

Vale S.A.  
Form 6-K  
June 07, 2016

**United States  
Securities and Exchange Commission**

Washington, D.C. 20549

**FORM 6-K**

**Report of Foreign Private Issuer  
Pursuant to Rule 13a-16 or 15d-16  
of the  
Securities Exchange Act of 1934**

**For the month of**

**June 2016**

**Vale S.A.**

**Avenida das Américas, 700 Bloco 8, Sala 318**

**22640-100 Rio de Janeiro, RJ, Brazil**

(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

(Check One) Form 20-F  Form 40-F

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Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1)

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Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

(Check One) Yes  No

If  Yes is marked, indicate below the file number assigned to the registrant in connection with Rule 12g3-2(b). 82-

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**INCORPORATION BY REFERENCE**

This report is incorporated by reference in our registration statements on Form F-3 filed with the U.S. Securities and Exchange Commission on September 29, 2015 (File Nos. 333-207181 and 333-207181-01), and shall be deemed to be a part thereof from the date on which this report is furnished to the SEC, to the extent not superseded by documents or reports subsequently filed or furnished.

This report also incorporates by reference our current report on Form 6-K furnished to the SEC on April 28, 2016 (SEC Accession No: 0001104659-16-114840), containing our unaudited condensed consolidated interim financial statements as of and for the three-month periods ended March 31, 2016 and March 31, 2015 (the Interim Financial Statements ), prepared in accordance with International Financial Reporting Standards, as issued by the International Accounting Standards Board, which are accordingly incorporated by reference in the registration statements on Form F-3 referred to in the preceding paragraph.

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Table of Contents**RESULTS OF OPERATIONS FOR THE THREE MONTH PERIODS ENDED MARCH 31, 2016 AND MARCH 31, 2015**

In the first quarter of 2016, we recorded net income attributable to the Company's stockholders of US\$1,776 million, compared to a net loss of US\$3,118 million in the first quarter of 2015. The improvement was mainly driven by: (i) net foreign exchange gain of US\$1,611 million in the first quarter of 2016, compared to net foreign exchange loss of US\$2,917 million in the first quarter of 2015, mainly due to the 8.7% appreciation of the Brazilian *real* against the U.S. dollar during the first quarter of 2016, compared to a 20.8% depreciation of the Brazilian *real* against the U.S. dollar in the first quarter of 2015; and (ii) a 17.8% reduction in our costs of goods sold and a 40.6% reduction in our expenses. These factors more than offset the impact of lower net revenues attributable to lower prices.

**Consolidated Revenues**

For the first quarter of 2016, our net operating revenues were US\$5,719 million, 8.3% lower than net operating revenues for the first quarter of 2015, mainly as a result of lower sales prices of ferrous minerals (impact of US\$191 million) and base metals (impact of US\$489 million), partially offset by higher sales volumes of ferrous minerals (impact of US\$127 million) and base metals (impact of US\$132 million).

*Net operating revenue by product*

The following table summarizes our net operating revenues by product for the periods indicated.

	Three months period ended March 31,		
	2015	2016	% change
	(US\$ million)		
<b>Ferrous minerals:</b>			
Iron ore	US\$ 2,716	US\$ 2,917	7.4%
Iron ore pellets	965	753	(22.0)
Ferrous alloys and manganese ore	70	47	(32.9)
Other ferrous products and services	117	87	(25.6)
Subtotal	3,868	3,804	(1.7)
Coal	145	154	6.2
<b>Base metals:</b>			
Nickel and other products(1)	1,335	1,000	(25.1)
Copper concentrate(2)	375	353	(5.9)
Subtotal	1,710	1,353	(20.9)
<b>Fertilizers:</b>			
Potash	30	23	(23.3)
Phosphates	357	290	(18.8)
Nitrogen	79	58	(26.6)
Other fertilizer products	12	13	8.3
Subtotal	478	384	(19.7)
Other products and services(3)	39	24	(38.5)

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Net operating revenues	US\$	6,240	US\$	5,719	(8.3)%
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- (1) Includes nickel co-products (copper) and by-products (precious metals, cobalt and others).
  - (2) Does not include copper produced as a nickel co-product.
  - (3) Includes energy.

Table of Contents*Sales volumes*

The following table sets forth, for our principal products, the total volumes we sold in each of the periods indicated.

	<b>Three months ended March 31,</b>	
	<b>2015</b>	<b>2016</b>
	<b>(thousand metric tons, except where indicated)</b>	
<b>Ferrous minerals:</b>		
Iron ore fines	59,420	62,744
Run of mine	2,915	520
Iron ore pellets	11,255	11,130
Manganese ore	363	515
Ferroalloys	30	25
Coal:	1,571	2,666
Thermal coal	257	1,299
Metallurgical coal	1,314	1,367
<b>Base metals:</b>		
Nickel	68	74
Copper	98	101
PGMs (oz)	144	153
Gold (oz)	97	115
Silver (oz)	610	623
Cobalt (lb)	1,009	1,178
<b>Fertilizers:</b>		
Potash	91	104
Phosphates:	1,550	1,458
MAP	259	259
TSP	84	92
SSP	267	262
DCP	124	109
Phosphate rock	732	690
Other phosphates	83	46
Nitrogen	152	146

Table of Contents*Average realized prices*

The following table sets forth our average realized prices for our principal products for each of the periods indicated. We determine average realized prices based on our net operating revenues, which consist of the price charged to customers, excluding value added tax and certain other items that we deduct in arriving at net operating revenues.

