

BALANCE IN MANAGEMENT OF FINANCIAL AND OPERATIONAL RISKS

Rottneros is affected by the general business cycle, currency fluctuations and other company-specific environmental factors. The most important risks that affect the Group's capacity to achieve the objectives set are described in this section, as is the management of each risk. Rottneros is working to minimise the risks through preventive work or, where this is not possible, by working with different kinds of hedging and insurances. Many of the risks shown below may have both a positive and negative impact on Rottneros. Work relating to risks is managed by the Board of Directors at an overall level and by the CEO and Group management at an operational level. The risk management process includes, among other things, strategic business planning, conducting an ongoing risk inventory, preventive maintenance work and investments, and financial hedging activities.



Operational risk areas

- A Variations in pulp price
- B Structural change
- C1 Access to raw material
- C2 Raw material prices
- D Electricity prices
- E Customer structure and customer credit
- F Facilities
- G Political decisions
- H Sustainability and responsibility
- I Environment

Financial risk areas

- J Currency – balance exposure
- K Currency – transaction exposure
- L Interest rates
- M Liquidity and refinancing

SENSITIVITY ANALYSIS, 2018

Type of risk	Change	Effect on annual profit after financial items (SEK m)		Sensitivity
		2018	2017	
Pulp prices	USD 50/tonne	110	110	High
USD	SEK 0.50/USD	65	55	High
Electricity prices	SEK 0.10/kWh	30	30	High
Pulp wood prices	SEK 20/m ³	30	30	High
Interest rate risk	1 percentage point	4	4	Low
Refinancing				Low
Credit risk				Low

Sensitivity calculations for each type of risk do not take into account the fact that actual changes will also affect other items. The effects of any hedging or fixed-price contracts have neither been taken into account.

RISK AREA **RISK MANAGEMENT**

A VARIATIONS IN PULP PRICE **PROBABILITY: 4 IMPACT: 5**

Pulp price risk means the risk of changes in pulp prices having a negative impact on the consolidated income statement and balance sheet.

The pulp price is set in a global market and the price of Rottneros' products is dependent on how global demand for pulp products can be matched with the industry's production volume.

Variations in pulp price are seldom related to changes in Rottneros' costs and may thus generate major fluctuations in the result.

A high pulp price is positive for the result but may have a negative impact on potential sales volumes.

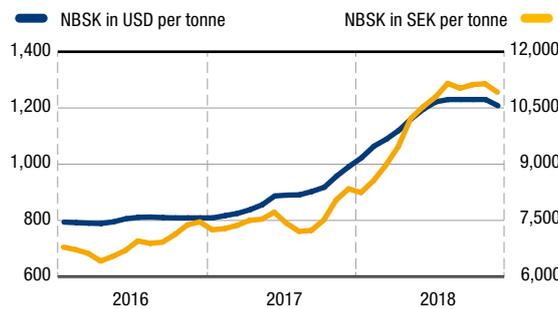
The setting of prices in the pulp market is governed by international price levels that depend on demand and the global economy. Pulp hedging is used when the price levels in long-term contracts are economically advantageous or when the market price is so low that further reductions may threaten the survival of the company. As a main rule, pulp prices are hedged in SEK.

Rottneros develops product segments that involve more added value and that can substitute mass products in the long term. The objective is to reduce dependency on the list price for market pulp and thereby mitigate fluctuations in profitability over a business cycle.

COMMENTS ON OUTCOME FOR 2018

Before the beginning of year 2018 the Group had entered into pulp price hedges of 42,000 tonnes, with due dates between January 2018 up to and including December 2018 at an average price of SEK 7,293 per tonne. The realised result from these pulp price hedges was a loss of SEK 131m in 2018. As of 31 December 2018, the Group had pulp price hedges of 12,000 tonnes, with due dates between January 2019 up to and including December 2019 at an average price of SEK 9,800 per tonne.

