



Interim Financial Statements

September 30, 2018

BRGAAP in R\$ (English)

**Vale S.A. Interim Financial Statements
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Report on the review of quarterly information – ITR

(A free translation of the original report in Portuguese, as filed with the Brazilian Securities and Exchange Commission (CVM), prepared in accordance with the accounting practices adopted in Brazil, rules of the CVM and of the International Financial Reporting Standards - IFRS)

**To the Board of Directors and Stockholders of
Vale S.A.**
Rio de Janeiro - RJ

Introduction

1. We have reviewed the interim financial information, individual and consolidated, of Vale S.A. ("the Company"), identified as Parent Company and Consolidated, respectively, included in the quarterly information form - ITR for the quarter ended September 30, 2018, which comprises the individual and consolidated statement of financial position as of September 30, 2018 and the respective statements of income and comprehensive income for the three and nine months periods ended on September 30, 2018, the statements of changes in equity for the nine-month period then ended and of the individual statement of cash flows for the nine-month period and the consolidated statements of cash flows for the three and nine months periods then ended, including the explanatory notes.
2. The Company's Management is responsible for the preparation of these interim financial information in accordance with the CPC 21(R1) – Demonstração Intermediária and the IAS 34 - Interim Financial Reporting, issued by the International Accounting Standards Board – IASB, as well as the presentation of these information in accordance with the standards issued by the Brazilian Securities and Exchange Commission, applicable to the preparation of quarterly information - ITR. Our responsibility is to express our conclusion on this interim financial information based on our review.

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Scope of the review

3. We conducted our review in accordance with Brazilian and International Interim Information Review Standards (NBC TR 2410 - Revisão de Informações Intermediárias Executada pelo Auditor da Entidade and ISRE 2410 - Review of Interim Financial Information Performed by the Independent Auditor of the Entity, respectively). A review of interim information consists of making inquiries primarily of the management responsible for financial and accounting matters and applying analytical procedures and other review procedures. The scope of a review is significantly less than an audit conducted in accordance with auditing standards and, accordingly, it did not enable us to obtain assurance that we were aware of all the material matters that would have been identified in an audit. Therefore, we do not express an audit opinion.

Conclusion on the interim financial information

4. Based on our review, we are not aware of any fact that might lead us to believe that the individual and consolidated interim financial information included in the aforementioned quarterly information was not prepared, in all material respects, in accordance with CPC 21(R1) and IAS 34, issued by the IASB, applicable to the preparation of the quarterly review - ITR, and presented in accordance with the standards issued by the Brazilian Securities and Exchange Commission.

Other matters

Statements of added value

5. The individual and consolidated interim financial information related to the statement of value added for the nine-month period ended September 30, 2018, prepared under the responsibility of the Company's management, and presented as supplementary information for the purposes of IAS 34, was submitted to the same review procedures followed together with the review of the Company's interim financial information. In order to form our conclusion, we evaluated whether this statement was reconciliated to the interim financial information and to the accounting records, as applicable, and whether their form and content are in accordance with the criteria set on Technical Pronouncement CPC 09 - Statement of Value Added. Based on our review, nothing has come to our attention that causes us to believe that the accompanying statement of value added was not prepared, in all material respects, in accordance with the individual and consolidated interim financial information taken as a whole.

Rio de Janeiro, October 24, 2018

KPMG Auditores Independentes
CRC SP-014428/O-6 F-RJ
(Original report in Portuguese signed by)
Bernardo Moreira Peixoto Neto
Accountant CRC RJ-064887/O-8

Income Statement

In millions of Brazilian reais, except earnings per share data

		Consolidated			
		Three-month period ended September 30,		Nine-month period ended September 30,	
	Notes	2018	2017	2018	2017
Continuing operations					
Net operating revenue	3(c)	37,862	28,600	97,028	78,705
Cost of goods sold and services rendered	5(a)	(22,827)	(17,099)	(59,260)	(48,426)
Gross profit		15,035	11,501	37,768	30,279
Operating expenses					
Selling and administrative expenses	5(b)	(535)	(409)	(1,377)	(1,223)
Research and evaluation expenses		(346)	(285)	(899)	(748)
Pre operating and operational stoppage		(241)	(265)	(736)	(915)
Other operating expenses, net	5(c)	(244)	(484)	(1,042)	(1,002)
		(1,366)	(1,443)	(4,054)	(3,888)
Impairment and other results on non-current assets	4	(707)	(532)	(749)	345
Operating income		12,962	9,526	32,965	26,736
Financial income	6	445	482	1,114	1,054
Financial expenses	6	(1,479)	(2,393)	(6,320)	(7,959)
Other financial items	6	(3,924)	2,665	(12,753)	1,424
Equity results in associates and joint ventures	13	134	367	584	509
Impairment and other results in associates and joint ventures	17	(80)	(78)	(1,671)	(379)
Income before income taxes		8,058	10,569	13,919	21,385
Income taxes					
Current tax	7	280	(1,654)	(475)	(3,461)
Deferred tax		(2,730)	(1,407)	(2,021)	(1,660)
		(2,450)	(3,061)	(2,496)	(5,121)
Net income from continuing operations		5,608	7,508	11,423	16,264
Net income (loss) attributable to noncontrolling interests		(145)	19	(58)	166
Net income from continuing operations attributable to Vale's stockholders		5,753	7,489	11,481	16,098
Discontinued operations					
Loss from discontinued operations	12	-	(338)	(310)	(983)
Net income attributable to noncontrolling interests		-	8	-	21
Loss from discontinued operations attributable to Vale's stockholders		-	(346)	(310)	(1,004)
Net income		5,608	7,170	11,113	15,281
Net income (loss) attributable to noncontrolling interests		(145)	27	(58)	187
Net income attributable to Vale's stockholders		5,753	7,143	11,171	15,094
Earnings per share attributable to Vale's stockholders:					
Basic and diluted earnings per share (restated):	8				
Common share (R\$)		1.11	1.37	2.15	2.90

The accompanying notes are an integral part of these interim financial statements.

Income Statement

In millions of Brazilian reais, except earnings per share data

	Parent company			
	Three-month period ended		Nine-month period ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Continuing operations				
Net operating revenue	22,728	14,369	56,860	47,033
Cost of goods sold and services rendered	(10,318)	(8,335)	(28,299)	(24,424)
Gross profit	12,410	6,034	28,561	22,609
Operating (expenses) income				
Selling and administrative expenses	(242)	(229)	(694)	(690)
Research and evaluation expenses	(210)	(171)	(549)	(444)
Pre operating and operational stoppage	(179)	(256)	(562)	(660)
Equity results from subsidiaries	531	3,224	4,104	4,840
Other operating expenses, net	(286)	(438)	(836)	(523)
	(386)	2,130	1,463	2,523
Impairment and other results on non-current assets	(81)	(258)	(305)	(326)
Operating income	11,943	7,906	29,719	24,806
Financial income	95	89	209	302
Financial expenses	(1,508)	(1,968)	(6,079)	(7,477)
Other financial items	(3,316)	2,988	(11,936)	2,120
Equity results in associates and joint ventures	134	367	584	509
Impairment and other results in associates and joint ventures	(80)	(78)	(1,671)	(370)
Income before income taxes	7,268	9,304	10,826	19,890
Income taxes				
Current tax	774	(1,278)	774	(2,344)
Deferred tax	(2,289)	(537)	(119)	(1,448)
	(1,515)	(1,815)	655	(3,792)
Net income from continuing operations	5,753	7,489	11,481	16,098
Discontinued operations				
Loss from discontinued operations	-	(346)	(310)	(1,004)
Net income	5,753	7,143	11,171	15,094
Earnings per share attributable to Vale's stockholders:				
Basic and diluted earnings per share (restated):				
Common share (R\$)	1.11	1.37	2.15	2.90

The accompanying notes are an integral part of these interim financial statements.

Statement of Comprehensive Income

In millions of Brazilian reais

	Consolidated			
	Three-month period ended		Nine-month period ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Net income	5,608	7,170	11,113	15,281
Other comprehensive income (loss):				
Items that will not be reclassified subsequently to the income statement				
Retirement benefit obligations	144	142	112	(573)
Fair value adjustment to investment in equity securities	702	-	873	-
Transfer to retained earnings	-	-	(51)	-
Total items that will not be reclassified subsequently to the income statement, net of tax	846	142	934	(573)
Items that may be reclassified subsequently to the income statement				
Translation adjustments	4,854	(2,523)	19,823	(414)
Net investments hedge	(308)	616	(2,338)	339
Transfer of realized results to net income	-	-	(257)	-
Total of items that may be reclassified subsequently to the income statement, net of tax	4,546	(1,907)	17,228	(75)
Total comprehensive income	11,000	5,405	29,275	14,633
Comprehensive income (loss) attributable to noncontrolling interests	(176)	(118)	142	74
Comprehensive income attributable to Vale's stockholders	11,176	5,523	29,133	14,559
From continuing operations	11,176	5,571	29,117	14,607
From discontinued operations	-	(48)	16	(48)
	11,176	5,523	29,133	14,559

	Parent company			
	Three-month period ended		Nine-month period ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Net income	5,753	7,143	11,171	15,094
Other comprehensive income:				
Items that will not be reclassified subsequently to the income statement				
Retirement benefit obligations	32	(26)	(5)	(53)
Fair value adjustment to investment in equity securities	621	-	770	-
Equity results in associates and joint ventures	193	168	220	(520)
Transfer to retained earnings	-	-	(51)	-
Total items that will not be reclassified subsequently to the income statement, net of tax	846	142	934	(573)
Items that may be reclassified subsequently to the income statement				
Translation adjustments	4,885	(2,378)	19,478	(301)
Net investments hedge	(308)	616	(2,338)	339
Transfer of realized results to net income	-	-	(112)	-
Total of items that may be reclassified subsequently to the income statement, net of tax	4,577	(1,762)	17,028	38
Total comprehensive income	11,176	5,523	29,133	14,559

Items above are stated net of tax and the related taxes are disclosed in note 7.

The accompanying notes are an integral part of these interim financial statements.

Statement of Cash Flows

In millions of Brazilian reais

	Consolidated			
	Three-month period ended		Nine-month period ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Cash flow from operating activities:				
Income before income taxes from continuing operations	8,058	10,569	13,919	21,385
Continuing operations adjustments for:				
Equity results in associates and joint ventures	(134)	(367)	(584)	(509)
Impairment and other results on non-current assets and associates and joint ventures	787	610	2,420	34
Depreciation, amortization and depletion	3,376	2,916	9,322	8,674
Financial results, net	4,958	(754)	17,959	5,481
Changes in assets and liabilities:				
Accounts receivable	(708)	(3,075)	(78)	3,420
Inventories	(721)	(173)	(1,453)	(1,488)
Suppliers and contractors	1,295	113	(82)	1,162
Provision - Payroll, related charges and others remunerations	789	632	(238)	539
Proceeds from cobalt stream transaction	-	-	2,603	-
Other assets and liabilities, net	81	(855)	(1,734)	(2,824)
	17,781	9,616	42,054	35,874
Interest on loans and borrowings paid	(972)	(1,289)	(3,203)	(4,235)
Derivatives paid, net	(84)	(361)	(127)	(714)
Interest on participative stockholders' debentures paid	-	-	(245)	(221)
Income taxes	(867)	(282)	(1,808)	(1,539)
Income taxes - Settlement program	(412)	(393)	(1,225)	(1,159)
Net cash provided by operating activities from continuing operations	15,446	7,291	35,446	28,006
Cash flow from investing activities:				
Financial investments invested	(76)	(124)	(156)	(176)
Loans and advances - net receipts (payments) (note 25)	(341)	(324)	7,955	(1,059)
Additions to property, plant and equipment, intangibles and investments	(2,737)	(2,930)	(8,238)	(9,275)
Proceeds from disposal of assets and investments (note 12 and 13)	476	624	4,937	2,266
Dividends and interest on capital received from associates and joint ventures	28	64	566	330
Others investments activities	(97)	7	(105)	(95)
Net cash provided by (used in) investing activities from continuing operations	(2,747)	(2,683)	4,959	(8,009)
Cash flow from financing activities:				
Loans and borrowings				
Additions	827	1,115	3,641	5,654
Repayments	(4,537)	(8,895)	(21,350)	(18,327)
Transactions with stockholders:				
Dividends and interest on capital paid to stockholders	(7,694)	-	(12,415)	(4,660)
Dividends and interest on capital paid to noncontrolling interest	(315)	(372)	(625)	(395)
Share buyback program (note 24)	(1,939)	-	(1,939)	-
Transactions with noncontrolling stockholders	-	-	(56)	(305)
Net cash used in financing activities from continuing operations	(13,658)	(8,152)	(32,744)	(18,033)
Net cash used in discontinued operations (note 12)	-	(56)	(157)	(554)
Increase (decrease) in cash and cash equivalents	(959)	(3,600)	7,504	1,410
Cash and cash equivalents in the beginning of the period	24,557	18,922	14,318	13,891
Effect of exchange rate changes on cash and cash equivalents	826	(380)	2,987	(315)
Effects of disposals of subsidiaries and merger, net of cash and cash equivalents	-	7	(385)	(37)
Cash and cash equivalents at end of the period	24,424	14,949	24,424	14,949
Non-cash transactions:				
Additions to property, plant and equipment - capitalized loans and borrowing costs	197	351	551	938

The accompanying notes are an integral part of these interim financial statements.

Statement of Cash Flows

In millions of Brazilian reais

	Parent company	
	Nine-month period ended September 30,	
	2018	2017
	(Restated)	
Cash flow from operating activities:		
Income before income taxes from continuing operations	10,826	19,890
Continuing operations adjustments for:		
Equity results in subsidiaries, associates and joint ventures	(4,688)	(5,349)
Impairment and other results on non-current assets and associates and joint ventures	1,976	696
Depreciation, amortization and depletion	4,464	4,124
Financial results, net	17,806	5,055
Changes in assets and liabilities:		
Accounts receivable	(5,094)	13,517
Inventories	(254)	(346)
Suppliers and contractors	1,448	81
Provision - Payroll, related charges and others remunerations	(6)	483
Other assets and liabilities, net	1,274	80
	27,752	38,231
Interest on loans and borrowings paid	(1,440)	(4,311)
Derivatives paid, net	(288)	(439)
Interest on participative stockholders' debentures paid	(245)	(221)
Dividends received from interest on capital and associates	1,913	1,602
Income taxes	(72)	(735)
Income taxes - Settlement program	(1,200)	(1,136)
Net cash provided by operating activities	26,420	32,991
Cash flow from investing activities:		
Financial investments (invested)	(230)	(195)
Loans and advances - net receipts (payments)	3,667	(7,468)
Additions to property, plant and equipment, intangibles and investments	(6,293)	(7,511)
Proceeds from disposal of assets and investments (note 12)	466	21
Dividends and interest on capital received from subsidiaries, associates and joint ventures	566	300
Others investments activities	(128)	(87)
Net cash used in investing activities	(1,952)	(14,940)
Cash flow from financing activities:		
Loans and borrowings		
Additions	3,641	1,452
Repayments	(12,825)	(12,705)
Transactions with stockholders:		
Dividends and interest on capital paid to stockholders	(12,416)	(4,660)
Stock buy-back program	(1,939)	-
Net cash used in financing activities	(23,539)	(15,913)
Increase in cash and cash equivalents	929	2,138
Cash and cash equivalents in the beginning of the period	1,876	1,203
Effects of disposals of subsidiaries and merger, net on cash and cash equivalents	-	7
Cash and cash equivalents at end of the period	2,805	3,348
Non-cash transactions:		
Additions to property, plant and equipment - capitalized loans and borrowing costs	548	938

The accompanying notes are an integral part of these interim financial statements.

Statement of Financial Position

In millions of Brazilian reais

		Consolidated		Parent company	
		September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
	Notes				
Assets					
Current assets					
Cash and cash equivalents	16	24,424	14,318	2,805	1,876
Accounts receivable	9	9,807	8,602	17,111	9,560
Other financial assets	11	1,656	6,689	350	409
Inventories	10	16,238	12,987	4,855	4,601
Prepaid income taxes		2,583	2,584	2,418	2,378
Recoverable taxes		3,799	3,876	1,818	2,091
Others		2,079	1,780	944	1,542
		60,586	50,836	30,301	22,457
Non-current assets held for sale	12	-	11,865	-	7,082
		60,586	62,701	30,301	29,539
Non-current assets					
Judicial deposits	22(c)	6,730	6,571	6,290	6,110
Other financial assets	11	12,880	10,690	5,648	1,865
Prepaid income taxes		2,246	1,754	-	-
Recoverable taxes		2,173	2,109	2,093	2,062
Deferred income taxes	7(a)	22,875	21,959	15,409	14,200
Others		1,084	882	1,308	810
		47,988	43,965	30,748	25,047
Investments	13	12,598	11,802	144,521	117,387
Intangibles	14	31,190	28,094	15,254	13,471
Property, plant and equipment	15	189,917	181,535	101,521	102,978
		281,693	265,396	292,044	258,883
Total assets		342,279	328,097	322,345	288,422
Liabilities					
Current liabilities					
Suppliers and contractors		16,169	13,367	9,369	7,503
Loans and borrowings	16	5,498	5,633	4,027	4,378
Other financial liabilities	11	3,545	3,260	4,855	4,413
Taxes payable	7(c)	2,525	2,307	2,168	1,991
Provision for income taxes		637	1,175	-	-
Liabilities related to associates and joint ventures	17	1,171	1,080	1,171	1,080
Provisions	21	4,697	4,610	2,788	2,904
Dividends and interest on capital		-	4,742	-	4,439
Others		2,476	3,284	2,717	2,552
		36,718	39,458	27,095	29,260
Liabilities associated with non-current assets held for sale	12	-	3,899	-	-
		36,718	43,357	27,095	29,260
Non-current liabilities					
Loans and borrowings	16	61,808	68,759	23,625	28,966
Other financial liabilities	11	11,284	9,575	74,882	54,955
Taxes payable	7(c)	15,448	16,176	15,140	15,853
Deferred income taxes	7(a)	6,852	5,687	-	-
Provisions	21	25,492	23,243	7,901	6,900
Liabilities related to associates and joint ventures	17	3,045	2,216	3,045	2,216
Deferred revenue - Gold stream		6,684	6,117	-	-
Others		8,254	4,861	7,399	6,514
		138,867	136,634	131,992	115,404
Total liabilities		175,585	179,991	159,087	144,664
Stockholders' equity	24				
Equity attributable to Vale's stockholders		163,258	143,758	163,258	143,758
Equity attributable to noncontrolling interests		3,436	4,348	-	-
Total stockholders' equity		166,694	148,106	163,258	143,758
Total liabilities and stockholders' equity		342,279	328,097	322,345	288,422

The accompanying notes are an integral part of these interim financial statements.