	<b>Three months ended March 31,</b>			
	<b>2015</b>		<b>2016</b>	
	<b>(US\$ per metric ton, except where indicated)</b>			
<b>Ferrous minerals:</b>				
Iron ore fines	US\$	45.71	US\$	46.50
Run of mine		10.98		8.02
Iron ore pellets		85.78		67.61
Manganese ore		112.95		60.56
Ferroalloys		966.67		648.96
<b>Coal:</b>				
Thermal coal		62.26		38.57
Metallurgical coal		98.17		75.93
<b>Base metals:</b>				
Nickel		14,279		8,787
Copper		4,758		4,323
Platinum (US\$/oz)		1,156		898
Gold (US\$/oz)		1,163		1,132
Silver (US\$/oz)		13.75		14.14
Cobalt (US\$/lb)		9.12		8.61
<b>Fertilizers:</b>				
Potash		329.87		223.36
<b>Phosphates:</b>				
MAP		509.76		391.88
TSP		391.70		305.48
SSP		191.31		170.82
DCP		509.15		465.54
Phosphate rock		90.20		83.06
Nitrogen	US\$	519.02	US\$	400.02

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The following table summarizes, for the periods indicated, the distribution of our net operating revenues based on the geographical location of our customers.

	Net operating revenues by destination Three months ended March 31,					
	2015			2016		
	(US\$ million)		(% of total)	(US\$ million)		(% of total)
<b>North America</b>						
Canada	US\$	305	4.9%	US\$	278	4.9%
United States		257	4.1		209	3.7
Mexico		4	0.1		9	0.1
		566	9.1		496	8
<b>South America</b>						
Brazil		1,057	16.9		719	12.6
Other		106	1.7		95	1.7
		1,163	18.6		814	14.2
<b>Asia</b>						
China		1,776	28.5		2,454	42.9
Japan		582	9.3		340	5.9
South Korea		249	4.0		199	3.5
Other		406	6.5		288	5.0
		3,013	48.3		3,281	57.4
<b>Europe</b>						
Germany		369	5.9		280	4.9
Italy		130	2.1		115	2.0
Others		628	10.1		541	9.5
		1,127	18.1		936	16.4
<b>Middle East</b>		286	4.6		152	2.7
<b>Rest of the world</b>		85	1.4		40	0.7
<b>Total</b>	US\$	6,240	100.0%	US\$	5,719	100.0%

**Consolidated operating costs and expenses**

Our cost of goods sold and services rendered declined by US\$919 million, or 17.8%, to US\$4,249 million in the first quarter of 2016 from US\$5,168 million in the first quarter of 2015, mainly driven by: (i) the positive effect of exchange rate variation (US\$724 million impact) and (ii) cost reduction initiatives in all of our businesses. On a constant currency basis, our cost of goods sold declined 4.4% in the first quarter of 2016, compared to the first quarter of 2015.

Our selling, general and administrative expenses decreased by 39%, to US\$119 million in the first quarter of 2016 from US\$195 million in the first quarter of 2015, mostly due to the simplification of our corporate functions and structure, which contributed to a reduction of US\$33 million in personnel expenses, US\$13 million in services expenses and US\$13 million in selling expenses. On a constant currency basis and excluding depreciation, our selling, general and administrative expenses declined 30.8% in the first quarter of 2016, compared to the first quarter of 2015.

Our research and development expenses totaled US\$60 million in the first quarter of 2016, a decrease of US\$59 million, or 49.6 %, from the US\$119 million expenses recorded in the first quarter of 2015, reflecting the interruption of the Kronau potash project in 2015 and reductions



across all of our business segments.

Our pre-operating and stoppage expenses totaled US\$102 million in the first quarter of 2016, a decrease of US\$162 million, or 61.4%, from the US\$264 million recorded in the first quarter of 2015, mainly due to the reduction of expenses in Long Harbour and the conclusion of the ramp-up of our operations in New Caledonia and the Nacala Logistics Corridor, in Mozambique and Malawi.

Our other operating expenses were US\$35 million in the first quarter of 2016, compared to income of US\$46 million in the first quarter of 2015, reflecting the following non-recurring items: (i) the positive effect of the gold-streaming transaction of US\$230 million in the first quarter of 2015 and (ii) the reversal of the write-down of thermal coal inventories of US\$71 million in the first quarter of 2016.

Table of Contents*Cost of goods sold by product*

The following table presents, for each indicated period, our cost of goods sold and services rendered by product for the periods indicated and the percentage change between periods. The percentage change is presented both as reported in our Interim Financial Statements and as adjusted to remove the effects of exchange rate variation (constant currency basis).

