recently, JK Paper acquired Sirpur plant that wasn't able to operate efficiently and had stressed Balance Sheet. With raw material security and machinery in good condition, this gives a good opportunity to JK Paper to gain through this Brownfield Expansion. It usually takes 18-24 months for a brownfield expansion and 24-30 months for a greenfield expansion after receiving clearance.

- i. Advantage in domestic wood price as compared to wood pulp price globally may act as a competitive advantage to the Industry
- ii. Changes in the trend in Global Paper Industry
- iii. There has not been any new major capacity addition over the past three years in India. Reduction in capacity in past due to weak Balance Sheet (Ballarpur Industries).
- iv. Import may decrease
 - Depreciating rupee
 - Higher Paper Prices globally
 - Threat of imposition of anti-dumping duty
- v. Expectation of increase in demand
- vi. Rise in Newsprint prices
- vii. Imposition of Anti-dumping duty

i. Changes in the trend in Global Paper Industry

China is the largest producer of paper and paper boards in the world. In 2017, the production volume of paper and paperboards reached 125.42 million tons with an increase of 3.1% YOY. The CAGR was up to 4.9% from 2007 to 2017.

The waste paper demand in China is increasing but the quality imported is not environment compliant.

It is also the world's largest importer of waste paper, with the import volume more than 60% in the global trade.

The imported waste paper contains lot of impurities like plastic which causes pollution in the environment. As a result, China banned the import of mixed grade waste paper. Lot of small-scale producers(~3 million tonnes) have been shut down due to non-environment compliance.

From Mar. 1, 2018, Regulations on the Environmental Protection of Imported Waste Paper was implemented, which stipulated that the production capacity of enterprises applying for import permits must reach 50,000 tons/year, and that the impurity rate of waste paper was adjusted from 1.5% to 0.5%.

In 2017, a total of 28.10 million tons of waste paper import quota were approved. In 2017, the import volume of waste paper in China reached 25.72 million tons, decreasing by 9.8% YOY.

The average price of imported waste paper in 2017 reached USD 824.9/ton, increasing by 36.1% YOY.

The three companies of Nine Dragons Paper Co., Ltd., Lee & Man Paper Manufacturing Limited and Shanying Paper account for more than 50% of the total quota. Some small enterprises are unable to obtain quotas.

Impact of this Regulation

- This has created oversupply of waste paper in rest of the world. Hence, the price has decreased.
- Since the percentage of impurities from the imported waste paper is reduced, now better quality waster paper would be impacted.
- With better quality pulp, more paper and good quality paper can be produced at competitive prices.

- Since, the large enterprises can obtain quotas and shut down of small plants can increase concentration of large players in the country.
- 30% of the waste paper requirement is imported in China. The total import in 2018 is expected to be 10-20% lower than that in 2017. This will lead to price increase in domestic waste paper driving up the prices and paper and paperboards.

ii. **Global Rise in Wood Pulp Price and expected to remain firm may benefit the Indian Industry:**

As mentioned above, the import ban on waste paper by China has led to increased demand of wood pulp. Hence, the prices of wood pulp in the last few months increased. Now, major pulp exporters such as Indonesia, Malaysia, Chile have now diverted all pulp to China at a much higher price. This has led to increase in prices of end product.

When the wood pulp price have increased globally and is expected to continue for some time, the domestic prices of wood pulp have weakened because of adequate availability of wood supply due to farm forestry and government of India taking adequate measures to enable companies to increase wood supply.

It usually takes 3-4 years for eucalyptus plants to grow. In 2013 & 2014 when wood prices shot up due to shortage, many farmers were encouraged to cultivate wood plantations. These plantations have now hit the market, leading to increased supply and softening of domestic pulp prices.

In November 2017, the government's reclassification of bamboo from forest produce to non-forest produce (grown outside reserved forest area) would increase wood supply. Hence, this will prevent domestic wood prices to rise as compared to the global prices.

The three leading paper companies producing through wood pulp are

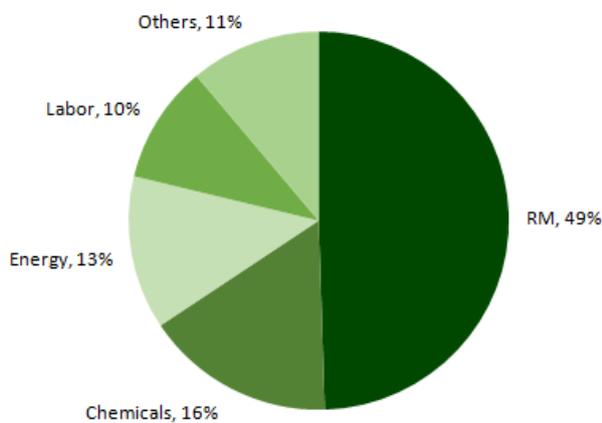
1. International Paper
2. JK Paper
3. WestCoast Paper

These companies are backward integrated. They own their own plantations. The reliance on imported wood pulp has increased.