PULP PRICES NBSK IN USD AND SEK

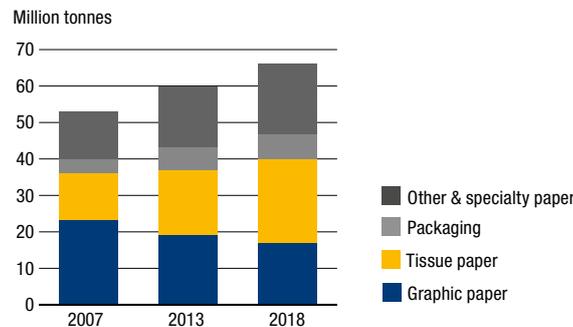


B STRUCTURAL CHANGE **PROBABILITY: 5 IMPACT: 2**

Digitalisation, globalisation and increased trade reduce demand for certain types of pulp and drive structural changes in the industry. Demand for newsprint and printing paper is weakening while demand for tissue paper, board and specialty paper is strengthening.

Rottneros has focused on growth in product segments in which the company can add value through its knowledge and high-quality pulp, in order to manage structural change in the industry. The objective is to reduce dependency on the list price for market pulp and thereby mitigate fluctuations in profitability over a business cycle.

GLOBAL MARKET PULP CONSUMPTION BY APPLICATION AREA



C1 ACCESS TO RAW MATERIAL **PROBABILITY: 2 IMPACT: 4**

Pulp wood supplies are crucial for a pulp producer. Rottneros does not have any forests of its own and is therefore dependent on an optimal flow of pulp wood to its pulp mills. Deliveries and customer relations would be in jeopardy if Rottneros were to experience disruptions in the supply of pulp wood.

The Group ensures that it has good, long-term relationships with the suppliers in the vicinity of each mill to safeguard access to pulp wood. The largest suppliers are the state-owned Sveaskog and the Mellanskog Forest Owners' Association. Rottneros normally concludes agreements with major pulp wood suppliers for a period of between 6 and 24 months. The Group has its own company in Latvia for supplies of pulp wood and chips in order to increase flexibility. The goal is to maintain a supply of pulp wood at the mills that is sufficient for 2-3 weeks of production.

COMMENTS ON OUTCOME FOR 2018

The weather has had a negative effect on conditions for the pulp wood flows. Extremely heavy rains in the autumn of 2017 had a negative impact on both felling and transportation. The snowy winter also interfered with felling. The extremely dry spring then culminated in the large forest fires in the summer. Many felling machines stood still because of the fire risk.

Rottneros compensated for the reduced local volumes by increasing imports, mainly from Latvia and Poland. Imports and a generally higher demand increased raw material costs significantly. Increased demand from the pulp industry, with new timber flows as a result, influences the market and drives Scandinavian and Baltic timber prices.

OPPORTUNITIES AND RISKS – OPERATIONAL

RISK AREA

RISK MANAGEMENT

C2 RAW MATERIAL PRICES

PROBABILITY: 3 IMPACT: 4

Price and price changes for pulp wood affect pulp producers. Higher prices for pulp wood have a negative impact on profit and Rottneros is unable to compensate for price increases on input goods.

The Group does not hedge against market price fluctuations, but long-term supply agreements provide some stability to prices. A price change of SEK 20 per m³ will affect the Group's annual profit by approximately SEK 30m.

COMMENTS ON OUTCOME FOR 2018

The average cost of Rottneros' wood supplies increased during 2018, due to the challenging weather conditions as well as a high level of production in the whole forest industry. Higher pulp wood prices and the increased import volumes had a total negative effect of SEK 160m on the results for the year, as compared to 2017.

D ELECTRICITY PRICES

PROBABILITY: 3 IMPACT: 3

Energy costs represent a substantial part of Rottneros' manufacturing costs. Increased energy prices may lead to increased production costs and have a negative impact on the Group's operating profit.