Statement of Changes in Equity

In millions of Brazilian reais

	Share capital	Results on conversion of shares	Capital reserve	Results from operation with noncontrolling interest	Profit reserves	Treasury stocks	Unrealized fair value gain (losses)	Cumulative translation adjustments	Retained earnings	Equity attributable to Vale's stockholders	Equity attributable to noncontrolling interests	Total stockholders' equity
Balance at December 31, 2017	77,300	50	3,634	(2,663)	24,539	(2,746)	(3,912)	47,556	-	143,758	4,348	148,106
Net income	-	-	-	-	-	-	-	-	11,171	11,171	(58)	11,113
Other comprehensive income:												
Retirement benefit obligations	-	-	-	-	-	-	112	-	(51)	61	-	61
Net investments hedge	-	-	-	-	-	-	-	(2,338)	-	(2,338)	-	(2,338)
Fair value adjustment to investment in equity securities	-	-	-	-	-	-	873	-	-	873	-	873
Translation adjustments	-	-	-	-	-	-	327	19,039	-	19,366	200	19,566
Transactions with stockholders:												
Dividends and interest on capital of Vale's stockholders	-	-	-	-	-	-	-	-	(7,694)	(7,694)	-	(7,694)
Dividends of noncontrolling interest	-	-	-	-	-	-	-	-	-	-	(318)	(318)
Acquisitions and disposal of noncontrolling interest	-	-	-	-	-	-	-	-	-	-	(756)	(756)
Capitalization of noncontrolling interest advances	-	-	-	-	-	-	-	-	-	-	20	20
Share buyback program	-	-	-	-	-	(1,939)	-	-	-	(1,939)	-	(1,939)
Balance at September 30, 2018	77,300	50	3,634	(2,663)	24,539	(4,685)	(2,600)	64,257	3,426	163,258	3,436	166,694

	Share capital	Results on conversion of shares	Capital reserve	Results from operation with noncontrolling interest	Profit reserves	Treasury stocks	Unrealized fair value gain (losses)	Cumulative translation adjustments	Retained earnings	Equity attributable to Vale's stockholders	Equity attributable to noncontrolling interests	Total stockholders' equity
Balance at December 31, 2016	77,300	50	-	(1,870)	13,698	(2,746)	(3,739)	44,548	-	127,241	6,461	133,702
Net income	-	-	-	-	-	-	-	-	15,094	15,094	187	15,281
Other comprehensive income:												
Retirement benefit obligations	-	-	-	-	-	-	(573)	-	-	(573)	-	(573)
Net investments hedge	-	-	-	-	-	-	-	339	-	339	-	339
Translation adjustments	-	-	-	-	-	-	72	(373)	-	(301)	(113)	(414)
Transactions with stockholders:												
Dividends and interest on capital of Vale's stockholders	-	-	-	-	(2,064)	-	-	-	-	(2,064)	-	(2,064)
Dividends of noncontrolling interest	-	-	-	-	-	-	-	-	-	-	(341)	(341)
Acquisitions and disposal of noncontrolling interest	-	-	-	(868)	-	-	-	-	-	(868)	(1,629)	(2,497)
Capitalization of noncontrolling interest advances	-	-	-	-	-	-	-	-	-	-	106	106
Merger of Valepar	-	-	3,692	-	-	-	-	-	-	3,692	-	3,692
Balance at September 30, 2017	77,300	50	3,692	(2,738)	11,634	(2,746)	(4,240)	44,514	15,094	142,560	4,671	147,231

The accompanying notes are an integral part of these interim financial statements.

Value Added Statement

In millions of Brazilian Reals

	Consolidated		Parent company	
			Nine-month period ended September 30,	
	2018	2017	2018	2017
Generation of value added from continuing operations				
Gross revenue				
Revenue from products and services	98,168	79,771	57,701	47,793
Impairment and other results on non-current assets	(749)	345	(305)	(326)
Revenue from the construction of own assets	8,271	4,657	5,302	4,165
Expected credit losses	(10)	(19)	(5)	6
Other revenues	7,462	396	3,238	313
Less:				
Acquisition of products	(1,228)	(1,483)	(534)	(516)
Material, service and maintenance	(24,918)	(19,353)	(13,973)	(12,183)
Oil and gas	(4,051)	(3,015)	(2,640)	(2,074)
Energy	(2,497)	(2,226)	(1,271)	(1,057)
Freight	(11,414)	(7,374)	(112)	(81)
Impairment and other results in associates and joint ventures	(1,671)	(379)	(1,671)	(370)
Impairment of discontinued operations	-	-	-	(1,004)
Other costs and expenses	(9,627)	(4,582)	(5,979)	(763)
Gross value added	57,736	46,738	39,751	33,903
Depreciation, amortization and depletion	(9,322)	(8,674)	(4,464)	(4,124)
Net value added	48,414	38,064	35,287	29,779
Received from third parties				
Equity results from entities	584	509	4,688	4,345
Equity results from discontinued operations	-	-	-	1,004
Financial income	1,114	1,054	209	302
Monetary and exchange variation of assets	2,087	(276)	2,746	(404)
Total value added from continuing operations to be distributed	52,199	39,351	42,930	35,026
Value added from discontinued operations to be distributed	63	482	-	-
Total value added to be distributed	52,262	39,833	42,930	35,026
Personnel	6,988	5,502	3,577	2,648
Taxes and contributions	7,987	5,559	4,270	5,390
Current income tax	475	3,461	(774)	2,344
Deferred income tax	2,021	1,660	119	1,448
Financial expense (excludes capitalized interest)	7,432	6,222	7,074	6,335
Monetary and exchange variation of liabilities	13,622	(154)	13,592	(1,424)
Other remunerations of third party funds	2,561	1,841	3,901	3,191
Reinvested net income	11,171	15,094	11,171	15,094
Net income (loss) attributable to noncontrolling interest	(58)	166	-	-
Distributed value added from continuing operations	52,199	39,351	42,930	35,026
Distributed value added from discontinued operations	63	482	-	-
Distributed value added	52,262	39,833	42,930	35,026

The accompanying notes are an integral part of these interim financial statements.

Selected Notes to the Interim Financial Statements

Expressed in millions of Brazilian reais, unless otherwise stated

1. Corporate information

Vale S.A. (the "Parent Company") is a public company headquartered in the city of Rio de Janeiro, Brazil with securities traded on the stock exchanges of São Paulo – B3 S.A. (Vale3), New York - NYSE (VALE), Paris - NYSE Euronext (Vale3) and Madrid – LATIBEX (XVALO).

Vale S.A. and its direct and indirect subsidiaries ("Vale" or "Company") are global producers of iron ore and iron ore pellets, key raw materials for steelmaking, and producers of nickel, which is used to produce stainless steel and metal alloys employed in the production of several products. The Company also produces copper, metallurgical and thermal coal, manganese ore, ferroalloys, platinum group metals, gold, silver and cobalt. The information by segment is presented in note 3.

2. Basis for preparation of the interim financial statements

a) Statement of compliance

The condensed consolidated and individual interim financial statements of the Company ("interim financial statements") have been prepared and are being presented in accordance with IAS 34 Interim Financial Reporting (CPC 21) of the International Financial Reporting Standards ("IFRS") as implemented in Brazil by the Brazilian Accountant Pronouncements Committee ("CPC"), approved by the Brazilian Securities Exchange Commission ("CVM") and by the Brazilian Federal Accounting Council ("CFC"). All relevant information from its own interim financial statements, and only this information, are being presented and correspond to those used by the Company's Management.

The selected notes of the Parent Company are presented in a summarized form in note 26.

b) Basis of presentation

The interim financial statements have been prepared to update users about relevant events and transactions occurred in the period and should be read in conjunction with the financial statements for the year ended December 31, 2017. The accounting policies, accounting estimates and judgments, risk management and measurement methods are the same as those applied when preparing the last annual financial statements, except for new accounting policies related to the application of IFRS 9 – Financial instrument (CPC 48) and IFRS 15 – Revenue from contracts with customers (CPC 47), which were adopted by the Company from January 1, 2018. The accounting policy for recognizing and measuring income taxes in the interim period is described in note 7.

The interim financial statements of the Company and its associates and joint ventures are measured using the currency of the primary economic environment in which the entity operates ("functional currency"), which in the case of the Parent Company is the Brazilian real ("R\$"). For presentation purposes, these interim financial statements are presented in Brazilian Reais.

The exchange rates used by the Company to translate its foreign operations are as follows:

	Closing rate		Three-month period ended		Average rate	
	September 30, 2018	December 31, 2017	September 30, 2018	September 30, 2017	September 30, 2018	September 30, 2017
US Dollar ("US\$")	4.0039	3.3080	3.9505	3.1639	3.6055	3.1750
Canadian dollar ("CAD")	3.0992	2.6344	3.0232	2.5235	2.7973	2.4319
Australian dollar ("AUD")	2.8980	2.5849	2.8899	2.4969	2.7255	2.4320
Euro ("EUR" or "€")	4.6545	3.9693	4.5950	3.7162	4.2969	3.5392

The issue of these interim financial statements was authorized by the Board of Directors on October 24, 2018.

c) Changes in significant accounting policies

i) IFRS 9 Financial instrument – The Company has adopted IFRS 9 Financial Instruments starting January 1, 2018. This standard addresses the classification and measurement of financial assets and liabilities, new impairment model and new rules for hedge accounting. The main changes are described below:

- Classification and measurement - Under IFRS 9, the Company's financial assets are initially measured at fair value (plus transaction costs if is not measured at fair value through profit or loss).

The investments in debt financial instruments are subsequently measured at fair value through profit or loss ("FVTPL"), amortized cost, or fair value through other comprehensive income ("FVOCI"). The classification is based on two conditions: the Company's business model in which the asset is held; and whether the contractual terms give rise on specified dates to cash flows that are 'solely payments of principal and interest' on the principal amount outstanding ("SPPI").

The FVOCI category only includes equity instruments, which is not held for trading and the Company has irrevocably elected to designate upon initial recognition. The gains or losses from equity instruments at FVOCI are not recycled to income statement on derecognition and these financial assets are not subject to an impairment assessment under IFRS 9.

The Company has assessed its business models as of the date of IFRS 9 initial application, 1 January 2018, and no significant impact were identified in the financial statements.

- Impairment - IFRS 9 has replaced the IAS 39's incurred loss approach with a forward-looking expected credit loss (ECL) approach.

For accounts receivables, the Company has applied the standard's simplified approach and has calculated ECLs based on lifetime expected credit losses. The Company has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the economic environment and by any financial guarantees related to these accounts receivables.

For other financial assets, the ECL is based on the 12-month ECL. The 12-month ECL is the proportion of lifetime ECLs that results from default events on a financial instrument that are possible within 12 months after the reporting date. However, when there has been a significant increase in credit risk since origination, the allowance will be based on the lifetime ECL.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating ECLs, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Company's historical experience and informed credit assessment including forward-looking information.

At each reporting date, the Company assesses whether financial assets carried at amortized cost are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

There is no significant impact on its financial statements resulting from this new impairment approach given Vale's credit rating and risk management policies in place.

- Hedge accounting - The Company has elected to adopt the new general hedge accounting model in IFRS 9. The changes introduced by IFRS 9 relating to hedge accounting currently have no impact, as the Company does not currently apply cash flow or fair value hedge accounting. The Company currently applies the net investment hedge for which there are no changes introduced by this new standard.

ii) IFRS 15 Revenue from contracts with customers - The Company has adopted IFRS 15 Revenue from contracts with customers starting January 1, 2018. IFRS 15 establishes a comprehensive framework for revenue recognition and replaced IAS 18 Revenue, IAS 11 Construction Contracts and related interpretations. The Company has adopted IFRS 15 using the modified retrospective method. Accordingly, the information presented for 2017 has not been restated.

- Sales of commodities - IFRS 15 introduced the five-step model for revenue recognition from contracts with customers. The new standard is based on the core principle that revenue is recognized when the control of a good or service transfers to a customer of an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services.

There is no significant impact on the timing of commodities revenue recognition under IFRS 15, since usually the transfer of risks and rewards and the transfer of control under the sales contracts are at the same point in time.

The disaggregated revenue information is disclosed in note 3.

- Shipping services - A proportion of Vale's sales are under Cost and Freight ("CFR") or Cost, Insurance and Freight ("CIF") Incoterms, in which the Company is responsible for providing shipping services after the date that Vale transfers control of the goods to the customers. According to the previous standard (IAS 18), the revenue from shipping services was recognized upon loading, as well as the related costs, and was not considered a separate service.

Under IFRS 15, the provision of shipping services for CFR and CIF contracts should be considered as a separate performance obligation in which a proportion of the transaction price would be allocated and recognized over time as the shipping services are provided. The impact on the timing of revenue recognition of the proportion allocated to the shipping service is not significant to the Company's quarter-end results ended September 30, 2018. Therefore, such revenue has not been presented separately in these interim financial statements.

- Provisionally priced commodities sales - Under IFRS 9 and 15, the treatment of the provisional pricing mechanisms embedded within the provisionally priced commodities sales remains unmodified. Therefore, these revenues are recognized based on the estimated fair value of the total consideration receivable, and the provisionally priced sales mechanism embedded within these sale arrangements has the character of a derivative.

The Company is mostly exposed to the fluctuations in the iron ore and copper price.

The selling price of these products can be measured reliably at each period, since the price is quoted on an active market. The fair value of the sales price adjustment was recognized as operational revenue in the income statement.

d) Accounting standards issued but not yet effective

The standards and interpretations issued by IASB relevant to the Company but not yet effective are the same as those applicable when preparing the financial statements for the year ended December 31, 2017, except for IFRS 9 and IFRS 15 adopted by the Company from January 1, 2018. There is no significant impact in the interim financial statements resulting from the application of IFRS 9 and IFRS 15.

e) Restatement of corresponding figures

The amounts corresponding to the Parent Company's statements of cash flows, for the nine-month period ended September 30, 2017, originally presented in the interim financial statements for that period, have been restated for reclassification from financing activities in the amount of R\$6,986 to investing activities. This amount relates to intercompany loans between the Parent Company and its subsidiary and was presented as cash flows from financing activities in the aforementioned period. This reclassification aligns the Company's accounting practice with its cash management policy, which aims to manage at the Parent Company the cash generated by its subsidiaries, including sale of investments and planning for future investments.

The effects of these restatements are as follows:

	Parent company		
	Nine-month period ended September 30, 2017		
	Original balance	Reclassification	Restated
Statement of cash flows			
Net cash provided by operating activities	32,991	-	32,991
Cash flow from investing activities			
Loans and advances - net receipts (payments)	(482)	(6,986)	(7,468)
Net cash used in investing activities	(7,954)	(6,986)	(14,940)
Cash flow from financing activities			
Loans and borrowings			
Additions	7,875	(6,423)	1,452
Repayments	(26,114)	13,409	(12,705)
Net cash used in financing activities	(22,899)	6,986	(15,913)
Increase in cash and cash equivalents	2,138	-	2,138

3. Information by business segment and by geographic area

The information presented to the Executive Board on the performance of each segment is derived from the accounting records, adjusted for reclassifications between segments.

a) Adjusted LAJIDA (EBITDA)

Management uses adjusted LAJIDA (EBITDA) to assess each segment's contribution to the Company's performance and to support the decision making process. Adjusted LAJIDA (EBITDA) is calculated for each segment using operating income or loss plus dividends received and interest from associates and joint ventures, and adding back the amounts charged as (i) depreciation, depletion and amortization and (ii) special events (note 4).

In 2018, the Company has allocated general and corporate expenses to "Others" as these expenses are not directly related to the performance of each business segment. Therefore, "Others" includes unallocated corporate expenses. The comparative period was restated in order to reflect this change in the criteria for allocation.