The global wood pulp prices are expected to remain firm or increase for quite sometime because:

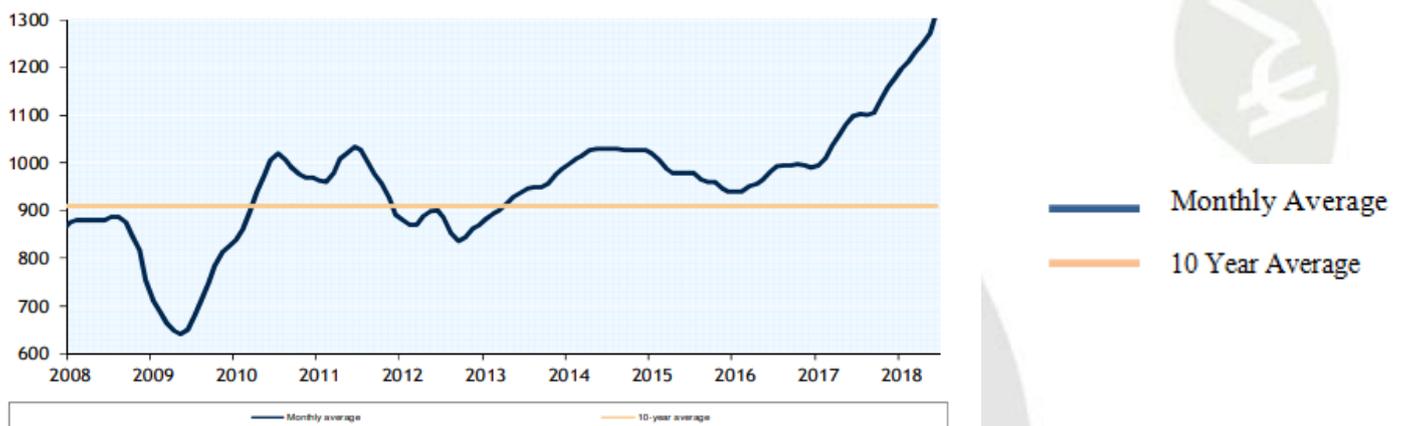
1. There has been increase in demand from China
2. No new capacity in pulp is expected to come soon. Hence, prices are expected to remain firm because there is more demand than supply.
3. The two largest wood pulp companies by market share: Suzano and Fibria have merged in April 2018. This combined entity will further have more bargaining power as they now have combined market share of 28%.