All external electricity for the mills is purchased directly via the Nord Pool electricity exchange. A price change of SEK 0.10 per kWh will affect the Group's annual profit by approximately SEK 30m, in the absence of any electricity price hedges. Future electricity prices are hedged in advance according to a set strategy to protect Rottneros' future electricity costs against major fluctuations and to achieve a predictable electricity price.

The Board of Directors approves hedging levels based on proposals from management. The Board also approves new financial counterparties.

NORD POOL ELECTRICITY PRICE (AREA SE3) IN SEK PER KWH



COMMENTS ON OUTCOME FOR 2018

The average price level for electricity on the Nord Pool exchange (area SE3) amounted to SEK 0.46 (0.30) per kWh for 2018. Thanks to the high level of hedging, the higher electricity price only had a marginal effect on profit in comparison with 2017, despite a 5 per cent higher electricity consumption during the year. The Group's cost of electricity, adjusted for the hedging result, amounted to SEK 92m (88) in 2018.

At the end of 2018, electricity prices were hedged as specified in the table. The table shows the hedged proportion of forecasted consumption and the average hedged price in SEK/kWh.

Year	Proportion hedged, %	SEK/kWh
2019	85	0.225
2020	85	0.218
2021	55	0.240

E CUSTOMER STRUCTURE AND CUSTOMER CREDIT

PROBABILITY: 1 IMPACT: 2

A high dependency on a small number of major customers, industries or geographical markets may have a significant impact on revenue if a major customer or industry were to have problems.

In Rottneros view the Group has a good diversification of commercial risk with over 100 customers, of which the ten largest together represent approximately 50 per cent of turnover. Printing paper customers account for approximately 25 per cent of revenue, which in the long term may constitute too high a proportion considering the long-term structural changes occurring in the market.

Geographically, the Rottneros Group is not dependent on the market in any particular country. Most of the Group's turnover is generated in Europe, where Sweden, Norway, Germany and Italy represent the largest markets.

Credit risk is managed at a Group level. Credit risk arises through cash and cash equivalents, derivative instruments and deposits at banks and financial institutions, and through credit exposures to customers.

With few exceptions, business risk relating to accounts receivable is insured through credit insurance with a ten per cent deductible.

COMMENTS ON OUTCOME FOR 2018

The Group has approximately 150 customers and the maximum credit risk on outstanding accounts receivable amounted to SEK 37m (33) at the end of 2018 (10-15 per cent deductible + any uninsured receivables).

99 (97) per cent of total outstanding accounts receivable were insured on 31 December 2018. Historically, the Group has only incurred small credit losses.

In 2018, the Group's largest customer accounted for 11 (11) per cent of turnover. No other customer accounts for more than 10 per cent of turnover.

