Introduction

The pulp and paper industry is one of the largest industries in the world. It is dominated by North American, Northern European and East Asian companies. Latin America and Australasia also have significant pulp and paper industries. Over the next few years, it is expected that both India and China will become key players in the industry.

World production of paper and paperboard is around 390 million tonnes and is expected to reach 490 million tonnes by 2020. The pulp and paper industry is a large and growing portion of the world's economy.

The pulp and paper industry is faced with mounting environmental, political, and economic pressures to reduce the volume and toxicity of its industrial wastewater. During the last few years, the concept of system closure has been gaining popularity in the forest products industry for the following reasons:

- The concept offers more flexibility in the siting of new mills, including consideration of mill locations with limited fresh-water resources.
Offers increased opportunities to maintain or expand production in environmentally sensitive locations.

Offers more favourable market and environmental evaluation of products, including the provision of a more durable solution to future environmental standards.

Drastically reduces or even eliminates liquid discharges and the associated water quality problems.

Separates and recycles valuable resources.

Preserves energy that can be used to reduce the cost of production and amortize capital costs.

Saves on capital and operating costs for effluent treatment in addition to savings on chemicals and heat.

Reduces the use of fresh water.

These prospects have encouraged the emergence of new and innovative zero liquid discharge or closed-cycle systems which, when implemented in a mill, will enable the recovery of clean process water from the effluent and recycle it back into the mill. For many years, the pulp and paper industry has been in pursuit of a closed-cycle pulp mill. The driving forces behind this prolonged effort vary from company to company. It appears that one of the overriding goals has been to leave at least one environmental stage altogether and to perhaps get government regulatory compliance agencies and environmentalists off the industry's back once and for all.

In recent years, several economic driving forces have also emerged. Many companies are investigating effluent closure or at least minimum-impact possibilities because they offer several economic benefits. For the most part, mills working toward minimum impact or bleach plant filtrate closure have not attempted to take advantage of this approach in the marketplace. Several mills in Scandinavia have placed TEF (totally effluent-free) or MIM (minimum impact mill) products on the market, seeking premiums, but have not achieved any significant success. But effluent closure or minimum impact could become a fairly significant marketing tool for the pulp and paper industry in the twenty-first century.
Figure 1:1 Outlook of the paper industry (Risk)

A medium rating is based on:

- European paper and pulp buyer squeezed by input cost vs. USD end product prices.
- There has been an big impact of increasing price of the power sector.
- Currency rate fluctuation is also a big concern (USD vs. Euro).
- Paper recycling in the industry (as a whole) is in light of the global energy transition.

Furthermore, the outlook for the global paper and forest products industry remains stable and overall operating earnings are predicted to grow modestly over the next 12 to 18 months, though escalating costs will dampen the benefit of higher prices. Among subsectors, such as packaging, tissue, timber, wood products, and market pulp segments these all continue to carry stable outlooks, while the outlook for the paper segment remains negative.

Key players & Risk Rating

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<tr>
<th>Country</th>
<th>Role</th>
<th>Risk in sector</th>
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<tbody>
<tr>
<td>China</td>
<td>Consumer/Producer</td>
<td>Sensitive</td>
</tr>
<tr>
<td>United state</td>
<td>Producer</td>
<td>Medium</td>
</tr>
<tr>
<td>Japan</td>
<td>Producer</td>
<td>Medium</td>
</tr>
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China
In recent years, the Chinese market has begun to address the environmental hazards posed by the obsolete capacity. The imposition of environmental protection taxes directly replaced sewage charges and are incorporated into local government taxation systems. This means non-compliance companies will face more stringent supervision. However, the large-scale paper manufacturers with the advantages in terms of pollutant emission per tonne will be more profitable through tax reduction.

The USA
The USA has strong cost control ability that stabilises their profitability, but the product line diversification puts some traditional paper business under pressure due to profitability differentiation. However, considering the uncertainties in global macroeconomic development and the economic growth slowdown in developing countries, the expected market demand of paper industry is still weak, and there is a downward pressure on the whole industry. Non-compliant pollution activities in the United States under the regulatory regime will directly affect a company’s follow-up operations.

Japan
The paper industry in Japan will continue to be the main driving force for the steady growth of the global paper industry, in which packaging paper and household paper companies have a better development prospect. The increasing cost of raw materials has been a problem. Due to capacity reduction and continuous environment protection, paper prices have increased. The average operating income of sample companies presents an upward trend, (which has increased by about 27% in the first half of 2017 compared to the year earlier).

Global paper and board industry outlook
In North America, the paper market is benefiting from USD weakness on industry trade, and also from higher import duties for imports from Canada. Pulp prices have been rising for two years as a result, and has led to margin expansion across the sector. However, it shall be insured that contractions in paper output brought on by digitalization do not outstrip the rise in demand caused by ever more e-commerce packaging, provided plastics does not stand in for paper. Overall, the papers era has not come to an end.

Figure 2: Global paper and board industry

Global paper and board industry outlook, breakdown by region % in volumes

- Europe
- North America
- Asia
- Latin America
- Others

Production vs Consumption
## Strength and weakness of the industry

<table>
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<tr>
<th>Strength of the sector</th>
<th>Weakness of the sector</th>
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<tr>
<td>Growing needs for (cardboard) packaging, in line with manufacturing and skyrocketing e-commerce activities</td>
<td>High sensitivity to feedstock costs (i.e. pulp)</td>
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<tr>
<td>New market outlets stemming from rising middle class in emerging markets</td>
<td>Ability to face high investments costs to ensure future growth</td>
</tr>
<tr>
<td>Rising demand for hygiene products</td>
<td>Plastics in competition against cardboard in the packaging outlet depending on variations of ethylene price vs. pulp (NBSK) price</td>
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Uncertainties in the global economic recovery will continue to curb market demand in the paper industry. As a midstream industry, the upstream of the paper industry is closely linked with raw materials and energy supply-related industries such as forestry, wood, agriculture, water and coal. The downstream is linked with packaging and printing industries. The development of those industries is closely related to macroeconomic fluctuations.