India Paper Industry - Operating Cost Break-up

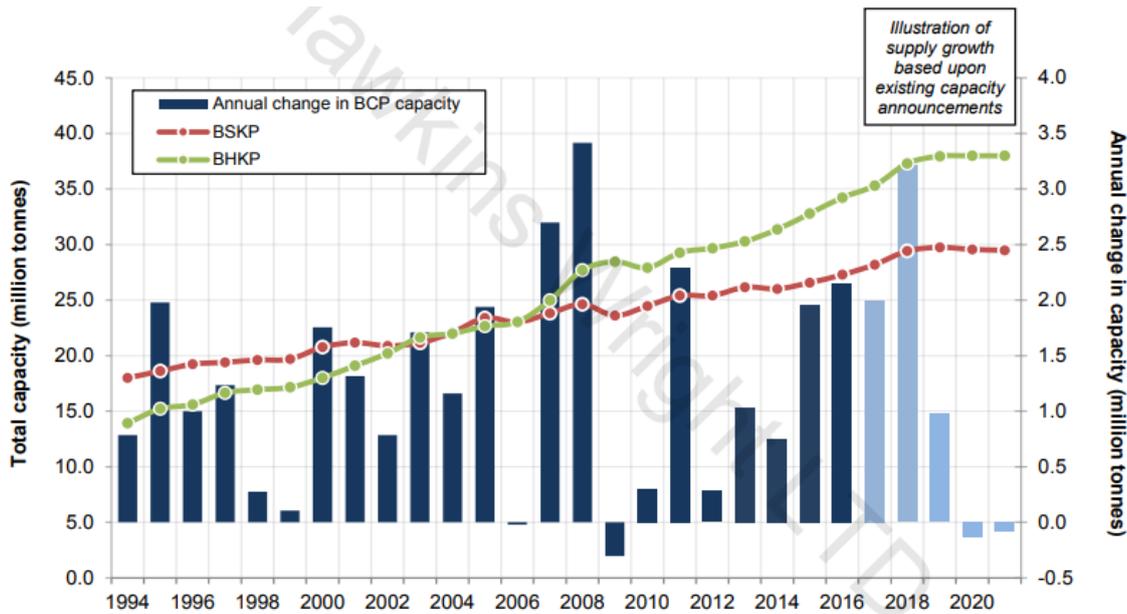


Pulp

US\$ per tonne



Source: Bloomberg, RBC Economics Research



Source: Hawkins Wright

From 2017, there has been an increase in price of Wood Pulp. There were two events happened in this industry:

1. In Jan 2017, Wildfires sweeping across Chile have destroyed more than 40,000 hectares (98,842 acres) of forestry land and most it growing pine and eucalyptus for the wood, pulp and paper industry. Chile is one of the leading exporter of wood pulp of the world and second largest export industry (Wood Pulp) of Chile.
2. Around Sept, 2017, Chinese proposed to ban import of low grade waste paper from Jan 2018.

iii. Decrease in Import

India is huge importer of paper. Due to high demand in the country and change in industry dynamics favouring the Indian Paper Industry may lead to decrease in imports. Other Reasons are as follows:

- Higher price of paper in the international market due to change in demand-supply dynamics has led Indian Players to compete with imports.
- Rise in Shipping Cost
- Weaken Rupee further makes import expensive
- Production cut in China and simultaneous increase in demand has induced China to import from other countries. Indian companies are now exporting more as compared to the past few years as per discussion with few dealers.

iv. With the rise in demand for packaging :

▪ **Growth in E-Commerce**

This segment can lead to huge demand for paper boards. With fall in price of waste paper and rise in finished paper can lead to increase in turnover and profitability for companies making Duplex Board.

For example: Smruti Kappa and Mondi are the leading Packaging companies who got benefitted due to e-commerce growth, improving European Industrial production.

▪ **Plastic Ban**

- Companies like Mc. Donalds have limited the use of plastic and encouraging more use of paper (shift to paper straws)
- Hotel Chains are now focussing to eliminate plastic and shifting to glass bottle and paper based products.

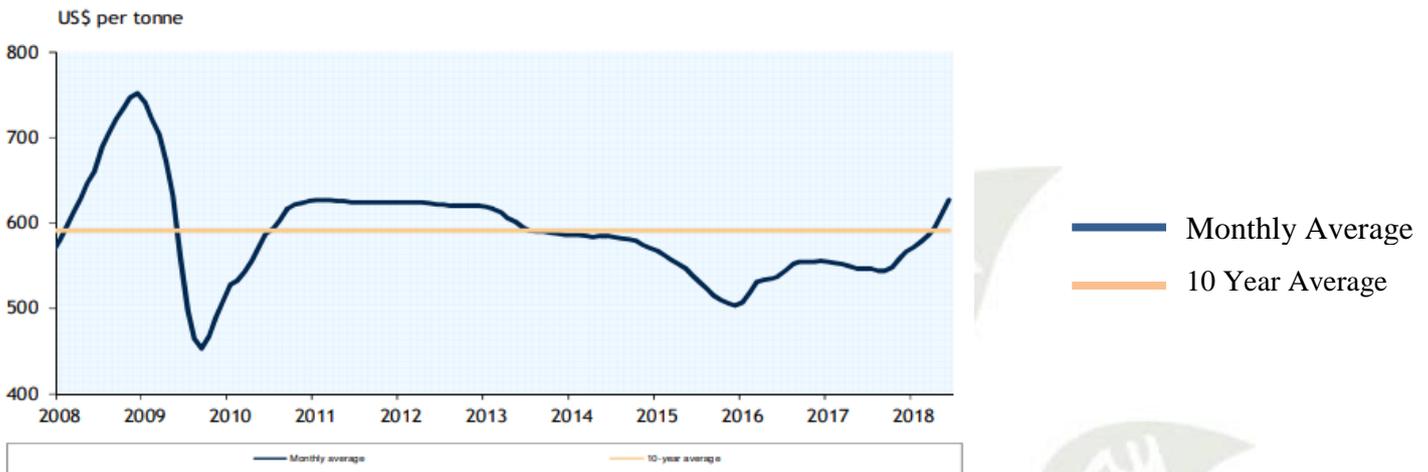
- India is a growing country. The growth in paper Industry is linked to the growth of the economy. More Industrial Production translates into more demand for packaging boxes.

v. Newsprint (includes Magazine Papers)

The consumption in this sector is dependent on the print media industry where majorly the paper is imported (~50%).