RISK AREA	RISK MANAGEMENT
<p>F FACILITIES</p> <p>Rottneros has two large production facilities that conduct continuous production. Industrial injuries, machinery breakdowns, fires and other accidents may result in extended production shutdowns, damage to the facility and delivery problems.</p>	<p style="text-align: right;">PROBABILITY: 3 IMPACT: 3</p> <p>Management conducts an annual review of the mills' maintenance needs for the coming years. This work includes identifying ongoing annual investments, investments in expansion and investments that aim to improve quality and safety.</p> <p>The Rottneros Group holds annual maintenance shutdowns to ensure a high and even rate of production. Maintenance shutdowns are carefully planned to minimise downtime. In addition, preventive maintenance is carried out regularly.</p> <p>Rottneros insures its facilities against property damage and business interruption and also has relevant liability insurance. The insurance companies conduct annual audits of the Group's facilities and make recommendations for improvements and reduction of risks.</p> <p>In spite of significant investments in 2015-2018, Rottneros has a relatively low level of capital in fixed assets compared with the rest of the industry, which results in low depreciation and a low capital cost. The book value of Rottneros property, plant and equipment was SEK 1,179m (1,020) at the end of 2018. The replacement cost is much higher.</p> <p>COMMENTS ON OUTCOME FOR 2018</p> <p>In 2018, maintenance shutdowns were carried out during the third quarter at Rottneros Mill and during the fourth quarter at Vallvik Mill. During the first half-year, Vallvik Mill had two unplanned shutdowns, resulting in a production loss of approximately 10,000 tonnes. Insurance is reviewed and procured regularly.</p>
<p>G POLITICAL DECISIONS</p> <p>Political decisions may have a negative impact on production at the Group's pulp mills through changes in environmental legislation.</p>	<p style="text-align: right;">PROBABILITY: 1 IMPACT: 2</p> <p>Rottneros' exposure to political risks is considered to be limited.</p> <p>Rottneros runs its production in Sweden and sells most of its products to Sweden and the rest of Europe. These markets are stable democracies and the political risk of rapid changes to legislation, rules and regulations is relatively slight.</p> <p>Rottneros considers that there is always a risk of political decisions that raise the price or limit Rottneros' opportunities to produce pulp in one way or another. However, the Company considers this risk to be limited. Rottneros works to continuously improve the production process and the goal is that all investments in the mills will also benefit the environment.</p>
<p>H SUSTAINABILITY AND RESPONSIBILITY</p> <p>Inadequate responsibility relating to sustainability issues could harm trust in the Company and the brand, thereby having a negative impact on the Company's profitability.</p> <p>To achieve sustainable profitability and value creation Rottneros must simultaneously create value for those stakeholders who are affected by the Group's operations.</p> <p>See also the sustainability report on pages 28-35.</p>	<p style="text-align: right;">PROBABILITY: 3 IMPACT: 4</p> <p>Rottneros shall run its business responsibly with respect to the external and internal environment, society, our customers and suppliers, our shareholders and our employees. Trust in Rottneros as a responsible participant, supplier and employer strengthens our position in society and in the market, and promotes employee commitment. Rottneros communicates regularly with its stakeholders to maintain an open and positive relationship.</p> <p>Rottneros endeavours to make its products better, both from a quality and efficiency perspective, by understanding the customers' processes and product strategy. Environmental, social and economic factors are crucial to this success.</p> <p>The Group has a sustainability policy describing Rottneros' responsibility regarding shareholders, customers, suppliers, environment, society, personnel and the work environment, human rights and anti-corruption.