	Three months ended March 31,			2016 Cost of goods sold (US\$ million)
	2015 Cost of goods sold (US\$ million)	As reported (%)	Change Constant currency (%)	
<b>Ferrous minerals:</b>				
Iron ore	US\$ 1,898	(31.0)	(19.8)	US\$ 1,309
Iron ore pellets	591	(26.1)	(11.5)	437
Ferroalloys and manganese ore	47	(2.1)	31.4	46
Other ferrous products and services	100	(41.0)	(14.5)	59
Subtotal	2,636	(29.8)	(17.0)	1,851
Coal	186	57.5	62.8	293
<b>Base metals:</b>				
Nickel and other products(1)	847	(9.8)	(2.9)	764
Copper (2)	224	(14.3)	16.4	192
Subtotal	1,071	(10.7)	0.4	956
<b>Fertilizers:</b>				
Potash	21	(14.3)	12.5	18
Phosphates	261	(10.3)	3.1	234
Nitrogen	55	(23.6)	5.0	42
Subtotal	337	(12.8)	3.9	294
Other(3)	27	66.7	125.0	45
Total (excluding depreciation)	4,257	(19.2)	(6.2)	3,439
Depreciation	911	(11.2)	4.1	810
Total with depreciation	US\$ 5,168	(17.8)	(4.4)	4,249

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- (1) Includes nickel co-products (copper) and by-products (precious metals, cobalt and others).
  - (2) Does not include copper produced as a nickel co-product.
  - (3) Includes energy.

Table of Contents*Expenses by product (excluding impairment charges)*

The following table summarizes, for each indicated period, our expenses (including selling, general and administrative, research and evaluation, pre-operating, stoppage and other expenses, net of other revenues) by product and the percentage change from year to year. The percentage change is presented both as reported in our Interim Financial Statements and as adjusted to remove the effects of exchange rate variation (constant currency basis).

	2015 Expenses (US\$ million)	Three months ended March 31, Change		2016 Expenses (US\$ million)
		As reported (%)	Constant currency (%)	
<b>Ferrous minerals:</b>				
Iron ore	US\$ 229	(13.1)	15.3	US\$ 199
Iron ore pellets	3	566.7	566.7	20
Ferroalloys and manganese ore	6	(100)	(100.0)	0
Other ferrous products and services	(7)	(42.9)	(300.0)	(4)
Subtotal	231	(6.9)	18.1	215
Coal	87	(152.9)	(153.5)	(46)
<b>Base metals:</b>				
Nickel and other products(1)	193	(63.7)	(61.3)	70
Copper (2)	(2)	0.0	100.0	(2)
Other base metal products	(230)			
Subtotal	(39)	(274.4)	(236.0)	68
<b>Fertilizers:</b>				
Potash	15	(86.7)	(86.7)	2
Phosphates	31	(48.4)	(36.0)	16
Nitrogen	5	(60.0)	(50.0)	2
Subtotal	51	(60.8)	(54.5)	20
Other(3)	78	(75.6)	(85.2)	19
Total (excluding depreciation)	408	(32.4)	(29.2)	276
Depreciation	124	(67.7)	(64.6)	40
Total with depreciation	US\$ 532	(40.6)	(38.5)	US\$ 316

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- (1) Includes nickel co-products (copper) and by-products (precious metals, cobalt and others).
- (2) Does not include copper produced as a nickel co-product.
- (3) Includes energy.

Table of Contents**Results of operations by segment**

Our management uses adjusted earnings before interest, taxes, depreciation and amortization, or Adjusted EBITDA, to assess each segment's contribution to our performance and to support decisions about resource allocation. Adjusted EBITDA is a non-GAAP measure, calculated for each segment using operating income or loss plus dividends received from joint ventures and associates, and adding back the amounts charged as (i) depreciation, depletion and amortization, (ii) impairment of non-current assets and onerous contracts and (iii) results on measurement or sale of non-current assets. For more information and a reconciliation of our operating income or loss to Adjusted EBITDA, see Note 3 to our Interim Financial Statements.

The following table summarizes operating income or loss and Adjusted EBITDA for each of our segments.

	2015		Three months ended March 31,		2016		Adjusted EBITDA
	Operating income (loss)	Adjustments(1)	Adjusted EBITDA (US\$ million)	Operating income (loss)	Adjustments(1)	Adjusted EBITDA	
<b>Ferrous minerals:</b>							
Iron ore	US\$ 230	US\$ 359	US\$ 589	US\$ 1,168	US\$ 241	US\$ 1,409	
Iron ore pellets	286	111	397	216	80	296	
Ferroalloys and manganese ore	11	6	17	(7)	8	1	
Other ferrous products and services	4	20	24	14	18	32	
Subtotal	531	496	1,027	1,391	347	1,738	
Coal	(151)	23	(128)	(116)	23	(93)	
<b>Base metals:</b>							
Nickel and other products(2)	(127)	422	295	(198)	364	166	
Copper(3)	105	48	153	120	43	163	
Other	230		230				
Subtotal	208	470	678	(78)	407	329	
<b>Fertilizers:</b>							
Potash	(12)	6	(6)	(3)	6	3	
Phosphates	10	55	65	(16)	56	40	
Nitrogen	13	6	19	9	5	14	
Other fertilizer products	12		12	13		13	
Subtotal	23	67	90	3	67	70	
Other(4)	122	(187)	(65)	(46)	7	(39)	
<b>Total</b>	<b>US\$ 733</b>	<b>US\$ 869</b>	<b>US\$ 1,602</b>	<b>US\$ 1,154</b>	<b>US\$ 850</b>	<b>US\$ 2,005</b>	

(1) Adding dividends received from associates and joint ventures and excluding (i) depreciation, depletion and amortization, (ii) impairment of non-current assets and onerous contracts and (iii) results on measurement or sale of non-current assets.

(2) Includes copper and by-products from our nickel operations.

- (3) Includes by-products from our copper operations.
- (4) Includes energy.