In 2017, the global economic growth improved, and it is estimated that the economy in China will be relatively stable in 2018 and the economy in the United States and Europe will continue to rebound. However, considering the uncertainties in global macroeconomic development and the economic growth slowdown in developing countries, the expected market demand of paper industry is still weak, and there is a downward pressure on the industry as a whole.
Under the impact of a booming Internet and new media, the product structure of the paper industry will confront the pressure of profound adjustment. The widespread adoption of new media and paperless reading has led to a shrinking demand for printing & writing paper as well as newsprint. Whilst demand for printing, writing paper and newsprint is decreasing globally, the internet and e-commerce business model has driven the rapid expansion of the express delivery business, and the demand for packaging paper is expected to increase steadily. In the context of the internet economy age, with the rapid transformation of the traditional media industry into new media and the rapid growth of online consumption, the product structure of the paper industry will also face tremendous pressure for adjustment. The successful paper companies will adjust their product focus in light of the changing demands of the e-commerce world.

**Figure 4: World paper and paperboard production and consumption**
Figure 5: Demand quantity for three kind of paper

As the green economy and ecological protection ideas win support among people, various countries and regions in the world tried to improve the situation between supply and demand in the industry by strengthening environmental protection and eliminating obsolete capacity. Under the tightening of environmental protection policy, large-scale paper companies share the risk of increased environmental costs by virtue of their own scale advantages, and meet the policy needs through improving or optimizing their production processes with abundant financial strength. However, financing is much more difficult for those SMEs due to their weak comprehensive strength, and the lack of capital for technological innovation and upgrade will lead to higher environmental protection expenditure, which further raise the production costs. As the result, its meagre profit margins are compressed and the small and medium-sized production capacity will be forced to pull out.
In 2018, the profitability of leading paper companies in China is expected to increase continuously, but these companies may face the possibility of debt risk expansion. The overall credit risk of European and American paper companies will see little change. Under the supply-side reform, production capacity control and product mix adjustment will make the differentiation of corporate solvency even more pronounced. The scale advantage and production capacity of the leading enterprises have been highlighted: in the first half of 2017, the EBITDA growth of the Chinese leading enterprises was over 20%, and it is estimated that the profitability of Chinese leading enterprises will remain at a relatively high level in 2018.

For those leading enterprises with an annual production capacity of over 1 million tonnes, a high financial leverage at about 60% was maintained. In terms of the support degree of source of repayment to debt, in the first half of 2017, the growth rate of total debt was higher than that of the EBITDA, and the ratio of debt over EBITDA increased slightly over the previous year.
Debt and EBITD of American and European companies

Figure 7: Debt and EBITD of American and European companies

The relative stable profitability of the European and American companies will continue to guarantee their solvency. Strong cost control capability means most of the paper manufactures in Europe and the United States will maintain a stable profit. As debt grows faster than profitability, the ratio of debt over EBITDA in 2017 was showing upward trend, with the coverage degree of EBITDA on debt showing a small decline. In 2018, it is expected that the profitability of European and American paper manufacturers will have little fluctuation, and the coverage degree of profitability over debt will have little change. As of the third quarter of 2017, the debt-to-capital ratio of Kimberly-Clark has increased due to its debt expansion. Verso bore heavy long-term debt burdens due to lower downstream demand for printing & writing paper, and other sample companies showed a less volatile debt-to-capital ratio. It is estimated that the support degree of capital over debt for European and American paper manufacturers will change little in 2018. In addition, the volatility of quick assets to current liabilities for European and American paper manufacturers is small. As of the third quarter of 2017, the average quick ratio of sample companies has declined slightly by about 0.9% over the previous year. The liquidity risk of these enterprises is expected to be controllable in 2018.

Overall, in 2018, the credit risk of European and American paper industry will not change much, strong cost control ability will continue to stabilize its profitability and provide a fundamental guarantee for debt repayment. The major risks will be concentrated on a few companies which have printing & writing paper as their main product and bear too much debt burden.
Conclusion

This report concludes as the paper industry worldwide will be more resourceful and energy efficient, producing a more diversified product range. The paper industry will also increase its focus on serving niche markets. High added-value and environmental sustainability will be the key mantras for the industry.

The role of strategic partnerships as well as the environmental awareness of consumers will also increase. The importance of Asian companies and markets will continue to increase, and regulation will level off between Europe and Asia. The cardboard, paper and packaging products will have good demand worldwide. However, uncertainties in the global economic recovery will continue to curb market demand in the industry. Additionally, the credit risk of European and American companies has changed slightly but the debt risk of the Chinese company seems to be stable for some time. Furthermore, it can be expected that the profitability of European and American paper manufacturers will remain stable, and the average degree of profitability over debt will see little change. Increasing users of new and e-commerce media will have a big impact on the paper industry too. New market outlets stemming from a rising middle class in emerging markets, and increasing demand for hygiene products, will remain key drivers for the industry growth.
References


