27. FINANCIAL RISK MANAGEMENT

The objective of financial risk management is to protect the Group's planned profit development from adverse movements in financial markets. The principles and targets of financial risk management are defined in the Group's financial policy, which is approved by the Board. Financing activities and financial risk management are centralized to the parent company Group Treasury, which executes financing and hedging transactions with external counterparties and acts as a primary counterparty to business units in financing activities like funding, foreign exchange transactions and cash management. The Group Credit Committee makes credit decisions that have a significant impact on the credit exposure of the Group.

Foreign currency risk

The Nokian Tyres Group consists of the parent company in Finland, the sales companies in Russia, Sweden, Norway, the USA, Canada, Czech Republic, Switzerland, Ukraine, Kazakhstan, Belarus and China, the tire chain companies in Finland, Sweden, Norway and the USA. The tire plants are located in Nokia, Finland and Vsevolozhsk, Russia. The Group is currently building a third tire plant in Dayton, Tennessee, USA.

Transaction risk

According to the Group's financial policy, transactions between the parent company and the foreign subsidiaries are primarily carried out in the local currency of the subsidiary in question, and the transaction risk is carried by the parent company and there is no significant currency risk in the foreign subsidiaries. Exceptions to the main rule are subsidiaries, which have non-home currency items due to the nature of business activities. In this case transactions between the parent company and the subsidiary are carried out in a currency appropriate for the Group currency exposure. The parent company manages transaction risk in these subsidiaries and implements required hedging transactions for hedging the currency exposure of the subsidiary according to the Group hedging principles. Hedging principles are not applied to the currency exposures of the Ukrainian and Belarusian subsidiaries as UAH and BYN are non-convertible currencies.

The transaction exposure of the parent company and the subsidiaries with non-home currency items comprises of the foreign currency denominated receivables and payables in the statement of financial position and the foreign currency denominated binding purchase and sales contracts. According to the Group's financial policy the significant transaction exposure in every currency pair is hedged, although 20% over-hedging or under-hedging is allowed if a +/– 10% change in the exchange rate does not create over EUR 1 million impact on the income statement. However, a simultaneous +/– 10% change in all the Group exposure currencies against EUR must not create over a EUR 5 million impact on the income statement. Exceptions to the main rule are non-convertible currencies, which do not have active hedging markets available. For budget exposure the estimated currency cash flows are added to the transaction exposure so that the overall foreign currency risk exposure horizon covers the next 12 months. The budget exposure may be hedged according to the market situation and the hedge ratio can be up to 70% of the budget exposure. Currency forwards, currency options and cross-currency swaps are used as hedging instruments.

Transaction risk

EUR million	31 Dec 2018								31 Dec 2017							
Functional currency	**EUR**	**EUR**	**EUR**	**EUR**	**EUR**	**CZK**	**UAH**	**RUB**	EUR	EUR	EUR	EUR	EUR	CZK	UAH	RUB
Foreign currency	**CAD**	**NOK**	**RUB**	**SEK**	**USD**	**EUR**	**EUR**	**EUR**	CAD	NOK	RUB	SEK	USD	EUR	EUR	EUR
Trade receivables	**17.7**	**20.5**	**16.7**	**23.4**	**27.7**	**92.8**	**0.0**	**24.1**	11.3	20.6	24.0	26.9	24.8	92.3	0.0	68.3
Loans and receivables	**8.4**	**39.1**	**95.4**	**54.7**	**10.6**	**1.7**	**0.0**	**0.1**	6.6	35.7	123.4	54.5	10.2	59.9	0.0	0.0
Total currency income	**26.2**	**59.6**	**112.1**	**78.1**	**38.4**	**94.5**	**0.0**	**24.2**	17.8	56.3	147.4	81.3	35.0	152.2	0.0	68.3
Trade payables	**0.0**	**0.0**	**−42.3**	**0.0**	**−1.7**	**−42.0**	**0.0**	**−6.1**	0.0	0.0	−0.1	0.0	−0.7	−52.6	0.0	−7.2
Borrowings	**−7.6**	**−39.3**	**−125.8**	**−11.8**	**−19.0**	**−84.2**	**−6.0**	**−20.0**	0.0	−39.3	−180.6	−0.1	−20.1	−121.3	−6.9	−72.0
Total currency expenditure	**−7.6**	**−39.3**	**−168.1**	**−11.8**	**−20.7**	**−126.2**	**−6.0**	**−26.1**	0.0	−39.3	−180.6	−0.1	−20.7	−173.9	−7.0	−79.2
Foreign exchange derivatives	**−16.0**	**−20.1**	**53.3**	**−71.2**	**−18.8**	**30.7**	**0.0**	**0.0**	−13.3	−12.7	32.1	−70.6	−12.5	19.7	0.0	0.0
Binding sales contracts	**7.1**	**5.0**	**1.3**	**2.6**	**0.8**	**10.8**	**0.0**	**0.0**	3.8	3.3	1.1	2.4	5.0	51.1	0.0	0.0
Binding purchase contracts	**0.0**	**0.0**	**−0.3**	**0.0**	**−6.2**	**−5.1**	**0.0**	**0.0**	0.0	0.0	0.0	0.0	−2.8	−41.0	0.0	0.0
Future interest items	**0.1**	**0.6**	**0.1**	**0.4**	**0.0**	**−0.6**	**0.0**	**−0.1**	0.0	0.6	−0.7	0.4	0.1	−0.2	0.0	−0.5
Net exposure	**9.7**	**5.9**	**−1.7**	**−1.9**	**−6.6**	**4.6**	**−6.0**	**−2.0**	8.4	8.1	−0.6	13.5	4.1	8.1	−7.0	−10.9