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We discuss below, for each segment, the changes in our net operating revenues, cost of goods sold (excluding depreciation, depletion and amortization), expenses (excluding depreciation, depletion and amortization and excluding impairment charges), Adjusted EBITDA and operating income.

*Ferrous minerals*

Our net operating revenues from sales of ferrous minerals decreased by 1.7% in the first quarter of 2016, compared to the first quarter of 2015, mainly reflecting lower pellet prices, partially offset by higher realized prices and sales volumes of iron ore fines. Our average realized prices for iron ore fines in the first quarter of 2016 were 1.7% higher than our average realized prices in the first quarter of 2015, mainly driven by price adjustments received in the first quarter of 2016, pursuant to our provisional pricing mechanism in connection with sales in the last quarter of 2015, which mitigated the effect of the decrease in the average value of the reference price index Platt's IODEX 62% CFR China. Our average realized prices for iron ore pellets were 21.2% lower than our average realized prices in the first quarter of 2015, reflecting the decline in the average value of the reference price index. Our iron ore sales volume increased by 5.6% in the first quarter of 2016 compared to the first quarter of 2015, due to the ramp-up of the N4WS mine, the extension of the N5S mine and the Carajás plant 2, in our Northern System, the extension of the Vargem Grande, Conceição I and II Itabirites projects, in our Southeastern and Southern systems, and an improvement of our distribution logistics. Our sales volume of iron ore pellets in the first quarter of 2016 remained in line with the first quarter of 2015.

Our cost of goods sold from ferrous minerals, excluding depreciation, decreased 17.0% in the first quarter of 2016, compared to the first quarter of 2015, on a constant currency basis. This decrease reflects lower freight costs (impact of US\$224 million), and the absence of bunker oil accounting hedge disbursements in the first quarter of 2016, compared to US\$94 million disbursements in the first quarter of 2015. This decrease was partially offset by increased costs associated with higher sales volumes, in the amount of US\$78 million.

Our net expenses from ferrous minerals, excluding depreciation, depletion and amortization, increased by 18.1% in the first quarter of 2016, compared to the first quarter of 2015, on a constant currency basis, mainly as a result of higher pre-operating and stoppage expenses related to the Samarco dam failure and higher contingencies in the first quarter of 2016. These effects were partially offset by a decrease in research and development expenses.

Our Adjusted EBITDA from ferrous minerals was US\$1,738 million in the first quarter of 2016, US\$711 million, or 69.2%, higher than our Adjusted EBITDA in the first quarter of 2015. This increase primarily reflects the US\$450 million positive impact of exchange rate variations in our costs and expenses, as well as reductions in costs, which were partially offset by the negative impact of lower sales prices, as described above.

Our operating income from ferrous minerals was US\$1,391 million in the first quarter of 2016 and US\$531 million in the first quarter of 2015, reflecting the increase in our Adjusted EBITDA, as described above.

*Coal*

Our net operating revenues from sales of coal increased to US\$154 million in the first quarter of 2016, from US\$145 million in the first quarter of 2015. This 6.2% increase was mainly due to higher sales volumes. Our sales volumes of thermal coal increased to 1,299 metric tons in the first quarter of 2016 from 257 metric tons in the first quarter of 2015, due to the sale of stockpiles accumulated during the ramp-up of the Nacala Logistics Corridor. The sales volume of our metallurgical coal also increased by 4.0%.

Our cost of goods sold from coal, excluding depreciation, increased 62.8% in the first quarter of 2015 compared, on a constant currency basis, to the first quarter of 2015. This increase reflects the US\$240 million impact of higher volumes, and higher fixed-costs dilution with the increase in production in Carborough Downs and the ramp-up of the Nacala Logistics Corridor.

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Our net expenses from coal, excluding depreciation, depletion and amortization, was a revenue of US\$46 million in the first quarter of 2016, compared to an expense of US\$87 million in the first quarter of 2015, primarily reflecting a reversal of a write-down of thermal coal inventories in the amount of US\$59 million in the first quarter of 2016.

Our Adjusted EBITDA from coal was a loss of US\$93 million in the first quarter of 2016, while in the first quarter of 2015 we reported a loss of US\$128 million. The decrease in our loss was mainly driven by the reduction in costs and expenses mentioned above.

Our operating loss from coal was US\$116 million in the first quarter of 2016, compared to US\$151 million in the first quarter of 2015, for the reasons described above.

*Base metals*

Our net operating revenues from sales of base metals decreased to US\$1,353 million in the first quarter of 2016 from US\$1,710 million in the first quarter of 2015. This 20.9% decrease was mainly due to 38.5% and 9.1% lower average realized prices of nickel and copper, respectively, in the first quarter of 2016, compared to the first quarter of 2015, reflecting in each case the decline in the average reference price index LME. This decrease was partially offset by: (i) 8.8% higher nickel sales volumes in the first quarter of 2016, compared to the first quarter of 2015, mainly due to increased production in our operations in New Caledonia and increased production in our operations in Sudbury, and (ii) 3.2% higher copper sales volumes, due to successful ramp-up of Salobo and increased production in Sudbury.

Our cost of goods sold from base metals, excluding depreciation, increased 0.4%, on a constant currency basis, compared to the first quarter in 2015.

Our net expenses from base metals, excluding depreciation, depletion and amortization, was an expense of US\$68 million in the first quarter of 2016 compared to a revenue of US\$39 million in the first quarter of 2015. This decrease reflects the non-recurring positive effect of the gold stream transaction recorded in the first quarter of 2015, in the amount of US\$230 million, which was partially offset by a US\$74 million reduction in pre-operating and stoppage expenses, as a result of lower expenses at Long Harbour and conclusion of the ramp up of our operations in New Caledonia.