	Consolidated						
	Three-month period ended September 30, 2018						
	Net operating revenue	Cost of goods sold and services rendered	Selling, administrative and other operating expenses (i)	Research and evaluation	Pre operating and operational stoppage	Dividends received and interest from associates and joint ventures	Adjusted LAJIDA (EBITDA)
Ferrous minerals							
Iron ore	22,215	(9,777)	(5)	(105)	(95)	-	12,233
Iron ore Pellets	6,444	(3,211)	(17)	(24)	(24)	-	3,168
Ferroalloys and manganese	413	(284)	(2)	1	-	-	128
Other ferrous products and services	452	(293)	(5)	(3)	-	28	179
	29,524	(13,565)	(29)	(131)	(119)	28	15,708
Coal	1,671	(1,708)	8	(16)	-	106	61
Base metals							
Nickel and other products	4,314	(3,177)	(11)	(39)	(33)	-	1,054
Copper	1,987	(895)	(5)	(18)	-	-	1,069
	6,301	(4,072)	(16)	(57)	(33)	-	2,123
Others	366	(249)	(477)	(142)	(22)	-	(524)
Total of continuing operations	37,862	(19,594)	(514)	(346)	(174)	134	17,368

(i) Adjusted for a loss of R\$189 refers to provision for litigation classified as special events.

	Consolidated						
	Three-month period ended September 30, 2017						
	Net operating revenue	Cost of goods sold and services rendered	Selling, administrative and other operating expenses	Research and evaluation	Pre operating and operational stoppage	Dividends received and interest from associates and joint ventures	Adjusted LAJIDA (EBITDA)
Ferrous minerals							
Iron ore	16,212	(6,584)	(51)	(72)	(148)	3	9,360
Iron ore Pellets	4,556	(2,320)	(26)	(16)	(6)	-	2,188
Ferroalloys and manganese	416	(223)	(9)	-	2	-	186
Other ferrous products and services	368	(243)	2	(1)	(1)	38	163
	21,552	(9,370)	(84)	(89)	(153)	41	11,897
Coal	1,137	(1,164)	(1)	(14)	-	212	170
Base metals							
Nickel and other products	3,688	(2,788)	(69)	(42)	(1)	-	788
Copper	1,881	(781)	(18)	(17)	-	-	1,065
	5,569	(3,569)	(87)	(59)	(1)	-	1,853
Others	342	(248)	(662)	(123)	(2)	23	(670)
Total of continuing operations	28,600	(14,351)	(834)	(285)	(156)	276	13,250
Discontinued operations (Fertilizers)	1,685	(1,554)	(74)	(12)	(11)	-	34
Total	30,285	(15,905)	(908)	(297)	(167)	276	13,284

Consolidated							
Nine-month period ended September 30, 2018							
	Net operating revenue	Cost of goods sold and services rendered	Selling, administrative and other operating expenses (i)	Research and evaluation	Pre operating and operational stoppage	Dividends received and interest from associates and joint ventures	Adjusted LAJIDA (EBITDA)
Ferrous minerals							
Iron ore	54,101	(24,318)	(142)	(261)	(306)	2	29,076
Iron ore Pellets	17,055	(8,759)	(43)	(60)	(55)	391	8,529
Ferroalloys and manganese	1,234	(763)	(10)	(2)	-	-	459
Other ferrous products and services	1,252	(834)	(10)	(5)	(1)	28	430
	73,642	(34,674)	(205)	(328)	(362)	421	38,494
Coal	4,192	(3,980)	(11)	(48)	-	404	557
Base metals							
Nickel and other products	12,847	(8,391)	(121)	(101)	(85)	-	4,149
Copper	5,530	(2,582)	(10)	(44)	-	-	2,894
	18,377	(10,973)	(131)	(145)	(85)	-	7,043
Others	817	(721)	(1,458)	(378)	(60)	145	(1,655)
Total of continuing operations	97,028	(50,348)	(1,805)	(899)	(507)	970	44,439
Discontinued operations (Fertilizers)	397	(393)	(15)	-	-	-	(11)
Total	97,425	(50,741)	(1,820)	(899)	(507)	970	44,428

(i) Adjusted for a loss of R\$433 refers to provision for litigation classified as special events.

Consolidated							
Nine-month period ended September 30, 2017							
	Net operating revenue	Cost of goods sold and services rendered	Selling, administrative and other operating expenses	Research and evaluation	Pre operating and operational stoppage	Dividends received and interest from associates and joint ventures	Adjusted LAJIDA (EBITDA)
Ferrous minerals							
Iron ore	42,841	(17,945)	82	(195)	(405)	3	24,381
Iron ore Pellets	13,426	(6,663)	(16)	(42)	(14)	119	6,810
Ferroalloys and manganese	1,062	(620)	(16)	-	(10)	-	416
Other ferrous products and services	1,157	(728)	35	(4)	(2)	38	496
	58,486	(25,956)	85	(241)	(431)	160	32,103
Coal	3,701	(2,923)	(20)	(35)	(15)	212	920
Base metals							
Nickel and other products	10,497	(8,140)	(137)	(107)	(158)	-	1,955
Copper	4,967	(2,296)	(24)	(29)	-	-	2,618
	15,464	(10,436)	(161)	(136)	(158)	-	4,573
Others	1,054	(962)	(1,907)	(336)	(8)	170	(1,989)
Total of continuing operations	78,705	(40,277)	(2,003)	(748)	(612)	542	35,607
Discontinued operations (Fertilizers)	4,138	(3,814)	(187)	(26)	(78)	-	33
Total	82,843	(44,091)	(2,190)	(774)	(690)	542	35,640

Adjusted LAJIDA (EBITDA) is reconciled to net income (loss) as follows:

From continuing operations

	Consolidated			
	Three-month period ended		Nine-month period ended	
	September 30,		September 30,	
	2018	2017	2018	2017
Net income from continuing operations	5,608	7,508	11,423	16,264
Depreciation, depletion and amortization	3,376	2,916	9,322	8,674
Income taxes	2,450	3,061	2,496	5,121
Financial results, net	4,958	(754)	17,959	5,481
LAJIDA (EBITDA)	16,392	12,731	41,200	35,540
Items to reconciled adjusted LAJIDA (EBITDA)				
Special events (note 4)	896	532	1,182	(345)
Equity results in associates and joint ventures	(134)	(367)	(584)	(509)
Impairment and other results in associates and joint ventures	80	78	1,671	379
Dividends received and interest from associates and joint ventures	134	276	970	542
Adjusted LAJIDA (EBITDA) from continuing operations	17,368	13,250	44,439	35,607

From discontinued operations

	Consolidated			
	Three-month period ended		Nine-month period ended	
	September 30,		September 30,	
	2017	2018	2017	2018
Loss from discontinued operations	(338)	(310)	(983)	
Depreciation, depletion and amortization	-	-	-	3
Income taxes	(324)	(134)	(912)	
Financial results, net	4	18	30	
LAJIDA (EBITDA)	(658)	(426)	(1,862)	
Items to reconciled adjusted LAJIDA (EBITDA)				
Equity results in associates and joint ventures	(1)	-	(3)	
Impairment of non-current assets	693	415	1,898	
Adjusted LAJIDA (EBITDA) from discontinued operations	34	(11)	33	

b) Assets by segment

	September 30, 2018			December 31, 2017		
	Product inventory	Investments in associates and joint ventures	Property, plant and equipment and intangible (i)	Product inventory	Investments in associates and joint ventures	Property, plant and equipment and intangible (i)
Ferrous minerals	7,476	7,052	120,566	5,859	6,357	119,429
Coal	490	1,272	6,464	271	1,048	5,686
Base metals	4,401	57	87,273	3,336	43	78,080
Others	50	4,217	6,804	20	4,354	6,434
Total	12,417	12,598	221,107	9,486	11,802	209,629

	Consolidated					
	Three-month period ended			Nine-month period ended		
	September 30, 2018					
	Additions to property, plant and equipment and intangible (ii)			Additions to property, plant and equipment and intangible (ii)		
	Sustaining investments	Capital expenditures	Depreciation, depletion and amortization (iii)	Sustaining investments	Capital expenditures	Depreciation, depletion and amortization (iii)
Ferrous minerals	1,244	483	1,617	3,340	2,172	4,555
Coal	117	-	262	264	81	674
Base metals	885	-	1,408	2,155	118	3,873
Others	4	3	89	11	18	220
Total	2,250	486	3,376	5,770	2,389	9,322

	Consolidated		
	Three-month period ended		Nine-month period ended
			September 30, 2017
	Additions to property, plant and equipment and intangible (ii)		
	Sustaining investments	Capital expenditures	Depreciation, depletion and amortization (iii)
Ferrous minerals	881	864	1,442
Coal	39	5	178
Base metals	875	39	1,257
Others	1	9	39
Total	1,796	917	2,916

(i) Goodwill is allocated mainly to ferrous minerals and base metals segments in the amount of R\$7,133 and R\$7,617 in September 30, 2018 and R\$7,133 and R\$6,460 in December 31, 2017, respectively.

(ii) Includes only cash outflows.

(iii) Refers to amounts recognized in the income statement.

Base metals

Onça Puma

In September 2017, the Federal Court granted an injunction suspending certain of nickel mining operations at Onça Puma. The Company has appealed this decision to seek a suspension of this injunction, but it is not possible to anticipate when Onça Puma activities will resume. In December 31, 2017, the Company has calculated the recoverable amount and no losses were identified. The Company has assessed the impairment risk related to this specific cash-generating unit and concluded that no significant changes occurred that could lead to a loss that should be recognized in the income statement for the period ended September 30, 2018.

Cobalt streaming transaction

In June 2018, the Company entered into two different agreements, one with Wheaton Precious Metals Corp. ("Wheaton") and the other with Cobalt 27 Capital Corp. ("Cobalt 27"), to sell a stream equivalent to 75% of the cobalt extracted as a by-product from the Voisey's Bay mine, in Canada, starting on January 1, 2021. Furthermore, the Company restarted the Voisey's Bay underground mine expansion project, which is going to increase the expected useful life of Voisey's Bay mine from 2023 to 2034. The first year of underground production is expected to be 2021, when the current operations on the open pit mine begins to ramp down.

Upon completion of the transaction, the Company received an upfront payment of R\$2,603 (US\$690 million) in cash, R\$1,471 (US\$390 million) from Wheaton and R\$1,132 (US\$300 million) from Cobalt 27, has been recorded as other non-current liabilities. Vale will receive additional payments of 20%, on average, of the market reference price for cobalt, for each pound of finished cobalt delivered.

Thus, from January 1, 2021 onwards, Wheaton and Cobalt 27 will be entitled to receive 42.4% and 32.6%, respectively, of cobalt equivalent to the production from the Voisey's Bay mine, while Vale remains exposed to approximately 40% of the cobalt economic exposure, as Vale retains the rights to 25% of the future cobalt production and will receive 20% additional payments for the cobalt stream. The result of the sale of the mineral rights will be accounted for once certain production thresholds have been met at Voisey's Bay mine and is not expected to be significant.

c) Net operating revenue by geographic area

	Consolidated				
	Three-month period ended September 30, 2018				
	Ferrous minerals	Coal	Base metals	Others	Total
Americas, except United States and Brazil	739	-	840	-	1,579
United States of America	513	-	872	-	1,385
Germany	1,034	-	435	-	1,469
Europe, except Germany	2,099	408	1,678	-	4,185
Middle East/Africa/Oceania	2,507	174	28	-	2,709
Japan	2,038	215	500	-	2,753
China	16,228	-	750	-	16,978
Asia, except Japan and China	2,056	761	923	-	3,740
Brazil	2,310	113	275	366	3,064
Net operating revenue	29,524	1,671	6,301	366	37,862

Consolidated					
Three-month period ended September 30, 2017					
	Ferrous minerals	Coal	Base metals	Others	Total
Americas, except United States and Brazil	435	-	780	46	1,261
United States of America	261	-	769	81	1,111
Germany	937	-	227	-	1,164
Europe, except Germany	1,464	131	1,695	-	3,290
Middle East/Africa/Oceania	1,671	176	12	-	1,859
Japan	1,901	109	320	-	2,330
China	11,630	-	432	-	12,062
Asia, except Japan and China	1,184	634	1,225	-	3,043
Brazil	2,069	87	109	215	2,480
Net operating revenue	21,552	1,137	5,569	342	28,600

Consolidated					
Nine-month period ended September 30, 2018					
	Ferrous minerals	Coal	Base metals	Others	Total
Americas, except United States and Brazil	2,152	-	2,008	-	4,160
United States of America	1,095	-	2,621	25	3,741
Germany	3,115	-	1,183	-	4,298
Europe, except Germany	5,705	1,061	4,963	-	11,729
Middle East/Africa/Oceania	6,245	433	63	-	6,741
Japan	5,746	322	1,397	-	7,465
China	38,365	-	2,182	-	40,547
Asia, except Japan and China	4,703	2,045	3,149	-	9,897
Brazil	6,516	331	811	792	8,450
Net operating revenue	73,642	4,192	18,377	817	97,028

Consolidated					
Nine-month period ended September 30, 2017					
	Ferrous minerals	Coal	Base metals	Others	Total
Americas, except United States and Brazil	1,322	-	2,345	220	3,887
United States of America	819	-	1,962	263	3,044
Germany	2,530	-	670	51	3,251
Europe, except Germany	4,869	773	4,513	45	10,200
Middle East/Africa/Oceania	4,157	456	30	-	4,643
Japan	4,540	355	886	-	5,781
China	31,156	-	1,213	-	32,369
Asia, except Japan and China	2,943	1,740	3,467	-	8,150
Brazil	6,150	377	378	475	7,380
Net operating revenue	58,486	3,701	15,464	1,054	78,705

Provisionally priced commodities sales – As at September 30, 2018, there were 26 million metric tons of iron ore (2017: 30 million metric tons) and 77 thousand metric tons of copper (2017: 106 thousand metric tons) provisionally priced based on forward prices. The final price of these sales will be determined during the fourth quarter of 2018. A 10% change in the realized prices compared to the provisionally priced sales, all other factors held constant, would increase or reduce iron ore net income by R\$713 and copper net income by R\$219.

4. Special events occurred during the period

The special events occurred during the period are those that, in the Company's judgment, have non-operational effect on the performance of the period due to their size and nature. To determine whether an event or transaction should be disclosed as "special events", the Company considers quantitative and qualitative factors, such as frequency and magnitude.

The special events identified by the Company are as follows:

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Result in disposal of assets	(707)	(498)	(749)	(803)
Provision for litigation	(189)	-	(433)	-
Nacala Logistic Corridor	-	(34)	-	1,576
Impairment of non-current assets	-	-	-	(428)
Total	(896)	(532)	(1,182)	345

Result in disposal of assets - Refers to non-viable projects and operating assets written off through sale or obsolescence, recognized in the income statement as "Impairment and other results on noncurrent assets".

Provision for litigation – Refers to the update on the likelihood of loss for various litigations.

Nacala Logistic Corridor – In March 2017, the Company concluded the transaction with Mitsui to sell 15% of its stake in Vale Moçambique and 50% of its stake in the Nacala Logistics Corridor and recognized a gain in the income statement of R\$1,576.

Impairment of non-current assets – In the second quarter of 2017, the Company placed an underground mine in Sudbury in "care and maintenance" and an impairment of R\$428 was recognized in the income statement.