Translation risk

In financial statements the statements of financial position of the foreign subsidiaries are translated into euro using the European Central Bank's closing rates and the income statements monthly using the monthly average rate for the period. The impacts of the exchange rate fluctuations arising on translation of the subsidiaries' income statements and statements of financial position are recorded as translation differences in other comprehensive income and in the translation reserve in equity. The net investments in foreign subsidiaries are not hedged based on the Board decision in 2013.

Group's total comprehensive income was negatively affected by translation differences on foreign operations by EUR −67.8 million (EUR −33.5 in 2017) of which EUR 0.0 million (EUR 0.2 million in 2017) was recorded on internal loans recognized as net investment in foreign operation. In 2018 no internal loans were recognized as net investment in foreign operation.

Translation risk

Net investments by currency

EUR million	31 Dec 2018	31 Dec 2017
Currency of net investment		
CZK	**45.0**	39.4
NOK	**44.4**	39.1
RUB	**542.2**	560.5
SEK	**16.6**	14.2
USD	**167.8**	96.9

Sensitivity analysis for foreign currency risk

The following table demonstrates the sensitivity to a reasonably possible change in the base currency against the quote currency, with all other variables held constant, of the Group's profit before tax and equity due to changes in the fair value of financial assets and liabilities.

A reasonably possible change is assumed to be a 10 % base currency appreciation or depreciation against the quote currency. A change of a different magnitude can also be estimated fairly accurately because the sensitivity is nearly linear.

	31 Dec 2018				31 Dec 2017			
	Base currency				Base currency			
	10% stronger		10% weaker		10% stronger		10% weaker	
EUR million	Income statement	Equity	Income statement	Equity	Income statement	Equity	Income statement	Equity
Base currency / Quote currency								
EUR/CAD	**−0.3**	**-**	**0.3**	**-**	−0.5	-	0.5	-
EUR/CZK	**−0.1**	**-**	**0.1**	**-**	−0.4	-	0.4	-
EUR/NOK	**−1.0**	**-**	**0.4**	**-**	−0.9	-	0.5	-
EUR/RUB	**0.1**	**-**	**−0.1**	**-**	−1.0	-	1.0	-
EUR/SEK	**0.5**	**-**	**−0.5**	**-**	−1.2	-	0.3	-
EUR/UAH	**−0.6**	**-**	**0.6**	**-**	−0.7	-	0.7	-
EUR/USD	**0.4**	**-**	**−0.5**	**-**	−0.2	-	0.2	-

Interest rate risk

The interest rate risk of the Group consists mainly of borrowing, which is split between floating and fixed rate instruments. On the reporting date the floating rate interest-bearing financial liabilities amounted to EUR 25.4 million (EUR 28.6 million in 2017) and the fixed rate interest-bearing liabilities EUR 107.0 million (EUR 106.6 million in 2017) including the interest rate derivatives. The Group's policy aims to have at least 50% of the non-current financial liabilities in fixed rate instruments. Interest rate risk is managed by using interest rate derivatives. On the reporting date the portion of the non-current fixed rate interest-bearing financial liabilities was 100% (79% in 2017) and the average fixing period of the interest-bearing financial liabilities was 8 months (17 months in 2017) including the interest rate derivatives. The Group uses interest rate derivatives as cash flow hedges and hedge accounting is mainly applied for those derivatives.

Sensitivity analysis for interest rate risk

The following table demonstrates the sensitivity to a reasonably possible change in interest rates, with all other variables held constant, of the Group's profit before tax through the impact on floating rate borrowings and interest rate hedges measured at fair value through profit or loss and the Group's equity due to changes in the fair value of cash flow hedges.