</p> <p>The Group has a Code of Conduct describing how Rottneros and the Company's employees act in relation to the surrounding world and towards each other. The Code of Conduct defines Rottneros' social responsibility, ethical commitment and position in respect of gender equality and diversity issues, as well as the approach that Rottneros' employees should adopt on issues of principle importance.</p> <p>Employee well-being is an important part of Rottneros' success. The Group takes responsibility towards employees by promoting good health, environment and safety in the workplaces. Rottneros has a zero target regarding occupational injuries leading to sick leave.</p> <p>COMMENTS ON OUTCOME FOR 2018</p> <p>Rottneros continues to develop new areas of application for its products that contribute to more sustainable development in society. Rottneros Packaging will start an expanded and commercial production of recyclable and decomposable fibre trays during 2019. Through the EU innovation project PULPACKTION, Rottneros Packaging is developing a completely bio-based packaging solution at a competitive price.</p> <p>Rottneros has also agreed with RenFuel on the delivery of the residual product lignin for the production of Lignol®, RenFuel's patented lignin oil that can be refined into renewable petrol and diesel. During 2018, Rottneros has started smaller deliveries of lignin from Vallvik Mill for RenFuel's testing and pilot plant in Bäckhammar, Värmland county.</p> <p>In 2018, six (seven) accidents occurred that resulted in a total of 96 (126) sick days.</p>
<p>I ENVIRONMENT</p> <p>Rottneros' activities have an impact on the environment, which may entail environmental restoration costs.</p> <p>Extensive environmental legislation governs Rottneros' operational area, and its activities require permits that need to be renewed periodically.</p> <p>There is a risk of permits granted being exceeded, which may not only entail production restrictions or the need for investments, but also criminal penalties or the revocation of permits.</p> <p>There is also a risk of environmental legislation being amended, which may affect Rottneros' activities. No such changes are known at the current time.</p> <p>See also the environment section on pages 32-35.</p>	<p style="text-align: right;">PROBABILITY: 3 IMPACT: 4</p> <p>Good management of environmental issues represents a fundamental and important issue for the Board of Directors and management, which is why debriefing takes place monthly.</p> <p>Both of the Group's mills have environmental management systems and are certified according to ISO 14001. The environmental management system includes well-established routines for follow-up, taking samples and dealing with deviations.</p> <p>The Group has a continuous sampling system with alarm functions linked to the mills' control systems to detect and prevent any infringements of applicable provisions and requirements. Random manual samples are taken in addition to this.</p> <p>All employees shall undergo environmental training in accordance with the Group's policy. Senior environmental staff within the Group undertakes continuous professional training.</p> <p>Ongoing communications take place with county administrative boards and municipal authorities. Compliance consultation meetings are held with the county administrative board four times a year, to which the municipal authority is also invited to attend.</p> <p>COMMENTS ON OUTCOME FOR 2018</p> <p>Efforts to further reduce emissions to air and water continued in 2018. The most noteworthy investment at Vallvik Mill is a new weak gas system that was commissioned during the maintenance shutdown in October 2018. The weak gas system, which cost about SEK 70m, reduces the mill's sulphur emissions, as well as the odour in the area.</p> <p>At mid-year 2018, the Rottneros Mill commissioned an anaerobic step in the biological water treatment process. Its purpose is to deal with both the increased production and the new EU emissions requirements. Methane gas is formed as a by-product in the anaerobic step. In the future this biofuel will be harnessed and used as a support fuel for the flash dryers instead of oil.</p>