Our Adjusted EBITDA from base metals was US\$329 million in the first quarter of 2016, 51.5% lower than the US\$678 million registered in the first quarter of 2015, mainly as a result of lower prices of nickel (impact of US\$388 million) and copper (impact of US\$49 million) and the above mentioned increase in net expenses.



Our operating results from base metals was an operating loss of US\$78 million in the first quarter of 2016, compared to operating income of US\$208 million in the first quarter of 2015, mainly resulting from the non-recurring positive effect of the gold stream transaction of US\$230 million recorded in March 2015.

*Fertilizers*

Our net operating revenues from sales of fertilizers decreased to US\$384 million in the first quarter of 2016 from US\$478 million in the first quarter of 2015. This US\$94 million decrease, or 19.7%, was mainly driven by US\$62 million impact of the decrease in fertilizer prices in the international market and US\$26 million in exchange rate variation. Our sales volumes in the first quarter of 2016 remained in line with the first quarter of 2015.

Our cost of goods sold from fertilizers, excluding depreciation, increased 3.9% in the first quarter of 2016 compared, on a constant currency basis, to the first quarter of 2015. This increase was mainly due to higher inflation pressures in Brazil, and was partially offset by costs savings initiatives.

Our net expenses from fertilizers, excluding depreciation, depletion and amortization, decreased 54.5% in the first quarter of 2016, compared, on a constant currency basis, with the first quarter of 2015. This decrease was

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mainly due to a US\$12 million reduction of research and development expenses, as a result of the interruption of the Kronau potash project in the last quarter of 2015.

Our Adjusted EBITDA from fertilizers was US\$70 million in the first quarter of 2016, a 22.2% decrease compared to the first quarter of 2015, mainly driven by lower prices mentioned above.

Our operating result from fertilizers was an operating income of US\$3 million in the first quarter of 2016 compared to a US\$23 million income in the first quarter of 2015, for the reasons described above.

**Financial results**

The following table details our net non-operating income (expenses) for the periods indicated.

	<b>Three months ended March 31,</b>			
	<b>2015</b>	<b>(US\$ millions)</b>	<b>2016</b>	
Financial income	US\$	68	US\$	60
Financial expenses		(219)		(630)
Gains (losses) on derivatives, net		(1,340)		440
Foreign exchange gains (losses), net		(2,917)		1,611
Indexation gains (losses), net		(102)		(56)
Non-operating income (expenses)	US\$	(4,510)	US\$	1,425

Our non-operating income (expenses) was income of US\$1,425 million in the first quarter of 2016 compared to an expense of US\$4,510 million in the first quarter of 2015. This mainly resulted from:

- (i) Net foreign exchange gain of US\$1,611 million in the first quarter of 2016 compared to net foreign exchange loss of US\$2,917 million in the first quarter of 2015, mainly due to the 8.7% appreciation of the Brazilian *real* against the U.S. dollar in the first quarter of 2016, compared to a 20.8% depreciation of the Brazilian *real* in the first quarter of 2015.
- (ii) The net effect of fair value changes in derivatives, which represented a gain of US\$440 million in the first quarter of 2016 compared to a loss of US\$1,340 million in the first quarter of 2015. This reflected the following main categories of derivatives transactions:

- *Currency and interest rate swaps.* We recognized a net gain of US\$486 million in the first quarter of 2016 from currency and interest rate swaps, compared to a net loss of US\$1,263 million in the first quarter of 2015. These swaps are primarily used to convert debt denominated in other currencies into U.S. dollars in order to protect our cash flow from exchange rate volatility.

- *Nickel derivatives.* We recognized a loss of US\$24 million in the first quarter of 2016 compared to a loss of US\$8 million in the first quarter of 2015. These derivatives are part of our nickel price protection program.

- *Bunker oil derivatives.* We recognized a net loss of US\$14 million in the first quarter of 2016 compared to a net loss of US\$49 million in the first quarter of 2015. These derivatives are structured to minimize the volatility of the cost of maritime freight, and the variation is due to the volatility in the spot bunker oil price.

(iii) An indexation loss from monetary variation of US\$56 million in the first quarter of 2016 compared to a loss of US\$102 million in the first quarter of 2015.

(iv) An increase in financial expenses of US\$411 million, from US\$219 million in the first quarter of 2015 to US\$630 million in the first quarter of 2016, attributable primarily to the US\$391 million variation in the fair value of our participative debentures, mainly driven by the decrease in iron ore prices.

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**Equity results in associates and joint ventures**

Our equity results in associates and joint ventures in the first quarter of 2016 increased to income of US\$156 million from a loss of US\$271 million in the first quarter of 2015, mostly due to the positive results from Companhia Siderúrgica do Pecém ( CSP ), in the amount of US\$113 million (due to the impact of appreciation of Brazilian *reais* on CSP debt), the leased pelletizing companies in Tubarão, in the amount of US\$25 million, and MRS, in the amount of US\$20 million, in the first quarter of 2016. In the first quarter of 2015, our equity results in associates and joint ventures was impacted by a negative contribution of US\$173 million from Samarco and US\$120 million from CSP, mainly due to the impact of the depreciation of the Brazilian *reais* on their U.S. dollar-denominated debt.