5. Costs and expenses by nature

a) Cost of goods sold and services rendered

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Personnel	2,255	1,785	6,125	5,297
Materials and services	3,950	3,382	10,319	8,732
Fuel oil and gas	1,520	1,047	4,029	3,013
Maintenance	2,725	2,457	7,556	7,157
Energy	830	778	2,469	2,201
Acquisition of products	447	456	1,210	1,483
Depreciation and depletion	3,233	2,748	8,912	8,149
Freight	5,061	2,808	11,414	7,374
Others	2,806	1,638	7,226	5,020
Total	22,827	17,099	59,260	48,426
Cost of goods sold	22,305	16,606	57,673	46,993
Cost of services rendered	522	493	1,587	1,433
Total	22,827	17,099	59,260	48,426

b) Selling and administrative expenses

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Personnel	242	179	589	546
Services	82	54	208	153
Depreciation and amortization	67	59	181	221
Others	144	117	399	303
Total	535	409	1,377	1,223

c) Other operating expenses, net

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Provision for litigation	189	187	433	280
Profit sharing program	141	107	511	328
Others	(86)	190	98	394
Total	244	484	1,042	1,002

6. Financial result

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Financial income				
Short-term investments	197	164	461	441
Others	248	318	653	613
	445	482	1,114	1,054
Financial expenses				
Loans and borrowings gross interest	(1,071)	(1,317)	(3,220)	(4,343)
Capitalized loans and borrowing costs	197	351	551	938
Participative stockholders' debentures	(30)	(233)	(1,652)	(1,814)
Expenses of REFIS	(192)	(296)	(564)	(1,038)
Others	(383)	(898)	(1,435)	(1,702)
	(1,479)	(2,393)	(6,320)	(7,959)
Other financial items				
Net foreign exchange gains (losses) on loans and borrowings	(2,689)	2,175	(11,627)	1,388
Derivative financial instruments	(402)	1,166	(1,218)	1,546
Other net foreign exchange gains (losses)	28	(714)	1,742	(1,127)
Net indexation gains (losses)	(861)	38	(1,650)	(383)
	(3,924)	2,665	(12,753)	1,424
Financial results, net	(4,958)	754	(17,959)	(5,481)

7. Income taxes

a) Deferred income tax assets and liabilities

Changes in deferred tax are as follows:

	Consolidated		
	Assets	Liabilities	Deferred taxes, net
Balance at June 30, 2018	25,199	6,472	18,727
Effect in income statement	(2,743)	(13)	(2,730)
Translation adjustment	319	328	(9)
Other comprehensive income	100	65	35
Balance at September 30, 2018	22,875	6,852	16,023

	Consolidated		
	Assets	Liabilities	Deferred taxes, net
Balance at June 30, 2017	23,472	5,179	18,293
Effect in income statement	(1,504)	(97)	(1,407)
Translation adjustment	(347)	(88)	(259)
Other comprehensive income	(552)	87	(639)
Effect of discontinued operations			
Effect in income statement	324	-	324
Transfer to net assets held for sale	(324)	-	(324)
Balance at September 30, 2017	21,069	5,081	15,988

	Consolidated		
	Assets	Liabilities	Deferred taxes, net
Balance at December 31, 2017	21,959	5,687	16,272
Effect in income statement	(1,976)	45	(2,021)
Transfers between asset and liabilities	29	29	-
Translation adjustment	1,337	1,047	290
Other comprehensive income	1,432	44	1,388
Effect of discontinued operations	-	-	-
Effect in income statement	134	-	134
Transfer to net assets held for sale	(40)	-	(40)
Balance at September 30, 2018	22,875	6,852	16,023

	Consolidated		
	Assets	Liabilities	Deferred taxes, net
Balance at December 31, 2016	23,931	5,540	18,391
Effect in income statement	(2,022)	(362)	(1,660)
Translation adjustment	(201)	109	(310)
Other comprehensive income	(639)	(206)	(433)
Effect of discontinued operations	-	-	-
Effect in income statement	912	-	912
Transfer to net assets held for sale	(912)	-	(912)
Balance at September 30, 2017	21,069	5,081	15,988

b) Income tax reconciliation – Income statement

The total amount presented as income taxes in the income statement is reconciled to the statutory rate, as follows:

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Income before income taxes	8,058	10,569	13,919	21,385
Income taxes at statutory rates - 34%	(2,739)	(3,594)	(4,732)	(7,271)
Adjustments that affect the basis of taxes:				
Income tax benefit from interest on stockholders' equity	794	397	2,382	1,190
Tax incentives	575	415	1,226	976
Equity results	45	125	198	174
Unrecognized tax losses of the period	(823)	(557)	(1,698)	(1,409)
Gain on sale of subsidiaries	-	-	-	548
Others	(302)	153	128	671
Income taxes	(2,450)	(3,061)	(2,496)	(5,121)

Income tax expense is recognized based on the estimate of the weighted average effective tax rate expected for the full year, adjusted for the tax effect of certain items recognized in full in the interim period. Therefore, the effective tax rate in the interim financial statement may differ from management's estimate of the effective tax rate for the annual financial statement.

c) Income taxes - Settlement program ("REFIS")

The balance mainly relates to REFIS to settle most of the claims related to the collection of income tax and social contribution on equity gains of foreign subsidiaries and affiliates from 2003 to 2012. As at September 30, 2018, the balance of R\$17,104 (R\$1,656 as current and R\$15,448 as non-current) is due in 121 remaining monthly installments, bearing interest at the SELIC rate (Special System for Settlement and Custody).

8. Basic and diluted earnings (loss) per share

The basic and diluted earnings (loss) per share are presented below:

	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017 (i)	2018	2017 (i)
Net income (loss) attributable to Vale's stockholders:				
Net income from continuing operations	5,753	7,489	11,481	16,098
Loss from discontinued operations	-	(346)	(310)	(1,004)
Net income	5,753	7,143	11,171	15,094
Thousands of shares				
Weighted average number of shares outstanding - common shares (note 24b)	5,180,238	5,197,432	5,191,638	5,197,432
Basic and diluted earnings per share from continuing operations:				
Common share (R\$)	1.11	1.44	2.21	3.10
Basic and diluted loss per share from discontinued operations:				
Common share (R\$)	-	(0.07)	(0.06)	(0.20)
Basic and diluted earnings per share:				
Common share (R\$)	1.11	1.37	2.15	2.90

(i) Restated to reflect the conversion of the class "A" preferred shares into common shares.

The Company does not have potential outstanding shares or other instruments with dilutive effect on the earnings per share.

9. Accounts receivable

	Consolidated	
	September 30, 2018	December 31, 2017
Accounts receivable	10,037	8,802
Impairment of accounts receivable	(230)	(200)
	9,807	8,602
Accounts receivable related to the steel sector - %	80.50%	82.90%

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Impairment of trade receivables recorded in the income statement	7	(5)	(10)	(19)

There is no customer that individually represents over 10% of accounts receivable or revenues.

10. Inventories

	Consolidated	
	September 30, 2018	December 31, 2017
Finished products	9,566	7,324
Work in progress	2,851	2,162
Consumable inventory	3,821	3,501
Total	16,238	12,987

	Consolidated			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Reversal (provision) for net realizable value	12	78	(55)	263

Finished and work in progress product inventory by segments is presented in note 3(b).

11. Other financial assets and liabilities

	Consolidated			
	Current		Non-Current	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Other financial assets				
Financial investments	22	61	-	-
Loans	-	-	619	498
Derivative financial instruments (note 20)	291	351	1,391	1,497
Investments in equity securities (note 12)	-	-	4,445	-
Related parties - Loans (note 25)	1,343	6,277	6,425	8,695
	1,656	6,689	12,880	10,690
Other financial liabilities				
Derivative financial instruments (note 20)	1,528	344	1,971	2,269
Related parties (note 25)	2,017	2,916	3,839	3,226
Participative stockholders' debentures	-	-	5,474	4,080
	3,545	3,260	11,284	9,575

Participative stockholders' debentures

On October 2, 2018 (subsequent event), the Company paid the amount of R\$261 as remuneration to stockholders' debentures.

12. Non-current assets and liabilities held for sale and discontinued operations

	Consolidated	
	December 31, 2017	
	Fertilizers	
Assets		
Accounts receivable		297
Inventories		1,522
Other current assets		363
Investments in associates and joint ventures		274
Property, plant and equipment and Intangible		7,110
Other non-current assets		2,299
Total assets		11,865
Liabilities		
Suppliers and contractors		1,070
Other current liabilities		711
Other non-current liabilities		2,118
Total liabilities		3,899
Net non-current assets held for sale		7,966

a) Fertilizers (discontinued operations)

In December 2016, the Company entered into an agreement with The Mosaic Company ("Mosaic") to sell (i) the phosphate assets located in Brazil, except for the assets located in Cubatão, Brazil; (ii) the control of Compañia Minera Miski Mayo S.A.C., in Peru; (iii) the potassium assets located in Brazil; and (iv) the potash projects in Canada.

In January 2018, the Company and Mosaic concluded the transaction and the Company received R\$3,495 (US\$1,080 million) in cash and 34.2 million common shares, corresponding to 8.9% of Mosaic's equity after the issuance of these shares (R\$2,907 (US\$899 million), based on the Mosaic's quotation at closing date of the transaction) and a loss of R\$184 was recognized in the income statement from discontinued operations.

Mosaic's shares received were accounted for as an equity investment measured at fair value through other comprehensive income. For the three and nine-month period ended September 30, 2018, the Company recognized a gain of R\$702 and R\$873 in other comprehensive income as "Fair value adjustment to investment in equity securities".

b) Cubatão (part of the fertilizer segment)

In November 2017, the Company entered into an agreement with Yara International ASA ("Yara") to sell its assets located in Cubatão, Brazil. In May 2018, the transaction was concluded and the Company received R\$882 (US\$255 million) in cash and a loss of R\$231 was recognized in the second quarter of 2018, in the income statement from discontinued operations.

The results and cash flows of discontinued operations of the Fertilizer segment are presented as follows:

Income statement

	Consolidated		
	Three-month period ended	Nine-month period ended September 30,	
	September 30,	2018	2017
	2017		
Discontinued operations			
Net operating revenue	1,685	397	4,138
Cost of goods sold and services rendered	(1,554)	(393)	(3,814)
Operating expenses	(97)	(15)	(294)
Impairment of non-current assets	(693)	(415)	(1,898)
Operating loss	(659)	(426)	(1,868)
Financial Results, net	(4)	(18)	(30)
Equity results in associates and joint ventures	1	-	3
Loss before income taxes	(662)	(444)	(1,895)
Income taxes	324	134	912
Loss from discontinued operations	(338)	(310)	(983)
Net income attributable to noncontrolling interests	8	-	21
Loss attributable to Vale's stockholders	(346)	(310)	(1,004)

Statement of cash flow

	Consolidated		
	Three-month period ended	Nine-month period ended September 30,	
	September 30,	2018	2017
	2017		
Discontinued operations			
Cash flow from operating activities			
Loss before income taxes	(662)	(444)	(1,895)
Adjustments:			
Equity results in associates and joint ventures	(1)	-	(3)
Depreciation, amortization and depletion	-	-	3
Impairment of non-current assets	693	415	1,898
Others	-	18	-
Increase (decrease) in assets and liabilities	245	(110)	235
Net cash provided by (used in) operating activities	275	(121)	238
Cash flow from investing activities			
Additions to property, plant and equipment	(226)	(36)	(686)
Others	2	-	2
Net cash used in investing activities	(224)	(36)	(684)
Cash flow from financing activities			
Loans and borrowings			
Repayments	(107)	-	(108)
Net cash used in financing activities	(107)	-	(108)
Net cash used in discontinued operations	(56)	(157)	(554)

13. Investments in associates and joint ventures

a) Changes during the period

Changes in investments in associates and joint ventures are as follows:

			Consolidated
	Associates	Joint ventures	Total
Balance at December 31, 2017	4,774	7,028	11,802
Additions	-	79	79
Translation adjustment	228	157	385
Equity results in income statement	109	475	584
Dividends declared	-	(525)	(525)
Transfer from non-current assets held for sale (i)	280	-	280
Others	20	(27)	(7)
Balance at September 30, 2018	5,411	7,187	12,598

(i) Refers to 18% interest held by Vale Fertilizantes at Ultrafertil which was transferred to Vale as part of the final settlement in January 2018 (note 12).

			Consolidated
	Associates	Joint ventures	Total
Balance at December 31, 2016	4,683	7,363	12,046
Additions	2	286	288
Translation adjustment	(24)	(20)	(44)
Equity results in income statement	150	359	509
Equity results in statement of comprehensive income	-	(541)	(541)
Dividends declared	(134)	(290)	(424)
Others	-	380	380
Balance at September 30, 2017	4,677	7,537	12,214

The investments by segments are presented in note 3(b).

b) Guarantees provided

As of September 30, 2018, corporate guarantees provided by Vale (within the limit of its direct or indirect interest) for the companies Norte Energia S.A. and Companhia Siderúrgica do Pecém S.A. were R\$1,281 and R\$5,625, respectively.

c) Acquisitions and divestiture

2017

Nacala Logistic Corridor - In December 2014 and as amended in November 2016, the Company signed an agreement with Mitsui & Co., Ltd. ("Mitsui") to transfer 50% of its stake of 66.7% in Nacala Logistic Corridor, which comprises entities that holds railroads and port concessions located in Mozambique and Malawi. Also, Mitsui committed to acquire 15% participation in the holding entity of Vale Moçambique, which holds the Moatize Coal Project.

In March 2017, the transaction was concluded and Vale received a consideration of R\$2,186 (US\$690 million). After the completion of the transaction, the Company (i) holds 81% of Vale Moçambique and retains the control of the Moatize Coal Project and (ii) shares control of the Nacala Logistic Corridor structure (Nacala BV), with Mitsui.

The result of the transaction regarding the assets from Nacala's logistic corridor was recognized in the income statement as "Impairment and other results on non-current assets".

The consideration received was recognized in the statement of cash flows in "Proceeds from disposal of assets and investments" in the amount of R\$1,387 (US\$435 million) and "Transactions with noncontrolling stockholders" in the amount of R\$799 (US\$255 million).

After the conclusion of the transaction, Vale has outstanding loan balances with Nacala BV and Pangea Emirates Ltd due to the deconsolidation of Nacala Logistic Corridor are disclosed in note 25.

Investments in associates and joint ventures (continued)

Consolidated												
			Investments in associates and joint ventures		Equity results in the income statement						Dividends received	
					Three-month period ended September 30,		Nine-month period ended September 30,		Three-month period ended September 30,		Nine-month period ended September 30,	
Associates and joint ventures	% ownership	% voting capital	September 30, 2018	December 31, 2017	2018	2017	2018	2017	2018	2017	2018	2017
Ferrous minerals												
Baovale Mineração S.A.	50.00	50.00	102	87	5	5	15	17	-	-	2	-
Companhia Coreano-Brasileira de Pelotização	50.00	50.00	399	295	64	35	177	113	-	-	56	-
Companhia Hispano-Brasileira de Pelotização (i)	50.89	51.00	320	270	59	28	137	96	-	-	87	18
Companhia Ítalo-Brasileira de Pelotização (i)	50.90	51.00	363	263	55	28	161	91	-	-	122	54
Companhia Nipo-Brasileira de Pelotização (i)	51.00	51.11	676	453	119	69	330	214	-	-	127	47
MRS Logística S.A.	48.16	46.75	1,813	1,711	48	70	153	188	-	-	-	-
VLI S.A.	37.60	37.60	3,289	3,202	84	53	89	74	28	37	28	37
Zhuhai YPM Pellet Co.	25.00	25.00	90	76	1	-	2	-	-	-	-	-
			7,052	6,357	435	288	1,064	793	28	37	422	156
Coal												
Henan Longyu Energy Resources Co., Ltd.	25.00	25.00	1,272	1,048	7	11	48	62	-	-	-	-
			1,272	1,048	7	11	48	62	-	-	-	-
Base metals												
Korea Nickel Corp.	25.00	25.00	57	43	2	1	6	2	-	-	-	-
			57	43	2	1	6	2	-	-	-	-
Others												
Aliança Geração de Energia S.A. (i)	55.00	55.00	1,892	1,889	10	10	91	57	-	27	88	63
Aliança Norte Energia Participações S.A. (i)	51.00	51.00	623	529	16	(12)	49	(1)	-	-	-	-
California Steel Industries, Inc.	50.00	50.00	998	663	97	32	238	111	-	-	56	43
Companhia Siderúrgica do Pecém	50.00	50.00	-	867	(460)	-	(867)	(456)	-	-	-	-
Mineração Rio do Norte S.A.	40.00	40.00	340	333	7	28	(14)	30	-	-	-	68
Others			364	73	20	9	(31)	(89)	-	-	-	-
			4,217	4,354	(310)	67	(534)	(348)	-	27	144	174
Total			12,598	11,802	134	367	584	509	28	64	566	330

(i) Although the Company held a majority of the voting capital, the entities are accounted under equity method due to the stockholders' agreement where relevant decisions are shared with other parties.

14. Intangibles

Changes in intangibles are as follows:

	Consolidated				
	Goodwill	Concessions	Right of use	Software	Total
Balance at December 31, 2017	13,593	13,236	506	759	28,094
Additions	-	2,448	-	22	2,470
Disposals	-	(75)	-	-	(75)
Amortization	-	(341)	(22)	(284)	(647)
Translation adjustment	1,156	97	69	26	1,348
Balance at September 30, 2018	14,749	15,365	553	523	31,190
Cost	14,749	19,121	872	4,329	39,071
Accumulated amortization	-	(3,756)	(319)	(3,806)	(7,881)
Balance at September 30, 2018	14,749	15,365	553	523	31,190

	Consolidated				
	Goodwill	Concessions	Right of use	Software	Total
Balance at December 31, 2016	10,041	10,759	480	1,115	22,395
Additions	-	2,360	-	73	2,433
Disposals	-	(19)	-	-	(19)
Amortization	-	(367)	(5)	(345)	(717)
Translation adjustment	229	(13)	17	7	240
Merger of Valepar	3,073	-	-	-	3,073
Balance at September 30, 2017	13,343	12,720	492	850	27,405
Cost	13,343	16,651	779	5,092	35,865
Accumulated amortization	-	(3,931)	(287)	(4,242)	(8,460)
Balance at September 30, 2017	13,343	12,720	492	850	27,405

Concessions

During the third quarter of 2018, the Company started the process of early renewal of its railway concessions, which expire in 2027. The early renewal of the concessions will be submitted to the Board of Directors, subject to the analysis of the compensations required by the government, including the implementation of the Midwest Integration Railroad ("FICO"), totaling 377 km between the Brazilian states of Mato Grosso and Goiás. The compensations required for the renewal will be formalized after the stage of public hearing.