This segment is witnessing huge price hike on the back of China's production cut and ban on import of waste paper. The price was around Rs. 35,000-36,000 tonnes(\$550/tonne) in August 17, now it has increased to Rs. 55,000-56,000/tonne(\$800-900/tonne). China has now become a net importer of newsprint paper. This has created short supply in the world giving an opportunity to Indian players to grow. India is also an import dependent country. Domestic price moves in tandem to international prices. This has caused surge in price.

Newsprint



Source: Bloomberg, RBC Economics Research

vi. Imposition of Anti-dumping duty

The Government of India started investigating the issue regarding imposing of anti-dumping duties on:

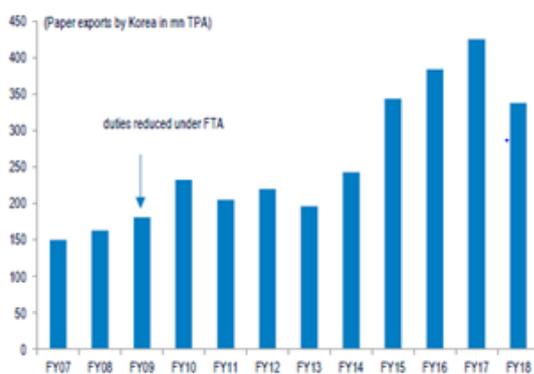
- uncoated paper originating from Indonesia, Thailand and Singapore in Nov 2017 and
- coated paper originating from China, EU and USA in Jan 2018.

The profitability margin in copier paper has been hit due to the dumping of products by South-east Asian countries under the Free Trade Agreement (since Jan 2014).

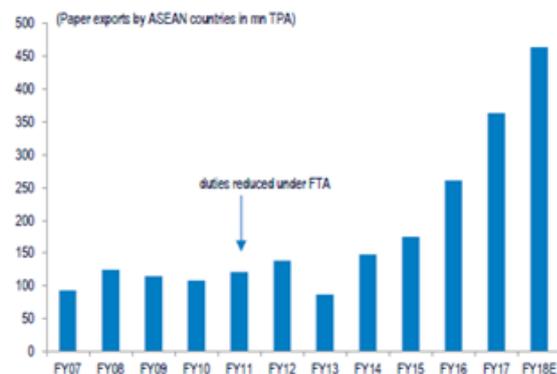
During investigation, if the challenges faced are proved true, then the government will impose an anti-dumping duty in the midst of tight supply situation in the domestic market. The industry players are positive on getting anti-dumping duty imposed on paper imports.

Anti-dumping duty investigations could provide relief to the Industry:

S. Korea paper imports grew at 10Yr CAGR 8%



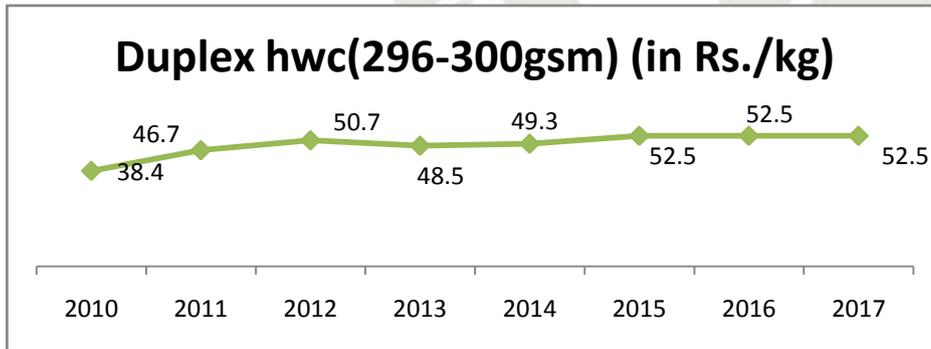
ASEAN paper imports grew at 10YR CAGR 15%



Source: Investec Securities

Old Corrugated Boxes Prices

The global price fall in waste paper is evident as the old corrugated containers (OCC), the most common form of waste paper, fell from €150 per tonne in July 2017 to €135 per tonne in December 2017. Also, the prices of Kraft liner, the recycled paper manufactured by processing the waste paper, have risen from €642 per tonne in July 2017 to €694 per tonne in December 2017.