**Results on sale or disposal of investments in associates and joint ventures**

In the first quarter of 2016, we recognized no gain or loss resulting from the sale or disposal of investments in associated companies or joint ventures, while in the first quarter of 2015, we recognized a gain of US\$18 million as result of the sale of certain energy generation assets.

**Income taxes**

In the first quarter of 2016, we recorded income tax expense of US\$955 million, compared to a US\$860 million tax gain in the first quarter of 2015, when we recognized a pretax loss. In the first quarter of 2016, our effective tax rate was 34.92%. Tax legislation that became effective in Brazil in 2015 provides that income of our foreign subsidiaries will be taxed in Brazil, on an accrual basis, applying the differential between the local rate and the Brazilian tax rates. Accordingly, the effective tax rate was different from the statutory rate mainly due to unrecognized tax losses of the period, partially offset by the tax loss carryforward related to losses at foreign subsidiaries that we were able to recognize due to change of law.

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**LIQUIDITY AND CAPITAL RESOURCES**

**Overview**

In the ordinary course of business, our principal funding requirements are for capital expenditures, dividend payments and debt service. We have historically met these requirements by using cash generated from operating activities and through borrowings, supplemented by dispositions of assets.

We have taken measures to reduce our capital expenditures, costs and expenses to face the reduction in the commodity prices and the consequent impact on our operating cash flows. We continue to evaluate opportunities for additional cash generation, such as the sale of certain assets, which may include core assets, and investments, joint ventures for certain businesses, streaming transactions, and issuance of redeemable non-voting shares in some of our subsidiaries.

We are cognizant of market volatility, despite the recent improvement in commodity prices, and remain fully committed to reduce our costs and expenses and to strengthen our balance sheet through the reduction of our net debt. We remain focused on our operating and capital allocation discipline and on progressing our divestment and asset optimization program.

**Sources of funds**

Our principal sources of funds are operating cash flow and borrowings. The amount of operating cash flow is strongly affected by global prices for our products. In the first quarter 2016, our cash generated from operations of US\$696 million, compared to US\$2,048 million in the first quarter of 2015, reflecting primarily the negative impact of lower prices of iron ore and pellets on our financial results (impact of US\$5,935 million) and accounts receivable (negative impact of US\$1,833 million), offset by a gain in our net income before income taxes (impact of US\$6,765 million).

In the first quarter of 2016, we borrowed US\$3,195 million under our new and existing financing agreements. Our major new borrowing transactions in the first quarter of 2016 are summarized below.

- In January 2016, we drew US\$3.0 billion under our existing revolving credit facilities with syndicates of international banks, which will mature in 2018 and 2020.
- In January 2016, we entered into trade finance transactions in the total amount of US\$195 million. US\$95 million of these facilities will mature in 2016 and the remaining US\$100 million, in 2017.

**Uses of funds**

*Capital expenditures*

In the first quarter of 2016, our capital expenditures, excluding acquisitions, amounted to US\$1,449 million, including US\$920 million for project execution and US\$529 million dedicated to sustaining existing operations.

*Distributions and repurchases*

We did not pay dividends and we did not repurchase any of our shares in the first quarter of 2016.

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*Tax payments*

We paid US\$146 million in income tax in the first quarter of 2016, compared to US\$244 million in the first quarter of 2015, excluding the payments in connection with REFIS. In connection with our participation in the REFIS, our outstanding commitment as of March 31, 2016 was US\$4,891 million, which will be paid in 151 monthly installments. In the first quarter of 2016, we paid a total of US\$88 million, compared to US\$106 million in the first quarter of 2015 in connection with the REFIS.

*Non-operational*

Our non-operational uses of cash in the first quarter of 2016 mainly consisted of: (i) interest on loans amounting to US\$460 million in the first quarter of 2016, compared to US\$471 million in the first quarter of 2015; and (ii) settlement of derivatives amounting to US\$510 million, of which US\$233 million were related to bunker oil in the first quarter of 2016, compared to the settlement of derivatives amounting to US\$657 million in the first quarter of 2015, of which US\$285 million were related to bunker oil.

**Debt**

As of March 31, 2016, our outstanding debt was US\$31.470 billion (including US\$30.871 billion of principal and US\$599 million of accrued interest). As of March 31, 2016, US\$507 million of our debt was secured by liens on some of our assets. As of March 31, 2016, the average remaining term of our debt was 7.63 years.

As of March 31, 2016, the short-term debt and the current portion of long-term debt was US\$3.255 billion, including charges.

Our major categories of long-term indebtedness are as follows. The principal amounts given below include the current portion of long-term debt and exclude accrued charges.

- *U.S. dollar-denominated floating rate notes (US\$9.909 billion as of March 31, 2016).* This category includes export financing lines, loans from export credit agencies, and loans from commercial banks and multilateral organizations.
- *U.S. dollar-denominated fixed rate notes (US\$13.343 billion as of March 31, 2016).* We have issued in public offerings several series of fixed-rate debt securities, directly by Vale and through our finance subsidiary Vale Overseas Limited, guaranteed by Vale, totaling US\$12.050 billion. Our subsidiary Vale Canada has outstanding fixed rate debt in the amount of US\$400 million.