15. Property, plant and equipment

Changes in property, plant and equipment are as follows:

	Consolidated							
	Land	Building	Facilities	Equipment	Mineral properties	Others	Constructions in progress	Total
Balance at December 31, 2017	2,375	40,028	38,986	22,803	29,999	27,104	20,240	181,535
Additions (i)	-	-	-	-	-	-	6,058	6,058
Disposals	(1)	(124)	(144)	(862)	(15)	(198)	(53)	(1,397)
Assets retirement obligation	-	-	-	-	(495)	-	-	(495)
Depreciation, amortization and depletion	-	(1,534)	(1,863)	(2,246)	(1,393)	(1,798)	-	(8,834)
Translation adjustment	114	2,262	1,873	2,321	3,602	1,380	1,498	13,050
Transfers	25	1,979	4,569	3,457	1,170	2,625	(13,825)	-
Balance at September 30, 2018	2,513	42,611	43,421	25,473	32,868	29,113	13,918	189,917
Cost	2,513	71,305	68,732	49,349	66,544	46,450	13,918	318,811
Accumulated depreciation	-	(28,694)	(25,311)	(23,876)	(33,676)	(17,337)	-	(128,894)
Balance at September 30, 2018	2,513	42,611	43,421	25,473	32,868	29,113	13,918	189,917

	Consolidated							
	Land	Building	Facilities	Equipment	Mineral properties	Others	Constructions in progress	Total
Balance at December 31, 2016	2,360	34,790	30,866	22,141	27,312	24,494	38,653	180,616
Additions (i)	-	-	-	-	-	-	7,085	7,085
Disposals	(1)	(2)	(154)	(102)	(402)	(368)	(446)	(1,475)
Assets retirement obligation	-	-	-	-	(238)	-	-	(238)
Depreciation, amortization and depletion	-	(1,397)	(1,724)	(2,025)	(1,525)	(1,804)	-	(8,475)
Translation adjustment	(7)	53	67	(234)	693	226	(15)	783
Transfers	59	5,765	8,375	2,340	2,062	4,427	(23,028)	-
Balance at September 30, 2017	2,411	39,209	37,430	22,120	27,902	26,975	22,249	178,296
Cost	2,411	60,810	58,492	40,828	54,572	40,677	22,249	280,039
Accumulated depreciation	-	(21,601)	(21,062)	(18,708)	(26,670)	(13,702)	-	(101,743)
Balance at September 30, 2017	2,411	39,209	37,430	22,120	27,902	26,975	22,249	178,296

(i) Includes capitalized borrowing costs.

There are no material changes to the net book value of consolidated property, plant and equipment pledged to secure judicial claims and loans and borrowings (note 16(c)) compared to those disclosed in the financial statements as at December 31, 2017.

16. Loans, borrowings, cash and cash equivalents and financial investments

a) Net debt

The Company analyzes the net debt in order to ensure its business continuity in the long term.

	Consolidated	
	September 30, 2018	December 31, 2017
Debt contracts in the international markets	52,159	57,187
Debt contracts in Brazil	15,147	17,205
Total of loans and borrowings	67,306	74,392
(-) Cash and cash equivalents	24,424	14,318
(-) Financial investments (note 11)	22	61
Net debt	42,860	60,013

b) Cash and cash equivalents

Cash and cash equivalents includes cash, immediately redeemable deposits and short-term investments with an insignificant risk of change in value. They are readily convertible to cash, part in R\$, indexed to the Brazilian Interbank Interest rate ("DI Rate" or "CDI") and part denominated in US\$, mainly time deposits.

c) Loans and borrowings

i) Total debt

	Current liabilities		Non-current liabilities	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Debt contracts in the international markets				
Floating rates in:				
US\$	1,558	1,027	7,151	9,142
EUR	-	-	-	794
Fixed rates in:				
US\$	24	-	37,404	41,642
EUR	-	-	4,420	2,977
Other currencies	136	57	653	682
Accrued charges	813	866	-	-
	2,531	1,950	49,628	55,237
Debt contracts in Brazil				
Floating rates in:				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	1,529	1,478	9,634	10,570
Basket of currencies and US\$ indexed to LIBOR	1,061	1,121	2,118	2,341
Fixed rates in:				
R\$	220	225	408	572
Accrued charges	157	859	20	39
	2,967	3,683	12,180	13,522
	5,498	5,633	61,808	68,759

The future cash out flows of debt principal, per nature of funding and interest are as follows:

	Principal				Consolidated
	Bank loans	Capital markets	Development agencies	Total	Estimated future interest payments (i)
2018	935	-	789	1,724	893
2019	580	-	2,923	3,503	3,566
2020	713	1,326	2,556	4,595	3,421
2021	1,387	1,520	2,346	5,253	3,141
Between 2022 and 2026	6,133	18,446	4,005	28,584	11,844
2027 onwards	367	21,981	309	22,657	16,802
	10,115	43,273	12,928	66,316	39,667

(i) Estimated future payments of interest, calculated based on interest rate curves and foreign exchange rates applicable as at September 30, 2018 and considering that all amortization payments and payments at maturity on loans and borrowings will be made on their contracted payments dates. The amount includes the estimated values of future interest payments (not yet accrued), in addition to interest already recognized in the financial statements.

At September 30, 2018, the average annual interest rates by currency are as follows:

Loans and borrowings	Consolidated	
	Average interest rate (i)	Total debt
US\$	5.59%	50,030
R\$ (ii)	9.40%	11,941
EUR (iii)	3.81%	4,548
Other currencies	3.00%	787
		67,306

(i) In order to determine the average interest rate for debt contracts with floating rates, the Company used the rate applicable at September 30, 2018.

(ii) R\$ denominated debt that bears interest at IPCA, CDI, TR or TJLP, plus spread. For a total of R\$7,163 the Company entered into derivative transactions to mitigate the exposure to the cash flow variations of the floating rate debt denominated in R\$, resulting in an average cost of 1.95% per year in US\$.

(iii) Eurobonds, for which the Company entered into derivatives to mitigate the exposure to the cash flow variations of the debt denominated in EUR, resulting in an average cost of 4.29% per year in US\$.

ii) Reconciliation of debt to cash flows arising from financing activities

	Consolidated						
	December 31, 2017	Cash flow		Non-cash changes			September 30, 2018
		Additions	Repayments	Interest paid	Transferences	Effect of exchange rate	Interest accretion
Loans and borrowings							
Current	5,633	-	(21,350)	(3,203)	20,205	712	3,501
Non-current	68,759	3,641		-	(20,205)	9,585	28
Total	74,392	3,641	(21,350)	(3,203)	-	10,297	3,529

iii) Credit and financing lines

Type	Contractual currency	Date of agreement	Period of the agreement	Total amount	Available amount
					September 30, 2018
Credit lines					
Revolving credit facilities	US\$	May 2015	5 years	12,012	12,012
Revolving credit facilities	US\$	June 2017	5 years	8,008	8,008
Financing lines					
BNDES - CLN 150	R\$	September 2012	10 years	3,883	20
BNDES - S11D e S11D Logística	R\$	May 2014	10 years	6,163	1,014

iv) Repayments

During the first half of 2018, the Company conducted a cash tender offer for Vale Overseas' 5.875% guaranteed notes due 2021, 4.375% guaranteed notes due 2022 and a cash tender offer for Vale S.A.' 5.625% guaranteed notes due 2042 and repurchased a total of R\$9,431 (US\$2,730 million). The Company also redeemed all of Vale Overseas' 4.625% guaranteed notes due 2020 totaling R\$1,698 (US\$499 million).

v) Guarantees

As at September 30, 2018 and December 31, 2017, loans and borrowings are secured by property, plant and equipment in the amount of R\$885 and R\$910, respectively.

The securities issued through Vale's 100%-owned finance subsidiary Vale Overseas Limited are fully and unconditionally guaranteed by Vale.

vi) Covenants

Some of the Company's debt agreements with lenders contain financial covenants. The primary financial covenants in those agreements require maintaining certain ratios, such as debt to EBITDA (Earnings before Interest Taxes, Depreciation and Amortization) and interest coverage. The Company has not identified any instances of noncompliance as at September 30, 2018.

17. Liabilities related to associates and joint ventures

The movement of the provision to comply with the obligations under the agreement related to the dam failure of Samarco Mineração S.A. ("Samarco"), which is a Brazilian joint venture between Vale S.A. and BHP Billiton Brasil Ltda. ("BHPB"), in the nine-month periods ended September 30, 2018 and 2017 are as follows:

	2018	2017
Balance at January 01,	3,296	3,511
Payments	(699)	(687)
Present value valuation	143	426
Provision increase	1,476	-
Balance at September 30,	4,216	3,250
Current liabilities	1,171	954
Non-current liabilities	3,045	2,296
Liabilities	4,216	3,250

In 2018, the Fundação Renova reviewed the estimates for the expenditures required to mitigate and compensate for the impacts of the disruption from Samarco's tailing dam. As a result of this revision, Vale S.A. recognized in the second quarter of 2018 an additional provision of R\$1,476, which amounts to the present value of Vale's new estimated secondary responsibility to support the Renova Foundation works and is equivalent to 50% of Samarco's additional obligations over the next 12 years.

In addition to the provision above, Vale S.A. made available in the three and nine-month period ended September 30, 2018 the amount of R\$79 and R\$194, respectively, which was fully used to fund Samarco's working capital and was recognized in Vale's income statement as "Impairment and other results in associates and joint ventures". Vale S.A. intends to make available until December 31, 2018 up to R\$125 to support Samarco's working capital requirements, without any binding obligation to Samarco in this regard. Such amounts will be released by the shareholders, simultaneously and pursuant to the same terms and conditions, subject to the fulfillment of certain milestones.

Under Brazilian legislation and the terms of the joint venture agreement, Vale does not have an obligation to provide funding to Samarco. Therefore, Vale's investment in Samarco was impaired in full and no provision was recognized in relation to the Samarco's negative reserves.

The contingencies related to the Samarco dam failure are disclosed in note 22.

18. Financial instruments classification

	September 30, 2018				December 31, 2017			
	Amortized cost	At fair value through OCI	At fair value through profit or loss	Total	Amortized cost	At fair value through profit or loss	Total	
Financial assets								
Current								
Cash and cash equivalents	24,424	-	-	24,424	14,318	-	14,318	
Financial investments	22	-	-	22	61	-	61	
Derivative financial instruments	-	-	291	291	-	351	351	
Accounts receivable	9,895	-	(88)	9,807	8,602	-	8,602	
Related parties	1,343	-	-	1,343	6,277	-	6,277	
	35,684	-	203	35,887	29,258	351	29,609	
Non-current								
Derivative financial instruments	-	-	1,391	1,391	-	1,497	1,497	
Investments in equity securities	-	4,445	-	4,445	-	-	-	
Loans	619	-	-	619	498	-	498	
Related parties	6,425	-	-	6,425	8,695	-	8,695	
	7,044	4,445	1,391	12,880	9,193	1,497	10,690	
Total of financial assets	42,728	4,445	1,594	48,767	38,451	1,848	40,299	
Financial liabilities								
Current								
Suppliers and contractors	16,169	-	-	16,169	13,367	-	13,367	
Derivative financial instruments	-	-	1,528	1,528	-	344	344	
Loans and borrowings	5,498	-	-	5,498	5,633	-	5,633	
Related parties	2,017	-	-	2,017	2,916	-	2,916	
	23,684	-	1,528	25,212	21,916	344	22,260	
Non-current								
Derivative financial instruments	-	-	1,971	1,971	-	2,269	2,269	
Loans and borrowings	61,808	-	-	61,808	68,759	-	68,759	
Related parties	3,839	-	-	3,839	3,226	-	3,226	
Participative stockholders' debentures	-	-	5,474	5,474	-	4,080	4,080	
	65,647	-	7,445	73,092	71,985	6,349	78,334	
Total of financial liabilities	89,331	-	8,973	98,304	93,901	6,693	100,594	

19. Fair value estimate

a) Assets and liabilities measured and recognized at fair value:

	September 30, 2018				December 31, 2017			
	Level 1	Level 2	Level 3	Total	Level 2	Level 3	Total	
Financial assets								
Derivative financial instruments	-	719	963	1,682	954	894	1,848	
Accounts receivable	-	(88)	-	(88)	-	-	-	
Investments in equity securities	4,445	-	-	4,445	-	-	-	
Total	4,445	631	963	6,039	954	894	1,848	
Financial liabilities								
Derivative financial instruments	-	2,834	665	3,499	1,923	690	2,613	
Participative stockholders' debentures	-	5,474	-	5,474	4,080	-	4,080	
Total	-	8,308	665	8,973	6,003	690	6,693	

The Company changed its accounting estimate on the calculation of the participative stockholders' debentures from January 1, 2018. The Company has replaced in the calculation the assumption of spot price at the reporting date to the weighted average price traded on the market within the last month of the quarter.

There were no transfers between Level 1 and Level 2, or between Level 2 and Level 3 for the nine-month period ended in September 30, 2018.

The following table presents the changes in Level 3 assets and liabilities for the nine-month period ended in September 30, 2018:

	Consolidated	
	Derivative financial instruments	
	Financial assets	Financial liabilities
Balance at December 31, 2017	894	690
Gain and losses recognized in income statement	69	(25)
Balance at September 30, 2018	963	665

Methods and techniques of evaluation

Derivative financial instruments

Financial instruments are evaluated by calculating their present value through the use of instrument yield curves at the closing dates. The curves and prices used in the calculation for each group of instruments are detailed in the "market curves" (note 27j).

The pricing method used for European options is the Black & Scholes model. In this model, the fair value of the derivative is a function of the volatility in the price of the underlying asset, the exercise price of the option, the interest rate and period to maturity. In the case of options which income is a function of the average price of the underlying asset over the period of the option, the Company uses Turnbull & Wakeman model. In this model, in addition to the factors that influence the option price in the Black-Scholes model, the formation period of the average price is also considered.

In the case of swaps, both the present value of the assets and liability are estimated by discounting the cash flow by the interest rate of the currency in which the swap is denominated. The difference between the present value of assets and liability of the swap generates its fair value.

For the TJLP swaps, the calculation of the fair value assumes that TJLP is constant, that is the projections of future cash flow in Brazilian Reais are made on the basis of the last TJLP disclosed.

Contracts for the purchase or sale of products, inputs and costs of selling with future settlement are priced using the forward yield curves for each product. Typically, these curves are obtained on the stock exchanges where the products are traded, such as the London Metals Exchange ("LME"), the Commodity Exchange ("COMEX") or other providers of market prices. When there is no price for the desired maturity, Vale uses an interpolation between the available maturities.

The fair value for derivatives are within level 3 are measured using discounted cash flows and option model valuation techniques with main unobservable inputs discount rates, stock prices and commodities prices.

b) Fair value of financial instruments not measured at fair value

The fair values and carrying amounts of loans and borrowings (net of interest) are as follows:

Financial liabilities	Consolidated			
	Balance	Fair value	Level 1	Level 2
September 30, 2018				
Debt principal	66,316	70,064	47,513	22,551
December 31, 2017				
Debt principal	72,628	76,377	49,406	26,971

Due to the short-term cycle, the fair value of cash and cash equivalents balances, financial investments, accounts receivable and accounts payable approximate their book values.

20. Derivative financial instruments

a) Derivatives effects on statement of financial position

	Consolidated			
	Assets			
	September 30, 2018		December 31, 2017	
	Current	Non-current	Current	Non-current
Derivatives not designated as hedge accounting				
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	45	-	125	-
IPCA swap	15	290	30	271
Eurobonds swap	-	100	-	89
Pré-dólar swap	72	-	73	106
	132	390	228	466
Commodities price risk				
Nickel	6	-	73	10
Bunker oil	153	-	50	-
	159	-	123	10
Others (note 26)	-	1,001	-	1,021
	-	1,001	-	1,021
Total	291	1,391	351	1,497

	Consolidated			
	Liabilities			
	September 30, 2018		December 31, 2017	
	Current	Non-current	Current	Non-current
Derivatives not designated as hedge accounting				
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	1,280	933	314	1,356
IPCA swap	167	215	-	136
Eurobonds swap	19	-	13	-
Pré-dólar swap	40	155	17	79
	1,506	1,303	344	1,571
Commodities price risk				
Nickel	22	4	-	-
	22	4	-	-
Others (note 26)	-	664	-	698
	-	664	-	698
Total	1,528	1,971	344	2,269

b) Effects of derivatives on the income statement and cash flow

	Consolidated			
	Gain (loss) recognized in the income statement			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Derivatives not designated as hedge accounting				
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	(254)	594	(971)	871
IPCA swap	(20)	150	(200)	166
Eurobonds swap	-	65	(40)	79
Euro forward	-	-	-	144
Pré-dólar swap	(33)	131	(162)	164
	(307)	940	(1,373)	1,424
Commodities price risk				
Nickel	(76)	31	(44)	20
Bunker oil	(32)	(19)	207	(309)
	(108)	12	163	(289)
Others	13	214	(8)	411
Total	(402)	1,166	(1,218)	1,546

	Consolidated			
	Financial settlement inflows (outflows)			
	Three-month period ended September 30,		Nine-month period ended September 30,	
	2018	2017	2018	2017
Derivatives not designated as hedge accounting				
Foreign exchange and interest rate risk				
CDI & TJLP vs. US\$ fixed and floating rate swap	(170)	(308)	(369)	(441)
IPCA swap	-	(65)	22	(65)
Eurobonds swap	-	-	(13)	(121)
Pré-dólar swap	(8)	-	41	(4)
	(178)	(373)	(319)	(631)
Commodities price risk				
Nickel	(6)	12	67	(8)
Bunker oil	100	-	125	(75)
	94	12	192	(83)
Total	(84)	(361)	(127)	(714)

The maturity dates of the derivative financial instruments are as follows:

	Last maturity dates
Currencies and interest rates	January 2024
Bunker oil	December 2018
Nickel	September 2020
Others	December 2027

c) Hedge in foreign operations

As at September 30, 2018 the carrying value of the debts designated as instrument hedge of the Company's investment in foreign operations (Vale International S.A. and Vale International Holding GmbH; hedging objects) are R\$13,012 (US\$3,250 million) and R\$3,491 (EUR750 million), respectively. The foreign exchange loss of R\$468 and R\$3,543 (R\$308 and R\$2,338, net of taxes), was recognized in the "Cumulative translation adjustments" in stockholders' equity for the three and nine-month period ended September 30, 2018, respectively, while the foreign exchange gains of R\$935 and R\$515 (R\$617 and R\$339, net of taxes), were recognized for the three and nine-month period ended September 30, 2017, respectively. This hedge was highly effective throughout the period ended September 30, 2018.