Source: CARE Rating Report

Indian Paper Companies

Companies	Raw Material Used	Newsprint	Writing & Printng	Duplex Board	Kraft Paper	Total (Classification not given)
JK papers	Wood Pulp(Integrated)Imports soft wood pulp for packaging board division and 100% domestic sourcing for W&P segment.					100%
West Coast papers	Wood Pulp(Integrated) Domestic Sourcing is 51% and Imported is 49% Planning to reduce					95.05%
Tamil newsprints	Baggase(60%), Wood(30%) and Waste Paper(10%)		95.07%			
Emami papers	100% Imported Pulp and Recycling	29.54%	9.60%			60.86%
NR Agarwal	Recycled Ppaer	10.10%	34.50%	55.40%		
Astron Papers	Recycled Paper				100%	
Shree Rama Papers	Waste Paper	100%				
Pudumjee Papers	Wood Pulp					100%
Yash Papers	Baggase (64%) and Wood Pulp (20%)				90%	
Kuantum Papers	Wheat Straw, Baggase and Wood		100%			
Orient Paper	Wood Pulp					81%
Star Paper Mills	Wood Pulp					
Ruchira Papers	Baggase and Wheat Straw		60.70%		39.20%	
Seshasayee Paper and Boards	Wood Pulp					100%
International Paper	Wood Pulp(Integrated) Reliance on Import is minimal					100%
Shree Ajit Paper and Pulp	Recycled Paper				100%	

Notes	
West Coast Paper	West Coast Papers derives 4.95% Revenue from Optic Fibre Cable West Coast deals in Printing Papers, Business Stationery and Duplex Boards
Emami Papers	Coated Folding Box Solid Bleached Board cup stock board grey back Board
Tamil Nadu News Print	derives 4.93% Revenue from Energy and Cement (faces water shortage issue)
Pudumjee	Tissues Décor grades FoodGrade: oven baking papers Pharma Speciality grades
Orient Paper	Writing, Printing and Speciality Papers Tissues 20% sales is derived from Chemicals
Ruchira papers	Kraft Paper & Writing and Printing Paper
Star Paper Mills	Writing & Printing Industrial (including Kraft Papers) Other Grades (includes TextBook Paper)
International paper	Writing & Printing , Speciality Papers
Yash Papers	Also derives ~8% revenue from pulp

The following table highlights the total installed capacity, capacity utilisation and expansion plan:

SR. No.		Total Installed Capacity	Capacity Utilization	Expansion Plan
1	JK Papers	455000	103%	200000 TPA: Packaging Board , 160000TPA Pulp Capacity
2	WestCoast Paper	320000	98%	
3	TNPL	600000	100%	165000 TPA, Wood Pulp, By 2018-19
	Writing & Printing Paper	400000	100%	
	Packaging Board (started in 2016)	200000	45.60%	
4	Emami Paper Mill	330000	100%	200000 TPA by 2020
	Newsprint Paper	150000	100%	
	Packaging Board	180000	100%	
5	NR Agarwal Industries	350000		Refer to Note 1
	Duplex Board		97%(2018)	
	Writing, Printing and Newsprint		91%(2018)	
6	Astron Paper	96000	80%	plans to increase to 129000
7	Shree Rama Newsprint	132664	89%	
8	International Paper	241000	95%(2018)	
9	Yash Papers	70000	93%(2018)	Expands paper unit from 70000 to 100000 and Tableware Capacity from 11.5 to 23 tonnes
10	Shree Ajit Paper and Pulp	90000	86%	
11	Orient Paper	50000(Tissues)	86%	

Source: Company

Note:

1. NR Agarwal Industries Ltd.

Expansion Plans

The company plans to enter the Kraft Paper Segment. The company announced in March 2018, that it has undertaken a techno economic viability study with the professional assistance of Ernst and Young for setting up a new 500 TPD Kraft Paper Unit . The company mentioned that the decision would be taken in the next 6 months. The entry into Kraft Paper Segment, the company would have a presence in both segments of Packaging Segment. After the expansion, total capacity would enhance to 5,00,000 TPA.

Classification of Paper Industry

The paper industry can be categorised according to the source of raw material:

1. Wood Pulp
2. Agro Residue and
3. Waste Paper

Which companies will benefit ?