A reasonably possible change is assumed to be a 1%-point increase or decrease of the market interest rates. A change of a different magnitude can also be estimated fairly accurately because the sensitivity is nearly linear.

	31 Dec 2018				31 Dec 2017			
	Interest rate				Interest rate			
	1%-point higher		1%-point lower		1%-point higher		1%-point lower	
EUR million	Income statement	Equity	Income statement	Equity	Income statement	Equity	Income statement	Equity
Impact of interest rate change	**−1.3**	**1.7**	**1.3**	**−1.7**	−1.3	1.6	1.3	−1.6

Electricity price risk

The Group purchases electricity in Finland at market price from the Nordic electricity exchange and this leads to an electricity price exposure. Annually around 90 GWh of electricity is procured. According to the procurement policy electricity purchases are hedged with electricity derivatives within the limits set by the pre-defined hedge ratios for the coming five year period. On the reporting date the energy amount of the electricity derivatives amounted to 180 GWh (210 GWh in 2017).

Sensitivity analysis for electricity price risk

The following table demonstrates the sensitivity to a reasonably possible change in electricity price, with all other variables held constant, of the Group's profit before tax and equity due to changes in the fair value of the electricity derivatives.
A reasonably possible change is assumed to be a 5 EUR/MWh increase or decrease of the electricity market prices.
A change of a different magnitude can also be estimated fairly accurately because the sensitivity is nearly linear.

	31 Dec 2018				31 Dec 2017			
	Electricity price				Electricity price			
	5 EUR/MWh higher		5 EUR/MWh lower		5 EUR/MWh higher		5 EUR/MWh lower	
EUR million	Income statement	Equity	Income statement	Equity	Income statement	Equity	Income statement	Equity
Impact of electricity price change	**-**	**0.9**	**-**	**−0.9**	0.0	1.0	0.0	−1.0

Liquidity and funding risk

In accordance with the Group's financial policy, the Group Treasury is responsible for maintaining the Group's liquidity, efficient cash management and sufficient sources of funding. The committed credit limits cover all funding needs, like outstanding commercial papers, other current loans, working capital changes arising from operative business and investments.

Refinancing risk is reduced by split maturity structure of loans and credit limits. The revolving credit facility with an international bank syndicate was increased from EUR 100 million to EUR 150 million due in 2023 as a 2-year extension option was executed. Additionally, there is a EUR 350 million domestic commercial paper program available. The current credit limits and the commercial paper program are used to finance inventories, trade receivables, subsidiaries in distribution chains and thus to control the typical seasonality in the Group's cash flows.

The Group reports the main financial covenants to creditors quarterly. If the Group does not satisfy the requirements set in financial covenants, creditor may demand accelerated repayment of the credits. In 2018 the Group has met all the requirements set in the financial covenants, which are mainly linked to equity ratio. Management monitors regularly that the covenant requirements are met. Financing agreements contain terms and conditions upon which the agreement may be terminated, if control in the company changes as a result of a public tender offer.

On the reporting date the Group's liquidity in cash and cash equivalents was EUR 447.5 million (EUR 343.4 million in 2017). At the end of the year the Group's credit limits available were EUR 558.8 million (EUR 508.9 million in 2017), out of which the committed limits were EUR 205.5 million (EUR 155.6 million in 2017). The available committed non-current credits amounted to EUR 150.0 million (EUR 150.0 million in 2017).

The Group's interest-bearing financial liabilities totaled EUR 132.3 million, compared to the year before figure of EUR 135.2 million. Around 85% of the interest-bearing financial liabilities were in EUR. The average interest rate of interest-bearing financial liabilities was 2.7%. Current interest-bearing financial liabilities, including the portion of non-current financial liabilities maturing within the next 12 months, amounted to EUR 126.0 million (EUR 0.8 million in 2017).

Contractual maturities of financial liabilities

	2018							
		Contractual maturities*						
EUR million	Carrying amount	2019	2020	2021	2022	2023	2024–	Total
Non-derivative financial liabilities								
Loans from financial institutions and pension loans								
Fixed rate loans	**7.0**	**−0.8**	**−0.8**	**−0.7**	**−0.7**	**−1.2**	**−3.7**	**−7.9**
Floating rate loans	**125.4**	**−126.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**−126.6**
Trade and other payables	**111.0**	**−111.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**−111.0**
Derivative financial liabilities								
Interest rate derivatives								
Designated as hedges	**1.6**	**−0.8**	**−0.7**	**−0.4**	**−0.1**	**0.2**	**0.2**	**−1.6**
Foreign currency derivatives								
Designated as hedges								
Cashflow out	**0.7**	**−56.2**	**−1.7**	**−1.6**	**−1.6**	**−19.1**	**0.0**	**−80.2**
Cashflow in	**−18.9**	**68.7**	**0.2**	**0.2**	**0.3**	**18.8**	**0.0**	**88.2**
Measured at fair value through profit or loss								
Cashflow out	**7.9**	**−435.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**−435.0**
Cashflow in	**−3.5**	**431.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**431.8**
Electricity derivatives								
Designated as hedges	**−2.9**	**1.6**	**0.9**	**0.3**	**0.1**	**0.0**	**0.0**	**2.9**
Total	**228.2**	**−228.3**	**−2.0**	**−2.2**	**−2.0**	**−1.3**	**−3.5**	**−239.3**

* The figures are undiscounted and include both the finance charges and the repayments.