21. Provisions

	Consolidated			
	Current liabilities		Non-current liabilities	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Payroll, related charges and other remunerations	3,518	3,641	-	-
Onerous contracts	443	337	1,077	1,203
Environment Restoration	67	99	354	262
Asset retirement obligations	253	289	11,295	10,191
Provisions for litigation (note 22)	-	-	5,187	4,873
Employee postretirement obligations (note 23)	416	244	7,579	6,714
Provisions	4,697	4,610	25,492	23,243

22. Litigation

a) Provision for litigation

Vale is party to labor, civil, tax and other ongoing lawsuits, at administrative and court levels. Provisions for losses resulting from lawsuits are estimated and updated by the Company, based on analysis from the Company's legal consultants.

Changes in provision for litigation are as follows:

	Consolidated			
	Tax litigation	Civil litigation	Labor litigation	Environmental litigation
Balance at December 31, 2017	2,483	432	1,924	34
Additions (reversals)	62	78	306	(13)
Payments	(29)	(80)	(261)	(6)
Additions - discontinued operations	56	3	59	1
Indexation and interest	68	35	(9)	(3)
Translation adjustment	42	5	-	-
Balance at September 30, 2018	2,682	473	2,019	13

	Consolidated			
	Tax litigation	Civil litigation	Labor litigation	Environmental litigation
Balance at December 31, 2016	695	272	1,742	25
Additions (reversals)	(48)	42	274	12
Payments	(286)	(22)	(260)	(2)
Indexation and interest	11	39	98	(4)
Translation adjustment	26	-	-	-
Merger of Valepar	2,013	-	-	-
Balance at September 30, 2017	2,411	331	1,854	31

b) Contingent liabilities

Contingent liabilities are administrative and judicial claims, with expectation of loss classified as possible, and for which the recognition of a provision is not considered necessary by the Company, based on legal advice. The contingent liabilities are as follows:

	Consolidated	
	September 30, 2018	December 31, 2017
Tax litigation	33,671	29,244
Civil litigation	6,551	5,371
Labor litigation	6,547	6,455
Environmental litigation	7,915	7,242
Total	54,684	48,312

i - Tax litigation - Our most significant tax-related contingent liabilities result from disputes related to (i) the deductibility of our payments of social security contributions on the net income ("CSLL") from our taxable income, (ii) challenges of certain tax credits we deducted from our PIS and COFINS payments, (iii) assessments of CFEM ("royalties"), and (iv) charges of value-added tax on services and circulation of goods ("ICMS"), especially relating to certain tax credits we claimed from the sale and transmission of energy, ICMS charges to anticipate the payment in the entrance of goods to Pará State and ICMS/penalty charges on our own transportation. The changes reported in the period resulted, mainly, from new proceedings related to PIS, COFINS, CFEM, ICMS e ISS and the application interest and inflation adjustments to the disputed amounts.

ii - Civil litigation - Most of those claims have been filed by suppliers for indemnification under construction contracts, primarily relating to certain alleged damages, payments and contractual penalties. A number of other claims related to contractual disputes regarding inflation index. The changes reported in the period resulted, mainly from review the process related to commercial divergences of supply contracts.

iii - Labor litigation - Represents individual claims by employees and service providers, primarily involving demands for additional compensation for overtime work, time spent commuting or health and safety conditions; and the Brazilian federal social security administration ("INSS") regarding contributions on compensation programs based on profits.

iv - Environmental litigation - The most significant claims concern alleged procedural deficiencies in licensing processes, non-compliance with existing environmental licenses or damage to the environment.

c) Judicial deposits

In addition to the provisions and contingent liabilities, the Company is required by law to make judicial deposits to secure a potential adverse outcome of certain lawsuits. These court-ordered deposits are monetarily adjusted and reported as non-current assets until a judicial decision to draw the deposit occurs.

	Consolidated	
	September 30, 2018	December 31, 2017
Tax litigation	4,111	3,971
Civil litigation	165	199
Labor litigation	2,393	2,359
Environmental litigation	61	42
Total	6,730	6,571

d) Contingencies related to Samarco accident

(i) Public civil claim filed by the Federal Government and others

The federal government, the two Brazilian states affected by the failure (Espírito Santo and Minas Gerais) and other governmental authorities have initiated a public civil lawsuit against Samarco and its shareholders, Vale S.A. and BHPB ("ACP"), with an estimated value indicated by the plaintiffs of R\$20.2 billion.

The Framework Agreement signed in March 2016, was ratified by the Regional Federal Court ("TRF") in May 2016. This ratification was suspended by the Superior Court of Justice ("STJ") in June 2016 and resulted in the restoration of the public civil action, and maintained other measures, such as: (a) the prohibition of the defendants from transferring or conveying any of their interest in its Brazilian iron ore concessions, without, however, limiting their production and commercial activities and; (b) the order of the deposit with the court of R\$1.2 billion by January 2017, which was provisionally replaced by the guarantees provided for under the agreements with Federal Prosecution Office ("MPF"), as detailed in the item (ii) below.

On June 2018, the parties that proposed the ACP mentioned above, together with the Federal Public Prosecutor's Office and the Public Defender's Offices of the Union and the States of Minas Gerais and Espírito Santo, entered into a new Agreement ("Term of Adjustment of Conduct"), which extinguishes important lawsuits, including the ACP, without judgment of merit. Afterwards, on August 8, 2018, the Agreement was ratified by the judge of the 12th Federal Court of Belo Horizonte, producing its legal and procedural effects.

(ii) Public civil action filed by Federal Prosecution Office

On May 3, 2016, the Federal Prosecution Office (MPF) filed a public civil action against Samarco and its shareholders and presented several claims, including: (i) the adoption of measures for mitigating the social, economic and environmental impacts resulting from the dam failure and other emergency measures; (ii) the payment of compensation to the community; and (iii) payments for the collective moral damage. The action value indicated by the MPF is R\$155 billion.

In January 2017 Samarco, Vale S.A. and BHPB entered into two preliminary agreements with the MPF. The first agreement ("First Agreement") aims to outline the process and timeline for negotiations of a Final Agreement ("Final Agreement"), initially expected to occur by June 30, 2017, which was, nevertheless, extended by the parties to late June 2018.

This First Agreement establishes a timeline and actions to set the ground for conciliation of two public civil actions in the amounts of R\$20.2 billion and R\$155 billion, mentioned above.

In addition, the First Agreement provides for: (a) the appointment of experts to give support to the Federal Prosecutors and paid for by the companies to conduct a diagnosis and monitor the progress of the programs under the Framework Agreement, and (b) holding at public hearings and the engagement of technical assistance to the affected people, in order to allow the communities to take part in the definition of the content of the Final Agreement.

Samarco, Vale S.A. and BHPB has agreed to provide a guarantee for fulfillment of the obligations regarding the financing and payment of the socio-environmental and socio-economic remediation programs resulting from the Fundão dam failure, pursuant to the two public civil actions, until the signing of the Final Agreement, amounting to R\$2.2 billion, of which (i) R\$100 in financial investments; (ii) R\$1.3 billion in insurance bonds; and (iii) R\$800 in assets of Samarco. If, by the deadline negotiated by the parties, the negotiations have not been completed, the Federal Prosecutor's Office may require that the Court re-institute the order for the deposit of R\$1.2 billion in relation to the R\$20.2 billion public civil action and R\$7.7 billion related R\$155 billion, mentioned above.

On March 16, 2017, the 12th Judicial Federal Court of Belo Horizonte partially ratified the First Agreement, which decision includes: (i) ratification of the engagement of experts to perform a socio-environmental impact assessment and assessment of programs under the Framework Agreement and a period for the companies to engage an expert to perform the socio-economic impact assessment; (ii) the consolidation and suspension of related claims aiming to avoid contradictory or conflicting decisions and to establish a unified judicial procedure in order for the parties to be able to reach a final agreement; (iii) accepted the guarantees proposed by Samarco and its shareholders under the Preliminary Agreement on a temporary basis.

In addition, the Second Agreement ("Second Agreement") was signed on January 19, 2017, which establishes a timetable to make funds available to remediate the social, economic and environmental damages caused by the Fundão dam failure in the municipalities of Barra Longa, Rio Doce, Santa Cruz do Escalvado and Ponte Nova, amounting to R\$200. The 12th Judicial Federal Court of Belo Horizonte ratified this Second Agreement.

Parties are still negotiating an agreement regarding the choice of the expert to perform the socio-economic impact assessment. In this regard, on November 16, 2017, they signed an addendum to the First Agreement, in which the parties defined matters related to the socio-economic impact assessment, its institutional structure and the respective experts, which, in the period of 90 days from the signing of the addendum, shall present their technical and commercial proposals. As the deadline already expired the proposals are being negotiated for service agreements.

On June 25, 2018, a Term of Conduct Adjustment (TACGov) was signed among Samarco and its shareholders, Vale and BHP Billiton Brasil, the Public Prosecutors (the Federal one and the ones from the States of Espírito Santo and Minas Gerais), the Public Defender Office (from the União and the States of Espírito Santo and Minas Gerais) and the Public Attorneys (from the Union and the States of Espírito Santo and Minas Gerais). The agreement established some innovations regarding the governance previously defined by the Framework Agreement and aim to improve the participation of people affected by the dawn break of the Fundão dam in the programs under the responsibility of Renova Foundation. It also establishes a negotiation process in order to allow the possible renegotiation of the programs dedicated to repair the impacts resulting from the event, to be discussed after the conclusion of the studies of the specialists hired by Samarco to advise the Public Prosecutor's Office ("Experts"). In addition, the TACGov extinguished some important lawsuits, including but not limited to, the ACP of R\$20 billion proposed by the Federal Government and the States of Minas Gerais and Espírito Santo, and part of the ACP of R\$155 billion, as well address the discussions about some legal guarantees in the amount of R\$2.2 billion, bringing, therefore, greater legal certainty for the companies. On August 8, the TACGov was ratified by the judge of the 12th Federal Court of Belo Horizonte, producing its legal and procedural effects.

(iii) U.S. Securities class action suits

Related to the Vale's American Depositary Receipts

Vale S.A. and certain of its officers were named as defendants in securities class action suits in the Federal Court in New York brought by holders of Vale's American Depositary Receipts under U.S. federal securities laws. The lawsuits allege that Vale S.A. made false and misleading statements or did not make disclosures concerning the risks and dangers of the operations of Samarco's Fundão dam and the adequacy of related programs and procedures. The plaintiffs have not specified an amount of alleged damages or indemnities in these actions.

On March 23, 2017 the judge issued a decision rejecting a significant portion of the claims against Vale S.A. and the individual defendants, and determining the prosecution of the action with respect to more limited claims. The portion of plaintiffs' case that remains is related to certain statements about procedures, policies and risk mitigation plans contained in Vale S.A.'s sustainability reports in 2013 and 2014, and certain statements regarding to the responsibility of Vale S.A. for the Fundão dam failure made in a conference call in November 2015.

This lawsuit is currently ongoing under discovery with the gathering of documents to be provided to the plaintiffs. In addition, depositions of some custodians indicated by the parties.

Vale S.A. continues to contest the outstanding points related to this lawsuit.

Related to the Samarco bonds

In March 2017, holders of bonds issued by Samarco filed a class action suit in the Federal Court in New York against Samarco, Vale S.A. and BHPB under U.S. federal securities laws demanding for indemnification for alleged violation of U.S. federal securities laws. The plaintiffs allege that false and misleading statements were made or disclosures omitted concerning the risks and dangers of the operations of Samarco's Fundão dam and the adequacy of related programs and procedures. It is alleged that with the Fundão dam collapse, the securities have dramatically decreased, in order that the investors who have purchased such securities in a misleading way should be compensated, without, however, specifying an amount for the alleged damages or indemnities in this action.

In June 2017 the defendants presented a joint motion to dismiss the claims requested by the plaintiffs. In March 2018, the Judge issued an order dismissing defendant's motion to dismiss without prejudice and ordering leading plaintiff to submit a final amended complaint, which was presented by the plaintiffs on March 21, 2018. As a result, a second joint motion to dismiss the claims was filed by the defendants a new decision regarding the merits of the motion to dismiss is expected to be issued by the Judge on the following months.

Vale S.A. continues to contest this lawsuit.

(iv) Criminal lawsuit

On October 20, 2016, the MPF brought a criminal lawsuit in the Brazilian Federal Justice Court against Vale S.A., BHPB, Samarco, VogBr Recursos Hídricos e Geotecnia Ltda. and 22 individuals for alleged crimes against the environment, urban planning and cultural heritage, flooding, landslide, as well as for alleged crimes against the victims of the Fundão dam failure.

In November 2016, the Federal Court of Ponte Nova received the complaint and began the criminal action.

On June 12 and 13, 2018, two hearings were conducted for the deposition of the first prosecution witness. On the second semester, hearings were conducted on September 12, 20 and 26 and October 3 and 4, 2018, for the depositions of the other prosecution witnesses. At this point, the criminal action is temporarily suspended according to a decision from October 15, 2018, due to two Habeas Corpus judged by the 1st Regional Federal Court and therefore it's not possible to precise at this point when there'll be a decision and/or trial of Federal Prosecution's indictment.

(v) Other lawsuits

In addition, Samarco and its shareholders were named and have been still named as defendants in several other lawsuits brought by individuals, corporations, governmental entities or public prosecutor seeking personal and property damages.

After the ratification by the judge of the 12th Federal Lower Court of the new Agreement with public authorities and public prosecutors, some public civil actions shall be extinguished.

Given the status of these lawsuits, it is not possible at this time to provide a range of possible outcomes or a reliable estimates of potential exposures for Vale S.A. Consequently, no contingent liability has been quantified and no provision was recognized for lawsuits related to Samarco's dam failure.

e) Contingent assets

In 2015, the Company filed an enforceable action in the amount of R\$524 referring to the final court decision in favor of the Company of the accrued interest of compulsory deposits from 1987 to 1993. Currently it is not possible to estimate the economic benefit inflow as the counterparty can appeal on the calculation. Consequently, the asset was not recognized in the financial statements.

23. Employee postretirement obligations

Reconciliation of net liabilities recognized in the statement of financial position

	September 30, 2018				Consolidated December 31, 2017			
	Overfunded pension plans	Underfunded pension plans	Other benefits	Total	Overfunded pension plans	Underfunded pension plans	Other benefits	Total
Amount recognized in the statement of financial position								
Present value of actuarial liabilities	(11,198)	(17,130)	(5,406)	(33,734)	(11,239)	(14,789)	(4,661)	(30,689)
Fair value of assets	16,171	14,541	-	30,712	15,972	12,492	-	28,464
Effect of the asset ceiling	(4,973)	-	-	(4,973)	(4,733)	-	-	(4,733)
Liabilities	-	(2,589)	(5,406)	(7,995)	-	(2,297)	(4,661)	(6,958)
Current liabilities	-	(203)	(213)	(416)	-	(54)	(190)	(244)
Non-current liabilities	-	(2,386)	(5,193)	(7,579)	-	(2,243)	(4,471)	(6,714)
Liabilities	-	(2,589)	(5,406)	(7,995)	-	(2,297)	(4,661)	(6,958)

24. Stockholders' equity

a) Share capital

As at September 30, 2018, the share capital was R\$77,300 corresponding to 5,284,474,782 shares issued and fully paid without par value.

Stockholders	September 30, 2018		
	ON	PNE	Total
Litel Participações S.A. and Litela Participações S.A.	1,108,483,410	-	1,108,483,410
BNDES Participações S.A.	394,939,557	-	394,939,557
Bradespar S.A.	332,965,266	-	332,965,266
Mitsui & Co., Ltd	286,347,055	-	286,347,055
Foreign investors - ADRs	1,268,100,202	-	1,268,100,202
Foreign institutional investors in local market	1,161,261,895	-	1,161,261,895
FMP - FGTS	56,378,941	-	56,378,941
PIBB - Fund	2,524,029	-	2,524,029
Institutional investors	268,604,777	-	268,604,777
Retail investors in Brazil	280,989,231	-	280,989,231
Brazilian Government (Golden Share)	-	12	12
Outstanding shares	5,160,594,363	12	5,160,594,375
Shares in treasury	123,880,407	-	123,880,407
Total issued shares	5,284,474,770	12	5,284,474,782
Share capital per class of shares (in millions)	77,300	-	77,300
Total authorized shares	7,000,000,000	-	7,000,000,000

b) Share buyback program

On July 25, 2018, the Board of Directors approved a share buyback program for Vale's common share which will be limited to a maximum of 80,000,000 common shares, and their respective ADSs, and up to US\$1 billion (R\$3,746). The program will be carried out over up to a 12-month period and the repurchased shares will be cancelled after the expiration of the program and/or alienated through the executive compensation programs. The shares have been acquired in the stock market based on regular trading conditions. As at September 30, 2018, the Company repurchased of 36,837,718 common shares (including their respective ADSs), at an average price of R\$52.64 per share, for a total aggregate purchase price of R\$1,939. The shares acquired will be held in treasury for future sale or cancellation.

c) Remuneration to the Company's stockholders

On September, 2018, the Company paid to stockholders' remuneration in the amount of R\$7,694, R\$6,801 based on the interest on capital and R\$893 based on dividends, approved by Board of Directors on July 25, 2018. This payment is due to the new policy of stockholders' remuneration of the Company, approved in March 2018, which provides for a semi-annual payment of 30% of Adjusted EBITDA from continuing operations less sustaining investments. This amount will be reduced from the minimum mandatory remuneration for the year ended 2018 and/or deducted from the profit reserve, if necessary.