- *Euro-denominated fixed rate notes (US\$1.709 billion as of March 31, 2016).* We have issued in public offerings two series of fixed-rate debt securities denominated in Euro totaling 1.500 billion.
- *Other debt (US\$5.910 billion as of March 31, 2016).* We have outstanding debt, principally owed to BNDES, Brazilian commercial banks and infrastructure debentures, denominated in Brazilian *reais* and other currencies.

We have a variety of credit lines available, including the following, as of March 31, 2016:

- Credit lines for R\$7.300 billion, or US\$2.051 billion, to finance our investment program. As of March 31, 2016, the total amount available under these facilities was R\$1.751 billion, or US\$0.492 billion.
- A R\$3.883 billion or US\$1.091 billion, financing agreement with BNDES to finance part of the implementation of the CLN 150 Mtpy project, which will expand the logistics infrastructure in Vale's Northern System. As of March 31, 2016, this facility was almost fully drawn.
- A R\$6.163 billion, or US\$1.732 billion, financing agreement with BNDES to finance part of the implementation of the S11D project and its infrastructure (CLN S11D). As of March 31, 2016, the total amount available under this facility was R\$2.847 billion, or US\$0.800 billion.
- We have two revolving credit facilities with syndicates of international banks, which will mature in



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2018 and 2020. As of March 31, 2016, the total amount available under these facilities was US\$2.000 billion, which can be drawn by Vale, Vale Canada and Vale International.

Some of our long-term debt instruments contain financial covenants. In particular, instruments representing approximately 19% of the aggregate principal amount of our total debt require that we maintain, as of the end of each quarter (a) a consolidated ratio of total debt to Adjusted EBITDA for the past twelve months not exceeding 4.5 to one and (b) a consolidated interest coverage ratio of at least 2.0 to one. These covenants appear in our financing agreements with BNDES, with other export and development agencies, and with some other lenders. In the last quarter of 2015, we agreed with lenders under these agreements to amend the consolidated ratio of total debt to Adjusted EBITDA to require a ratio of 5.5 to one through the end of 2016, which will give us flexibility to finalize our investment cycle.

As of March 31, 2016, the corporate guarantees we provided (corresponding to our direct or indirect interest) for the companies Norte Energia S.A. and Companhia Siderúrgica do Pecém S.A. totaled US\$309 million and US\$1,249 million, respectively. As a result of the transfer of 49% of our 9% stake in Norte Energia S.A. to Cemig GT, the guarantee for Norte Energia S.A. is now shared with Cemig GT.

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**RECENT DEVELOPMENTS**

**Developments Relating to the Samarco Dam Failure**

As discussed in our annual report on Form 20-F, filed with the U.S. Securities and Exchange Commission on March 31, 2016 (See *Significant changes in our business – Failure of Samarco’s tailings dam in Minas Gerais* in our annual report on Form 20-F), our joint venture Samarco experienced a failure of one of its iron ore tailings dams on November 5, 2015. In March 2016, Samarco and its shareholders, Vale and BHP Billiton Brasil Ltda. (BHPB), entered into a settlement agreement (the Settlement Agreement) with the federal Attorney General of Brazil, the two Brazilian states affected by the failure (Espírito Santo and Minas Gerais) and certain other parties, pursuant to which Samarco and its shareholders agreed to create a foundation (the Foundation) to develop and implement remediation and compensation programs. Pursuant to the Settlement Agreement, Samarco will provide funding to the Foundation and, to the extent of Samarco does not meet its funding obligations, each of its shareholders is liable, under the terms of the agreement, to provide funds to the Foundation in proportion to its 50% interest in Samarco. On May 5, 2016, the Settlement Agreement was ratified by the Federal Court of Appeals of the First Region. The Brazilian federal prosecutor’s office (the *Ministério Público Federal* or MPF) has appealed the decision that ratified the Settlement Agreement.

Samarco is currently unable to resume its mining and processing operations. Samarco’s management is developing a plan to resume operations, but the prospects, the timing and the scope of the plan to resume operations remain uncertain.

If Samarco cannot meet its obligations to provide resources to the Foundation, Vale and BHPB will be required, under the Settlement Agreement, to provide resources in proportion to their respective 50% interests.

Vale’s analysis of whether it will be required to provide funding to the Foundation is based on the projected cash flows of Samarco, which requires the use of critical estimates and assumptions, including but not limited to: (i) the resumption of operations within a reasonable period of time; (ii) a favorable resolution of negotiations with financial institutions and bondholders, to address Samarco’s failure to comply with financial and other covenants in its debt instruments; and (iii) the availability of short-term resources, including for example the release of certain escrow accounts in connection with judicial proceedings in progress.

The risk that Vale and BHPB will be required to make contributions to the Foundation will increase significantly if these key assumptions are not met in a reasonable period of time. Vale’s management currently expects that any such contributions, if they are necessary, will be made for a limited period of time until Samarco is able to take the actions necessary to meet these assumptions or to allow Samarco to begin generating cash flow or to access funding to make the payments required under the Settlement Agreement.

Until new facts and circumstances are available and the uncertainties underlying Samarco’s ability to comply with its funding obligations are reduced, it is not possible to estimate or reliably measure the amounts and timing of funding or guarantees that Vale could be required to

provide. Therefore, we have not recognized any provision in our Interim Financial Statements.