	2017							
		Contractual maturities*						
EUR million	Carrying amount	2018	2019	2020	2021	2022	2023–	Total
Non-derivative financial liabilities								
Loans from financial institutions and pension loans								
Fixed rate loans	6.6	−0.7	−0.7	−0.7	−0.6	−0.6	−4.3	−7.6
Floating rate loans	128.6	−2.8	−129.5	0.0	0.0	0.0	0.0	−132.3
Trade and other payables	72.8	−72.8	0.0	0.0	0.0	0.0	0.0	−72.8
Derivative financial liabilities								
Interest rate derivatives								
Designated as hedges	1.3	−0.9	−0.3	0.0	0.0	0.0	0.0	−1.3
Foreign currency derivatives								
Designated as hedges								
Cashflow out	1.5	−4.5	−61.9	0.0	0.0	0.0	0.0	−66.4
Cashflow in	−12.2	0.9	68.6	0.0	0.0	0.0	0.0	69.5
Measured at fair value through profit or loss								
Cashflow out	1.2	−382.4	0.0	0.0	0.0	0.0	0.0	−382.4
Cashflow in	−9.5	391.5	0.0	0.0	0.0	0.0	0.0	391.5
Electricity derivatives								
Designated as hedges	0.0	−0.3	0.1	0.2	0.1	0.0	0.0	0.0
Total	190.2	−72.0	−123.7	−0.5	−0.6	−0.6	−4.3	−201.8

* The figures are undiscounted and include both the finance charges and the repayments.

Credit Risk

The Group is exposed to credit risk from customers' trade receivables and also from deposits and derivative transactions with different banks and financial institutions.

The credit risk in financial transactions is controlled by doing business only with banks and financial institutions with high credit ratings. In investments the Group's placements are current and funds are invested only in solid domestic listed companies, public institutions or non-listed domestic companies which meet the criteria set by the investment policy. The Board approves the investment policy for financial instruments annually.

The principles of customers' credit risk management are documented in the Group's credit policy approved by the Board. The Group Credit Committee makes all the significant credit decisions. Financial statements as well as credit analysis and payment history collected by credit information companies are used for evaluating credit worthiness. The credit status of the customers is reviewed at the subsidiaries regularly according to the Group credit policy principles. Bank guarantees, documentary credits and specific payment terms are used in controlling the credit risk in trade receivables. Payment programs, which customer is committed to, are always agreed upon for past due receivables. In addition, the country risk is monitored constantly and credits are limited in countries where political or economic environment is unstable. There are no over 15% customer or country risk concentrations in trade receivables, other than the Russian customers' share of 39% (35% in 2017) on the reporting date.

Aging and impairment of trade receivables

Impairment recognized in trade receivables corresponds to lifetime expected credit losses for trade receivables. When measuring expected credit losses the Group reviews sales over the past five years, customer payment behavior, actual credit losses, current conditions and forecasts of future economic conditions.

The aging and impairment of trade receivables

	31 Dec 2018		1 Jan 2018	
EUR million	**Trade receivables gross amount**	**Impairment loss allowance**	**Trade receivables gross amount**	**Impairment loss allowance**
Not past due	**362.5**	**-2.8**	382.4	-3.3
Past due less than 30 days	**38.4**	**-1.1**	30.0	-1.0
Past due between 30 and 90 days	**3.6**	**-0.2**	5.2	-0.4
Past due between 91 and 180 days	**2.7**	**-0.3**	3.0	-0.4
Past due more than 180 days	**53.2**	**-46.5**	55.6	-48.0
Total	**460.4**	**-51.0**	476.3	-53.0

Changes in the impairment loss allowance for trade receivables

EUR million	**2018**	**2017**
Loss allowance, 1 Jan under IAS 39	**43.4**	58.6
Adjustment on initial application of IFRS 9	**9.6**	
Loss allowance, 1 Jan under IFRS 9	**53.0**	
Write-offs	**-2.0**	-15.4
Change in loss allowance recognized in profit or loss	**0.0**	0.2
Loss allowance, 31 Dec	**51.0**	43.4