25. Related parties

The Company's related parties are subsidiaries, joint ventures, associates, shareholders and its related entities and key management personnel of the Company. Transactions between the parent company and its subsidiaries are eliminated on consolidation and are not disclosed in this note.

Related party transactions were made by the Company on terms equivalent to those that prevail in arm's-length transactions, with respect to price and market conditions that are no less favorable to the Company than those arranged with third parties.

Purchases, accounts receivable and other assets, and accounts payable and other liabilities relates largely to amounts charged by joint ventures and associates related to the pelletizing plants operational lease and railway transportation services.

Information about related party transactions and effects on the interim financial statements is set out below:

a) Transactions with related parties

	Consolidated								
	Three-month period ended September 30,								
	2018				2017				
	Joint Ventures	Associates	Major stockholders	Total	Joint Ventures	Associates	Major stockholders	Others	Total
Net operating revenue	328	293	241	862	391	252	100	11	754
Cost and operating expenses	(2,382)	(26)	-	(2,408)	(1,683)	(21)	(26)	2	(1,728)
Financial result	85	-	(162)	(77)	114	(51)	(407)	33	(311)

	Consolidated								
	Nine-month period ended September 30,								
	2018				2017				
	Joint Ventures	Associates	Major stockholders	Total	Joint Ventures	Associates	Major stockholders	Others	Total
Net operating revenue	922	824	587	2,333	990	769	306	55	2,120
Cost and operating expenses	(5,851)	(107)	-	(5,958)	(4,314)	(70)	(64)	(6)	(4,454)
Financial result	440	-	(668)	(228)	157	(52)	(1,424)	2	(1,317)

Net operating revenue relates to sale of iron ore to the steelmakers and right to use capacity on railroads. Cost and operating expenses mostly relates to the operational leases of the pelletizing plants.

b) Outstanding balances with related parties

	Consolidated									
	September 30, 2018					December 31, 2017				
	Joint Ventures	Associates	Major stockholders	Others	Total	Joint Ventures	Associates	Major stockholders	Others	Total
Assets										
Cash and cash equivalents	-	-	2,054	-	2,054	-	-	2,716	-	2,716
Accounts receivable	298	83	14	57	452	242	125	10	57	434
Dividends receivable	330	-	-	-	330	371	48	-	-	419
Loans	7,768	-	-	-	7,768	14,972	-	-	-	14,972
Derivatives financial instruments	-	-	977	-	977	-	-	944	-	944
Other assets	151	-	-	-	151	57	-	-	-	57
Liabilities										
Supplier and contractors	2,594	156	-	49	2,799	636	67	667	50	1,420
Loans	-	5,130	11,204	-	16,334	-	4,119	14,984	-	19,103
Derivatives financial instruments	-	-	467	-	467	-	-	361	-	361
Other liabilities	726	118	-	-	844	2,023	-	53	-	2,076

Major stockholders

Refers to regular financial instruments with large financial institutions of which the stockholders are part of the controlling “shareholders’ agreement”.

Coal segment transactions

In March 2018, Nacala BV, a joint venture between Vale and Mitsui on the Nacala’s logistic corridor, closed the project financing and repaid a portion of the shareholders loans from Vale, in the amount of R\$8,434 (US\$2,572 million). The outstanding receivable of R\$7,768 carries interest at 7.44% p.a. The Company has issued a financial guarantee in connection with the Project Finance of Nacala, in the proportion equivalent to its share in the Concessionaires (50%), and the fair value of this instrument is R\$160 as at September 30, 2018.

The loan from associates mainly relates to the loan from Pangea Emirates Ltd, part of the group of shareholders which owns 15% interest on Vale Moçambique, in the amount of R\$4,877 (R\$3,856 as at December 31, 2017), which carries interest at 6.54% p.a.

26. Select notes to Parent Company information (individual interim information)

a) Investments

	Parent company	
	2018	2017
Balance at January 1st,	117,387	107,539
Additions/Capitalizations	1,032	1,309
Translation adjustment	18,892	(311)
Equity results in income statement	4,688	5,349
Equity results in statement of comprehensive income	226	(520)
Equity results in statement of non controlling	-	(858)
Impairment and other results on non-current assets	-	(1,004)
Dividends declared	(1,639)	(1,610)
Merger of Valepar	-	3,073
Others (i)	3,935	1,468
Balance at September 30,	144,521	114,435

(i) Includes assets held for sale (Vale Fertilizantes) that were indirectly sold by the Parent Company.

b) Intangibles

	Parent company			
	Concessions	Right of use	Software	Total
Balance at December 31, 2017	12,773	111	587	13,471
Additions	2,431	-	8	2,439
Disposals	(72)	-	-	(72)
Amortization	(336)	(4)	(244)	(584)
Balance at September 30, 2018	14,796	107	351	15,254
Cost	18,469	223	3,114	21,806
Accumulated amortization	(3,673)	(116)	(2,763)	(6,552)
Balance at September 30, 2018	14,796	107	351	15,254

	Parent company			
	Concessions	Right of use	Software	Total
Balance at December 31, 2016	10,278	118	918	11,314
Additions	2,327	-	64	2,391
Disposals	(16)	-	-	(16)
Amortization	(272)	(5)	(303)	(580)
Balance at September 30, 2017	12,317	113	679	13,109
Cost	15,755	223	4,105	20,083
Accumulated amortization	(3,438)	(110)	(3,426)	(6,974)
Balance at September 30, 2017	12,317	113	679	13,109

c) Property, plant and equipment

	Parent company							
	Land	Building	Facilities	Equipment	Mineral properties	Others	Constructions in progress	Total
Balance at December 31, 2017	1,739	25,315	27,204	9,716	5,367	18,205	15,432	102,978
Additions (i)	-	-	-	-	-	-	2,822	2,822
Disposals	-	(1)	(129)	(49)	-	(37)	(32)	(248)
Assets retirement obligation	-	-	-	-	13	-	-	13
Depreciation, amortization and depletion	-	(617)	(933)	(957)	(220)	(1,317)	-	(4,044)
Transfers	23	1,532	3,832	1,529	643	2,428	(9,987)	-
Balance at September 30, 2018	1,762	26,229	29,974	10,239	5,803	19,279	8,235	101,521
Cost	1,762	32,435	37,423	17,754	7,774	30,893	8,235	136,276
Accumulated depreciation	-	(6,206)	(7,449)	(7,515)	(1,971)	(11,614)	-	(34,755)
Balance at September 30, 2018	1,762	26,229	29,974	10,239	5,803	19,279	8,235	101,521

	Parent company							
	Land	Building	Facilities	Equipment	Mineral properties	Others	Constructions in progress	Total
Balance at December 31, 2016	1,684	20,945	20,416	8,479	4,122	16,499	29,911	102,056
Additions (i)	-	-	-	-	-	-	4,235	4,235
Disposals	(1)	-	(57)	(35)	-	(32)	(254)	(379)
Assets retirement obligation	-	-	-	-	90	-	-	90
Depreciation, amortization and depletion	-	(570)	(806)	(863)	(223)	(1,287)	-	(3,749)
Transfers	55	4,619	6,889	1,770	1,410	2,749	(17,492)	-
Balance at September 30, 2017	1,738	24,994	26,442	9,351	5,399	17,929	16,400	102,253
Cost	1,738	29,422	33,486	15,879	7,076	27,237	16,400	131,238
Accumulated depreciation	-	(4,428)	(7,044)	(6,528)	(1,677)	(9,308)	-	(28,985)
Balance at September 30, 2017	1,738	24,994	26,442	9,351	5,399	17,929	16,400	102,253

(i) Includes capitalized borrowing costs.

d) Loans and borrowings

	Parent company			
	Current liabilities		Non-current liabilities	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Debt contracts in the international markets				
Floating rates in:				
US\$	1,208	708	6,548	8,410
Fixed rates in:				
US\$	-	-	2,084	4,962
EUR	-	-	-	2,977
Other currencies	-	-	3,491	-
Accrued charges	196	298	-	-
	1,404	1,006	12,123	16,349
Debt contracts in Brazil				
Floating rates in:				
R\$, indexed to TJLP, TR, IPCA, IGP-M and CDI	1,229	1,214	9,033	9,781
Basket of currencies and US\$ indexed to LIBOR	1,057	1,121	2,116	2,341
Fixed rates in:				
R\$	190	190	353	495
Accrued charges	147	847	-	-
	2,623	3,372	11,502	12,617
	4,027	4,378	23,625	28,966

The future flows of debt payments (principal) are as follows:

	Parent company
	Debt principal
2018	1,582
2019	2,666
2020	3,924
2021	3,446
Between 2022 and 2026	13,198
2027 onwards	2,493
	27,309

e) Provisions

	Parent company			
	Current liabilities		Non-current liabilities	
	September 30, 2018	December 31, 2017	September 30, 2018	December 31, 2017
Payroll, related charges and other remunerations	2,348	2,541	-	-
Environment Restoration	47	80	174	106
Asset retirement obligations	183	210	2,026	1,793
Provisions for litigation	-	-	4,480	4,219
Employee postretirement obligations	210	73	1,221	782
Provisions	2,788	2,904	7,901	6,900

f) Provisions for litigation

	Parent company				
	Tax litigation	Civil litigation	Labor litigation	Environmental litigation	Total of litigation provision
Balance at December 31, 2017	2,117	308	1,770	24	4,219
Additions (Reversals)	12	42	297	(13)	338
Payments	(8)	(12)	(240)	-	(260)
Additions of disposals of subsidiaries	56	3	59	1	119
Indexation and interest	63	19	(15)	(3)	64
Balance at September 30, 2018	2,240	360	1,871	9	4,480

	Parent company				
	Tax litigation	Civil litigation	Labor litigation	Environmental litigation	Total of litigation provision
Balance at December 31, 2016	53	247	1,621	23	1,944
Additions (Reversals)	(2)	(30)	249	6	223
Payments	(6)	(21)	(252)	(2)	(281)
Indexation and interest	19	35	85	(6)	133
Merger of Valepar	2,013	-	-	-	2,013
Balance at September 30, 2017	2,077	231	1,703	21	4,032

g) Contingent liabilities

	Parent company	
	September 30, 2018	December 31, 2017
Tax litigation	30,977	26,510
Civil litigation	5,018	3,957
Labor litigation	6,209	6,118
Environmental litigation	7,724	7,058
Total	49,928	43,643

h) Income taxes

The total amount presented as income taxes in the income statement is reconciled to the rate established by law, as follows:

	Parent company	
	Nine-month period ended September 30,	
	2018	2017
Income before income taxes	10,826	19,890
Income taxes at statutory rates - 34%	(3,681)	(6,763)
Adjustments that affect the basis of taxes:		
Income tax benefit from interest on stockholders' equity	2,382	1,190
Tax incentives	855	759
Equity results	1,591	1,818
Others	(492)	(796)
Income taxes	655	(3,792)

27. Additional information about derivatives financial instruments

The risk of the derivatives portfolio is measured using the delta-Normal parametric approach, and considers that the future distribution of the risk factors and its correlations tends to present the same statistic properties verified in the historical data. The value at risk estimate considers a 95% confidence level for a one-business day time horizon.

The following tables detail the derivatives positions for Vale and its controlled companies as of September 30, 2018, with the following information: notional amount, fair value including credit risk, gains or losses in the period, value at risk and the fair value breakdown by year of maturity.

a) Foreign exchange and interest rates derivative positions

(i) Protection programs for the R\$ denominated debt instruments

In order to reduce cash flow volatility, swap transactions were implemented to convert into US\$ the cash flows from certain debt instruments denominated in R\$ with interest rates linked mainly to CDI, TJLP and IPCA. In those swaps, Vale pays fixed or floating rates in US\$ and receives payments in R\$ linked to the interest rates of the protected debt instruments.

The swap transactions were negotiated over-the-counter and the protected items are the cash flows from debt instruments linked to R\$. These programs transform into US\$ the obligations linked to R\$ to achieve a currency offset in the company's cash flows, by matching its receivables - mainly linked to US\$ - with its payables.

	Notional				Fair value		Financial Settlement Inflows (Outflows)	Value at Risk	Fair value by year		
Flow	September 30, 2018	December 31, 2017	Index	Average rate	September 30, 2018	December 31, 2017	September 30, 2018	September 30, 2018	2018	2019	2020+
CDI vs. US\$ fixed rate swap					(238)	(108)	(95)	27	(12)	(58)	(168)
Receivable	R\$ 1,690	R\$ 3,540	CDI	101.39%							
Payable	US\$ 487	US\$ 1,104	Fix	3.29%							
TJLP vs. US\$ fixed rate swap					(1,689)	(1,262)	(262)	82	(122)	(1,302)	(265)
Receivable	R\$ 2,459	R\$ 2,982	TJLP +	1.20%							
Payable	US\$ 1,074	US\$ 1,323	Fix	1.46%							
TJLP vs. US\$ floating rate swap					(241)	(175)	(12)	8	(12)	(229)	-
Receivable	R\$ 193	R\$ 216	TJLP +	0.85%							
Payable	US\$ 114	US\$ 123	Libor +	-1.24%							
R\$ fixed rate vs. US\$ fixed rate swap					(123)	80	41	68	(9)	148	(262)
Receivable	R\$ 1,098	R\$ 1,158	Fix	8.14%							
Payable	US\$ 360	US\$ 385	Fix	-0.49%							
IPCA vs. US\$ fixed rate swap					(373)	(113)	11	30	-	(151)	(222)
Receivable	R\$ 1,306	R\$ 1,000	IPCA +	6.55%							
Payable	US\$ 434	US\$ 434	Fix	3.98%							
IPCA vs. CDI swap					296	280	11	1	-	7	289
Receivable	R\$ 1,350	R\$ 1,350	IPCA +	6.62%							
Payable	R\$ 1,350	R\$ 1,350	CDI	98.58%							

(ii) Protection program for EUR denominated debt instruments

In order to reduce the cash flow volatility, swap transactions were implemented to convert into US\$ the cash flows from certain debt instruments issued in Euros by Vale. In those swaps, Vale receives fixed rates in EUR and pays fixed rates in US\$.

The swap transactions were negotiated over-the-counter and the protected items are the cash flows from debt instruments linked to EUR. The financial settlement inflows/outflows are offset by the protected items' losses/gains due to EUR/US\$ exchange rate.

Flow	Notional				Fair value		Financial Settlement Inflows (Outflows)	Value at Risk	Fair value by year		
	September 30, 2018	December 31, 2017	Index	Average rate	September 30, 2018	December 31, 2017	September 30, 2018	September 30, 2018	2018	2019	2020+
EUR fixed rate vs. US\$ fixed rate swap											
Receivable	€ 500	€ 500	Fix	3.75%	81	76	(13)	32	-	(19)	100
Payable	US\$ 613	US\$ 613	Fix	4.29%							

b) Commodities derivative positions

(i) Bunker Oil purchase cash flows protection program

In order to reduce the impact of bunker oil price fluctuation on maritime freight hiring/supply and, consequently, reducing the company's cash flow volatility, bunker oil hedging transactions were implemented, through options contracts.

The derivative transactions were negotiated over-the-counter and the protected item is part of the Vale's costs linked to bunker oil prices. The financial settlement inflows/outflows are offset by the protected items' losses/gains due to bunker oil prices changes.

Flow	Notional (ton)		Bought / Sold	Average strike (US\$/ton)	Fair value		Financial settlement	Value at Risk	Fair value
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	Inflows (Outflows) September 30, 2018	September 30, 2018	by year 2018
Call options	1,200,000	-	B	464	107	-	122	27	107
Put options	1,200,000	-	S	344	-	-	-	-	-
Total					107	-	122	27	107

As at September 30, 2018 and December 31, 2017, includes R\$46 and R\$49, respectively, of transactions in which the financial settlement occurs subsequently of the closing month.

(ii) Protection programs for base metals raw materials and products

In the operational protection program for nickel sales at fixed prices, derivatives transactions were implemented to convert into floating prices the contracts with clients that required a fixed price, in order to keep nickel revenues exposed to nickel price fluctuations. Those operations are usually implemented through the purchase of nickel forwards.

In the operational protection program for the purchase of raw materials and products, derivatives transactions were implemented, usually through the sale of nickel and copper forward or futures, in order to reduce the mismatch between the pricing period of purchases (concentrate, cathode, sinter, scrap and others) and the pricing period of the final product sales to the clients.

The derivative transactions are negotiated at London Metal Exchange or over-the-counter and the protected item is part of Vale's revenues and costs linked to nickel and copper prices. The financial settlement inflows/outflows are offset by the protected items' losses/gains due to nickel and copper prices changes.