FINANCIAL RISK AREAS

The following describes the Rottneros Group's policies for managing financial risks.

Financial risks and other arrangements are described in Note 7 of the Annual Report.

The factors that have the greatest impact on the Group's result are associated with the price of pulp in USD, exchange rates, and pulp wood and electricity prices.

Financial risk is managed at Group level in accordance with guidelines defined in the Group's financial policy and approved annually by the Board of Directors.

The Board of Directors makes decisions on overall mandates and limits for restricting the Group's financial risk exposures and also makes decisions on all long-term financing.

The Board of Directors approves hedging levels based

on proposals from management. The management continually assesses whether factors such as the currency rate, pulp price or electricity price present attractive opportunities for strategic hedging. Financial hedging instruments are not used speculatively, but solely to hedge transactions and costings in accordance with the approved financial policy.

RISK AREA	RISK MANAGEMENT
<p>J CURRENCY – BALANCE EXPOSURE</p> <p>PROBABILITY: 4 IMPACT: 1</p> <p>Currency risk means that currency rate changes may have a negative impact on the Group's future results, cash flows and values of assets and liabilities.</p>	<p>Rottneros' pulp mills and assets are 99 per cent in Sweden and other than the currency risk related to operating transactions, balance exposure is very low.</p>
<p>K CURRENCY – TRANSACTION EXPOSURE</p> <p>PROBABILITY: 4 IMPACT: 4</p> <p>Transaction exposure is the risk of exchange rate fluctuations in export revenue and import costs having a negative impact on operating profit.</p>	<p>Most invoices are issued in USD, EUR and SEK. The Rottneros Group's assets and liabilities are valued in SEK. The currency risk exposure that arises on outstanding accounts receivable can be hedged by currency hedging or borrowing in currencies that correspond over time to the average accounts receivable for each currency. The purpose of hedging exchange rate risk is to reduce undesired and unanticipated effects of exchange rate fluctuations and minimise the negative impact on the Group's result. The central finance function is responsible for proactively monitoring and managing the Group's exchange rate exposure and ensuring that actual risk exposure is identified and managed.</p> <p>The Group applies a netting procedure so that all sales and purchases in each currency are netted and the net flow is hedged.</p> <p>COMMENTS ON OUTCOME FOR 2018</p> <p>The underlying exposure to USD is high, while the direct inflow of USD (the real flow) corresponds to approximately 50 per cent and in EUR approximately 40 per cent of turnover. However, the impact of exchange rate fluctuations on indirect exposure is delayed, as the normal duration of a contract is between one and three months. As of 31 December 2018 Rottneros held currency hedges of USD 11.0m and EUR 2.5m.</p>
<p>L INTEREST RATES</p> <p>PROBABILITY: 2 IMPACT: 1</p> <p>Interest rate risk comprises the exposure of the Group's financial assets and financial liabilities with a variable interest rate.</p>	<p>Between 2009 and 2016, Rottneros had a low level of borrowing. In August 2017, Rottneros issued a bond of SEK 400m. The Group's borrowing is presented in Note 20 of the Annual Report. Interest rate risk relates primarily to the variable interest rate of the bond and the return on cash and cash equivalents.</p> <p>COMMENTS ON OUTCOME FOR 2018</p> <p>The bond of SEK 400m that Rottneros issued in August 2017 has a maturity of five years and bears variable interest. A change of one percentage point in the interest rate will affect the Group's annual profit by SEK 4m.</p> <p>Cash and cash equivalents amounted to SEK 238m (326) as of 31 December 2018. Approximately SEK 100m of cash and cash equivalents are placed on an interest-yielding savings account. The rest of cash and cash equivalents yield a zero interest.</p>
<p>M LIQUIDITY AND REFINANCING</p> <p>PROBABILITY: 2 IMPACT: 4</p> <p>There is a risk that Rottneros may not have sufficient liquidity to pay for running costs, or the Group not being granted credit.</p>	<p>The financing risk shall be minimised as far as possible by the due dates for loans and other credit facilities being well-diversified and evenly spread over time. Outstanding credit facilities shall be refinanced no later than three months before they fall due.</p> <p>The Group's objective is for liquidity reserves to amount to at least ten per cent of the Group's 12-month rolling turnover and be available within 30 days. The Group continuously produces liquidity forecasts.</p> <p>Rottneros' credit agreements are considered to be sufficient for normal operating and investment cash flow for the next few years. Both the liquidity and refinancing risks are therefore considered to be low at this time.</p> <p>The Group shall maintain an optimal capital structure to keep capital costs down while ensuring that it is able to continue its activities.</p> <p>The Group may take on new debt, change the dividend paid to shareholders, repay capital to shareholders, issue new shares or sell assets to reduce its debts in order to maintain or adjust its capital structure.</p> <p>The Group assesses its capital on the basis of its debt/equity ratio. This key ratio is defined as net debt/cash as a percentage of shareholders' equity.</p> <p>COMMENTS ON OUTCOME FOR 2018</p> <p>In order to complete financing of the strategic plan Agenda 500, and to optimise the Group's capital structure in the long term, Rottneros AB issued an unsecured bond of SEK 400m in August 2017 with a maturity of 5 years to primarily Nordic institutional investors. The bond bears variable interest of STIBOR 3m + 4.15 per cent and must be repaid in September 2022. The bond has a framework amount of SEK 600m, which allows for an additional bond issue of SEK 200m. The bond is listed on Nasdaq Stockholm. The bond terms contain standard covenants in the form of net debt to EBITDA of a maximum of 3.5, minimum equity/assets ratio of 50 per cent, and a maximum dividend of 50 per cent of the previous year's net income. These covenants were fulfilled on the balance sheet day.</p> <p>Granted and unused credit facilities amounted to SEK 182m at the end of the year. The Group's liquidity reserve at the end of 2018 amounted to 19 (27) per cent of turnover, while the target is "at least ten per cent".</p> <p>The Group's net debt at the end of 2018 amounted to SEK 157m (68). Debt/equity ratio amounted to 11 (6) per cent at the end of 2018.</p>