According to the current pricing scenario discussed above, companies who produce through Waste Paper will be benefitted and also companies who manufacture through wood pulp provided it is sourced domestically and not imported.

Out of the aforementioned segments of paper; Packaging Board Division is expected to witness highest growth on the back of higher demand from FMCG and Ecommerce. Writing & Printing Segment is expected to witness moderate growth.

- Packaging Paper Segment
 - Kraft Paper segments is expected to witness highest growth followed by Duplex Board segment.
 - It is a low margin business (Kraft) as compared to Duplex Board segment.
 - Low Barriers to Entry in Kraft Segment as compared to Duplex Board.

Online Pushes Paper Growth in Packaging Division

1. Amazon and Flipkart and others consume around 1800-2000 tonnes of paper per month.
2. Demand for paper boxes and printing bills will accelerate in tandem with e-commerce growth
3. Demand for both brown and white paper rises. Latter used for printing bills.

The size of the Indian Paper Industry has grown from 13 million tpa in 2011-12 to 17 million tpa in 2017-18; it is expected to reach to 23 million tpa in 2021-22 by growing at 7% CAGR. The growth will mainly be led by consumer packaging board segment as happened in the global market.

For Indian paperboard manufacturers, opportunity is not only in domestic demand growth but also countries like Bangladesh, Sri Lanka are emerging as paperboard export markets for India.

In last 5 – 6 years, domestic demand for consumer packaging board has increased at 8-9% CAGR to touch 3.7 million ton in 2018; and it is expected to grow to 4.7 million ton by 2021-22 harnessing the same growth rate driven by steady economic growth, increased industrial growth and consumers' preference to branded products.

Insights from the visit to local (Surat) manufacturer:

This company makes Duplex Board through scrap paper and is a dealer for companies like WestCoast paper, NR Agarwal Industries etc.

- Newsprint Paper (made through recycled paper) prices have increased significantly. Import has reduced.
- If we consider Duplex Board, it is made up of 4 layers. The first and the last layer is of good quality and prices of first layer has increased from Rs.24-38.
- One layer in between is of mixed paper i.e. basically the scrap paper. The prices of this paper have decreased.
- Coal and Chemical prices have also increased.
- For instance, paper is sold for Rs. 30; Rs. 16 constitutes Pulp cost, Rs. 9 constitutes of Coal, Chemical and other costs. Rest is Profit.
- Decrease in price of raw material is offset by increase in other.
- Shipping Cost have also increased (~10%) making imports expensive.
- Imports have also reduced.
- The machinery for writing and printing paper can also be used to manufacture Newsprint.

Discussion with various dealers in India:

1. Duplex Board: The prices in last 3-4 months have increased by 9-10%.
2. Another dealer in the South cited that in last few months, import has reduced and paper mills have started exporting.
3. Newspaper prices have increased by 28% in the last few months.
4. The prices for Maplitho paper has also increased by 9%.
5. Waste Paper prices (Raw Material):
 - The prices for imported mixed waste have reduced by ~\$50/ton.
 - Imported high grade (less impurities) waste paper prices have increased. China is importing high grade waste paper.
 - Imported low grade waste paper prices have decreased.

Insights from JK Paper AGM Visit

1. The plant visit enhanced our understanding about the paper manufacturing process. What is comforting is that the company has zero reliance on imported hardwood pulp. The company has to import softwood pulp for its packaging division because it isn't produced in India. So, all companies have to do that.
2. J.K also further increased its capacity by acquiring weak assets under NCLT(Sirpur Plant). So, basically when the industry fundamentals are favourable, the company has made an acquisition at attractive valuations and enhancing return on investment. The capacity of the plant is 138,300 TPA and acquired for Rs. 577 crores.
3. The company would also benefit in terms of raw material sourcing for the Sirpur Plant. Telengana Government would provide wood at subsidised rate to the company.
4. Water network has also improved in telengana due to improved infrastructure in the State.
5. Undertaking Modernisation at the pulp plant at Songadh which will reduce wastage and will further enhance operating efficiency.
6. This can prove to be a profitable deal for the company in near term when the market dynamics are strong.
7. The company is also adding up capacity in packaging division by 200,000 TPA which is expected to come on-stream in 2021. The company is also adding up pulp capacity of 1,60,000 TPA.

Key Risks

1. Volatility in Raw Material Prices
2. Import Threat
3. Highly Fragmented Industry
4. Environment Compliance Risk