Flow	Notional (ton)				Fair value		Financial settlement Inflows (Outflows)	Value at Risk	Fair value by year	
	September 30, 2018	December 31, 2017	Bought / Sold	Average strike (US\$/ton)	September 30, 2018	December 31, 2017	September 30, 2018	September 30, 2018	2018	2019
Fixed price sales protection										
Nickel forwards	9,155	9,621	B	13,351	(26)	80	69	14	(25)	(1)
Raw material purchase protection										
Nickel forwards	126	292	S	12,426	-	(1)	(2)	-	-	-
Copper forwards	101	79	S	6,064	-	-	-	-	-	-
Total					(26)	79	67	14	(25)	(1)

c) Freight derivative positions

In order to reduce the impact of maritime freight price volatility on the company's cash flow, freight hedging transactions were implemented, through Forward Freight Agreements (FFAs). The protected item is part of Vale's costs linked to maritime freight spot prices. The financial settlement inflows/outflows of the FFAs are offset by the protected items' losses/gains due to freight prices changes.

The Forward Freight Agreements (FFAs) are contracts traded over the counter and can be cleared through a Clearing House, in this case subject to margin requirements.

Flow	Notional (days)		Bought / Sold	Average strike (US\$/day)	Fair value		Value at Risk	Fair value by year
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	September 30, 2018	
Freight forwards	380	-	B	24,161	(0.2)	-	2.7	(0.2)

d) Wheaton Precious Metals Corp. warrants

The company owns warrants of Wheaton Precious Metals Corp. (WPM), a Canadian company with stocks negotiated in Toronto Stock Exchange and New York Stock Exchange. Such warrants configure American call options and were received as part of the payment regarding the sale of part of gold payable flows produced as a sub product from Salobo copper mine and some nickel mines in Sudbury.

Flow	Notional (quantity)		Bought / Sold	Average strike (US\$/share)	Fair value		Financial settlement Inflows (Outflows)	Value at Risk	Fair value by year
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	September 30, 2018	September 30, 2018	2023
Call options	10,000,000	10,000,000	B	44	38	128	-	5	38

e) Debentures convertible into shares of Valor da Logística Integrada ("VLI")

The company has debentures in which lenders have the option to convert the outstanding debt into a specified quantity of shares of VLI owned by the company.

Flow	Notional (quantity)		Bought / Sold	Average strike (R\$/share)	Fair value		Value at Risk	Fair value by year
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	September 30, 2018	
Conversion options	140,239	140,239	S	8,099	(217)	(188)	12	(217)

f) Options related to Minerações Brasileiras Reunidas S.A. ("MBR") shares

The Company entered into a stock sale and purchase agreement that has options related to MBR shares. Mainly, the Company has the right to buy back this non-controlling interest in the subsidiary. Moreover, under certain restrict and contingent conditions, which are beyond the buyer's control, such as illegality due to changes in the law, the contract has a clause that gives the buyer the right to sell back its stake to the Company. In this case, the Company could settle through cash or shares.

Flow	Notional (quantity, in millions)		Bought / Sold	Average strike (R\$/share)	Fair value		Value at Risk	Fair value by year
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	September 30, 2018	2018+
Options	2,139	2,139	B/S	1.7	891	831	54	891

g) Embedded derivatives in contracts

The Company has some nickel concentrate and raw materials purchase agreements in which there are provisions based on nickel and copper future prices behavior. These provisions are considered as embedded derivatives.

Flow	Notional (ton)		Bought / Sold	Average strike (US\$/ton)	Fair value		Value at Risk	Fair value by year
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	September 30, 2018	2018
Nickel forwards	1,552	2,627	S	13,418	5	3	2	5
Copper forwards	1,678	2,718	S	6,105	1	-	1	1
Total					6	3	3	6

The Company has also a natural gas purchase agreement in which there's a clause that defines that a premium can be charged if the Company's pellet sales prices trade above a pre-defined level. This clause is considered an embedded derivative.

Flow	Notional (volume/month)		Bought / Sold	Average strike (US\$/ton)	Fair value		Value at Risk	Fair value by year	
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	September 30, 2018	2018	2019+
Call options	746,667	746,667	S	233	(4)	(6)	3	-	(4)

In August 2014 the Company sold part of its stake in Valor da Logística Integrada ("VLI") to an investment fund managed by Brookfield Asset Management ("Brookfield"). The sales contract includes a clause that establishes, under certain conditions, a minimum return guarantee on Brookfield's investment. This clause is considered an embedded derivative, with payoff equivalent to that of a put option.

Flow	Notional (quantity)		Bought / Sold	Average strike (R\$/share)	Fair value		Value at Risk	Fair value by year
	September 30, 2018	December 31, 2017			September 30, 2018	December 31, 2017	September 30, 2018	2027
Put option	1,105,070,863	1,105,070,863	S	3.86	(371)	(439)	35	(371)

h) Sensitivity analysis of derivative financial instruments

The following tables present the potential value of the instruments given hypothetical stress scenarios for the main market risk factors that impact the derivatives positions. The scenarios were defined as follows:

- *Probable*: the probable scenario was based on the estimated risk variables that were used on pricing the derivative instruments as at September 30, 2018
- *Scenario I*: fair value estimated considering a 25% deterioration in the associated risk variables
- *Scenario II*: fair value estimated considering a 50% deterioration in the associated risk variables

Instrument	Instrument's main risk events	Probable	Scenario I	Scenario II
CDI vs. US\$ fixed rate swap	R\$ depreciation	(236)	(722)	(1,208)
	US\$ interest rate inside Brazil decrease	(236)	(253)	(270)
	Brazilian interest rate increase	(236)	(236)	(235)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
TJLP vs. US\$ fixed rate swap	R\$ depreciation	(1,692)	(2,738)	(3,784)
	US\$ interest rate inside Brazil decrease	(1,692)	(1,735)	(1,779)
	Brazilian interest rate increase	(1,692)	(1,739)	(1,782)
	TJLP interest rate decrease	(1,692)	(1,730)	(1,769)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
TJLP vs. US\$ floating rate swap	R\$ depreciation	(241)	(352)	(463)
	US\$ interest rate inside Brazil decrease	(241)	(246)	(251)
	Brazilian interest rate increase	(241)	(244)	(248)
	TJLP interest rate decrease	(241)	(244)	(247)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
R\$ fixed rate vs. US\$ fixed rate swap	R\$ depreciation	(121)	(421)	(720)
	US\$ interest rate inside Brazil decrease	(121)	(166)	(215)
	Brazilian interest rate increase	(121)	(197)	(264)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
IPCA vs. US\$ fixed rate swap	R\$ depreciation	(371)	(820)	(1,268)
	US\$ interest rate inside Brazil decrease	(371)	(390)	(410)
	Brazilian interest rate increase	(371)	(409)	(445)
	IPCA index decrease	(371)	(393)	(415)
Protected item: R\$ denominated debt	R\$ depreciation	n.a.	-	-
IPCA vs. CDI swap	Brazilian interest rate increase	296	205	123
	IPCA index decrease	296	246	198
Protected item: R\$ denominated debt linked to IPCA	IPCA index decrease	n.a.	(246)	(198)
EUR fixed rate vs. US\$ fixed rate swap	EUR depreciation	80	(603)	(1,286)
	Euribor increase	80	51	24
	US\$ Libor decrease	80	3	(79)
Protected item: EUR denominated debt	EUR depreciation	n.a.	603	1,286

Instrument	Instrument's main risk events	Probable	Scenario I	Scenario II
Bunker Oil protection				
Options	Bunker Oil price decrease	107	(32)	(509)
Protected item: Part of costs linked to bunker oil prices	Bunker Oil price decrease	n.a.	32	509
Maritime Freight protection				
Forwards	Freight price decrease	(0.2)	(9.3)	(18.5)
Protected item: Part of costs linked to maritime freight prices	Freight price decrease	n.a.	9.3	18.5
Nickel sales fixed price protection				
Forwards	Nickel price decrease	(26)	(139)	(252)
Protected item: Part of nickel revenues with fixed prices	Nickel price fluctuation	n.a.	139	252
Purchase protection program				
Nickel forwards	Nickel price increase	(0.1)	(2)	(3)
Protected item: Part of costs linked to nickel prices	Nickel price increase	n.a.	2	3
Copper forwards	Copper price increase	-	(0.7)	(1.3)
Protected item: Part of costs linked to copper prices	Copper price increase	n.a.	0.7	1.3
Wheaton Precious Metals Corp. warrants	WPM stock price decrease	38	13	1.4
Conversion options - VLI	VLI stock value increase	(223)	(355)	(528)
Options - MBR	MBR stock value decrease	894	599	407

Instrument	Main risks	Probable	Scenario I	Scenario II
Embedded derivatives - Raw material purchase (nickel)	Nickel price increase	6	(14)	(33)
Embedded derivatives - Raw material purchase (copper)	Copper price increase	0.6	(10)	(20)
Embedded derivatives - Gas purchase	Pellet price increase	(4)	(10)	(20)
Embedded derivatives - Guaranteed minimum return (VLI)	VLI stock value decrease	(369)	(843)	(1,630)

i) Financial counterparties' ratings

The transactions of derivative instruments, cash and cash equivalents as well as investments are held with financial institutions whose exposure limits are periodically reviewed and approved by the delegated authority. The financial institutions credit risk is performed through a methodology that considers, among other information, ratings provided by international rating agencies.

The table below presents the ratings published by agencies Moody's and S&P regarding the main financial institutions that we had outstanding positions as of September 30, 2018.

Long term ratings by counterparty	Moody's	S&P	Long term ratings by counterparty	Moody's	S&P
ANZ Australia and New Zealand Banking	Aa3	AA-	China Construction Bank	A1	A
Banco ABC	Ba3	BB-	CIMB Bank	A3	A-
Banco Bradesco	Ba3	BB-	Citigroup	Baa1	BBB+
Banco do Brasil	Ba3	BB-	Deutsche Bank	A3	BBB+
Banco de Credito del Peru	Baa1	BBB+	Goldman Sachs	A3	BBB+
Banco do Nordeste	Ba3	BB-	HSBC	A2	A
Banco Safra	Ba3	BB-	Intesa Sanpaolo Spa	Baa1	BBB
Banco Santander	A2	A	Itaú Unibanco	Ba3	BB-
Banco Votorantim	Ba3	BB-	JP Morgan Chase & Co	A3	A-
Bank of America	A3	A-	Macquarie Group Ltd	A3	BBB
Bank of China	A1	A	Mega Int. Commercial Bank	A1	A
Bank of Mandiri	Baa2	BB+	Morgan Stanley	A3	BBB+
Bank of Nova Scotia	Aa2	A+	National Bank of Canada	Aa3	A
Bank Rakyat	Baa2	BB+	National Bank of Oman	Baa3	-
Bank of Tokyo Mitsubishi UFJ	A1	A-	Natixis	A1	A
Banpará	-	BB-	Societe Generale	A1	A
Barclays	Baa3	BBB	Standard Bank Group	Ba1	-
BNP Paribas	Aa3	A	Standard Chartered	A2	BBB+
BTG Pactual	Ba3	BB-	Sumitomo Mitsui Financial	A1	A-
Caixa Economica Federal	Ba3	BB-	UBS	Aa3	A-
Canadian Imperial Bank	Aa2	A+	Unicredit	Baa1	BBB

j) Market curves

The curves used on the pricing of derivatives instruments were developed based on data from B3, Central Bank of Brazil, London Metals Exchange and Bloomberg.

(i) Products

Nickel					
Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)
SPOT	12,480	MAR19	12,690	SEP19	12,836
OCT18	12,541	APR19	12,719	SEP20	13,041
NOV18	12,573	MAY19	12,743	SEP21	13,202
DEC18	12,604	JUN19	12,764	SEP22	13,351
JAN19	12,634	JUL19	12,789		
FEB19	12,661	AUG19	12,812		

Copper					
Maturity	Price (US\$/lb)	Maturity	Price (US\$/lb)	Maturity	Price (US\$/lb)
SPOT	2.81	MAR19	2.84	SEP19	2.84
OCT18	2.84	APR19	2.84	SEP20	2.85
NOV18	2.84	MAY19	2.84	SEP21	2.85
DEC18	2.84	JUN19	2.84	SEP22	2.85
JAN19	2.84	JUL19	2.84		
FEB19	2.84	AUG19	2.84		

Bunker Oil

Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)	Maturity	Price (US\$/ton)
SPOT	479	MAR19	455	SEP19	417
OCT18	480	APR19	451	SEP20	360
NOV18	474	MAY19	446	SEP21	332
DEC18	469	JUN19	441	SEP22	294
JAN19	464	JUL19	435		
FEB19	459	AUG19	427		

Maritime Freight (Capesize 5TC)

Maturity	Price (US\$/day)	Maturity	Price (US\$/day)	Maturity	Price (US\$/day)
SPOT	18,350	MAR19	15,640	SEP19	21,800
OCT18	21,783	APR19	16,575	Cal 2019	20,538
NOV18	25,167	MAY19	16,575	Cal 2020	21,392
DEC18	24,258	JUN19	16,575	Cal 2021	17,820
JAN19	17,492	JUL19	21,800		
FEB19	14,367	AUG19	21,800		

(ii) Foreign exchange and interest rates
US\$-Brazil Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
11/01/18	3.79	09/02/19	4.02	01/03/22	4.56
12/03/18	3.44	10/01/19	4.11	04/01/22	4.59
01/02/19	3.50	01/02/20	4.25	07/01/22	4.60
02/01/19	3.59	04/01/20	4.32	10/03/22	4.64
03/01/19	3.68	07/01/20	4.36	01/02/23	4.70
04/01/19	3.71	10/01/20	4.43	04/03/23	4.75
05/02/19	3.80	01/04/21	4.46	07/03/23	4.76
06/03/19	3.85	04/01/21	4.50	10/02/23	4.82
07/01/19	3.91	07/01/21	4.54	01/02/24	4.88
08/01/19	3.97	10/01/21	4.56	07/01/24	4.92

US\$ Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	2.26	6M	2.66	11M	2.78
2M	2.31	7M	2.70	12M	2.79
3M	2.41	8M	2.72	2Y	3.06
4M	2.54	9M	2.74	3Y	3.17
5M	2.61	10M	2.76	4Y	3.24

TJLP

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
11/01/18	6.56	09/02/19	6.56	01/03/22	6.56
12/03/18	6.56	10/01/19	6.56	04/01/22	6.56
01/02/19	6.56	01/02/20	6.56	07/01/22	6.56
02/01/19	6.56	04/01/20	6.56	10/03/22	6.56
03/01/19	6.56	07/01/20	6.56	01/02/23	6.56
04/01/19	6.56	10/01/20	6.56	04/03/23	6.56
05/02/19	6.56	01/04/21	6.56	07/03/23	6.56
06/03/19	6.56	04/01/21	6.56	10/02/23	6.56
07/01/19	6.56	07/01/21	6.56	01/02/24	6.56
08/01/19	6.56	10/01/21	6.56	07/01/24	6.56

BRL Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
11/01/18	6.42	09/02/19	7.87	01/03/22	10.51
12/03/18	6.53	10/01/19	7.98	04/01/22	10.67
01/02/19	6.70	01/02/20	8.32	07/01/22	10.84
02/01/19	6.87	04/01/20	8.63	10/03/22	10.97
03/01/19	7.03	07/01/20	8.95	01/02/23	11.12
04/01/19	7.15	10/01/20	9.29	04/03/23	11.25
05/02/19	7.30	01/04/21	9.58	07/03/23	11.33
06/03/19	7.47	04/01/21	9.84	01/02/24	11.51
07/01/19	7.59	07/01/21	10.06	07/01/24	11.64
08/01/19	7.75	10/01/21	10.30		

Implicit Inflation (IPCA)

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
11/01/18	3.73	09/02/19	5.15	01/03/22	5.01
12/03/18	3.85	10/01/19	5.26	04/01/22	5.03
01/02/19	4.01	01/02/20	5.13	07/01/22	5.09
02/01/19	4.17	04/01/20	5.14	10/03/22	5.12
03/01/19	4.34	07/01/20	5.03	01/02/23	5.19
04/01/19	4.44	10/01/20	5.02	04/03/23	5.25
05/02/19	4.59	01/04/21	4.97	07/03/23	5.28
06/03/19	4.76	04/01/21	4.96	10/02/23	5.33
07/01/19	4.88	07/01/21	4.94	01/02/24	5.38
08/01/19	5.03	10/01/21	4.97	07/01/24	5.46

EUR Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	-0.40	6M	-0.28	11M	-0.24
2M	-0.37	7M	-0.27	12M	-0.24
3M	-0.35	8M	-0.26	2Y	-0.11
4M	-0.32	9M	-0.25	3Y	0.07
5M	-0.30	10M	-0.25	4Y	0.24

CAD Interest Rate

Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)	Maturity	Rate (% p.a.)
1M	1.84	6M	2.18	11M	1.26
2M	1.91	7M	1.88	12M	1.17
3M	2.03	8M	1.66	2Y	2.61
4M	2.11	9M	1.51	3Y	2.73
5M	2.16	10M	1.37	4Y	2.81

Currencies - Ending rates

CAD/US\$	-	0.7738	US\$/BRL	-	4.0039	EUR/US\$	-	1.1614
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