In addition, we are a defendant in a number of lawsuits brought by individuals, corporations and governmental authorities seeking damages for personal injury, wrongful death, commercial or economic injury, breach of contract and violations of statutes as a result of the failure of Samarco's dam (See *Additional information Legal proceedings Legal proceedings related to failure of Samarco's tailings dam in Minas Gerais Public civil action by the Brazilian government and others* in our annual report on Form 20-F). Notably, the MPF filed a public civil action in early May 2016 before the 12th Federal Court at Belo Horizonte, Minas Gerais, against Samarco, its shareholders, Vale and BHPB, and numerous governmental agencies and other organizations. The MPF requests the court to order a broad range of specific actions to be taken by the various parties. It also states in its complaint that the required remedial measures would have a total value of R\$155 billion, based on a comparison with the costs of the Deepwater Horizon oil spill in the Gulf of Mexico in 2010.

In this public civil action, the MPF claims monetary damages from the defendants on a joint and several basis as well as other forms of relief, including injunctions (i) ordering the defendants to implement several measures to mitigate or remediate social, economic and environmental impacts arising from the collapse of the Fundão dam, as well as other emergency measures; (ii) preventing the defendants from encumbering or disposing of their assets; (iii) preventing the defendants from paying dividends; (iv) ordering the defendants to deposit R\$7.7 billion into a fund, managed by the defendants, for implementation of social, environmental and emergency programs; (v) ordering the defendants to provide collateral in the amount of R\$155 billion to secure their compliance with the final court decision; (vi) ordering the defendants to maintain working capital in the amount of R\$2 billion initially, and thereafter in an amount equal to 100% of the expenses of the remediation and compensation measures projected for the subsequent twelve months; and (vii) ordering BNDES to take actions under its credit agreements with the defendants, including cessation of further drawings and acceleration of outstanding principal.

Vale will take all necessary steps to defend itself in such public civil action and the other lawsuits arising from the Samarco dam failure. Because these pending lawsuits are in very early stages, it is not possible to determine a range of outcomes or reliable estimates of our potential exposure at this time. Therefore, we have not recognized a provision or provided an estimate of any contingent liability in connection with these lawsuits in our Interim Financial Statements.

### **Other Legal Proceedings**

Brazilian state and federal tax authorities have continued to assert new tax assessments similar to those discussed in our annual report on Form 20-F under *Additional Information Legal proceedings CFEM-related proceedings, Additional Information Legal proceedings ICMS tax assessments* and *Additional Information Legal proceedings PIS/COFINS assessments*. The new assessments cover tax periods that were not covered by previous assessments. As time passes without resolution of the underlying issues, the authorities bring such assessments for additional periods to avoid application of the statute of limitations.

Associations representing the indigenous Xikrin and Porekrô people have recently brought a public civil action against Vale, the Federal Environmental Agency (IBAMA), the Federal Indigenous Agency (FUNAI) and the National Bank of Economic and Social Development (BNDES), seeking the suspension of the environmental permitting procedure of our S11D project. The associations contend that FUNAI and IBAMA have failed to conduct the appropriate studies regarding the indigenous people during the environmental permitting procedure, and that the indigenous groups consequently did not provide a required consent. They also requested a monthly payment of R\$2 million for each association until the defendants conclude the studies. See our current report on Form 6-K furnished to the SEC on May 16, 2016 (SEC Accession No: 0001104659-16-121018), describing the public civil actions filed by two indigenous protection associations requesting the suspension of the environmental license of our S11D project.

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	Year ended December 31,								Three months ended March 31,	
	2011	2012	2013	2014	2015	2015	2016	(US\$ million)		
Income before income taxes and equity results	US\$ 26,775	US\$ 5,387	US\$ 6,731	US\$	US\$ (16,932)	US\$ (3,777)	US\$ 2,579			
Fixed charges:										
Interest costs - capitalized	234	335	235	588	761	196	177			
Interest costs - expensed	1,388	1,251	1,335	1,148	891	195	235			
	1,622	1,586	1,570	1,736	1,652	391	412			
Amortization of capitalized interest	54	67	77	90	105	91	106			
Distributed income of equity investees	1,038	460	834	568	318	27	1			
	29,489	7,500	9,212	3,503	(14,857)	(3,268)	3,098			
Less: interest capitalized	(234)	(335)	(235)	(588)	(761)	(196)	(177)			
	US\$ 29,255	US\$ 7,165	US\$ 8,977	US\$	US\$ (15,618)	US\$ (3,464)	US\$ 2,921			
Ratio of earnings to combined fixed charges(1)	18.04	4.52	5.72	1.68	(9.45)	(8.86)	7.09			

(1) For the periods ending on December 31, 2015 and March 31, 2015, earnings available for fixed charges were inadequate to cover total fixed charges. The amount of the deficiency was US\$ 17,270 and US\$ 3,855 respectively.

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**EXHIBIT INDEX**

**Exhibit A:** Awareness Letter of KPMG Auditores Independentes

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**Exhibit A**

Vale S.A.

Avenida das Américas, 700, 2 floor

Rio de Janeiro RJ

June 7, 2016

Re: Registration Statement 333-207181 and 333-207181-01

With respect to the subject registration statement, we acknowledge our awareness of the use therein of our report dated April 27, 2016 related to our review of interim financial information.

Pursuant to Rule 436 under the Securities Act of 1933 (the Act), such report is not considered part of a registration statement prepared or certified by an independent registered accounting firm, or a report prepared or certified by an independent registered public accounting firm within the meaning of Sections 7 and 11 of the Act.

/s/ KPMG Auditores Independentes  
Rio de Janeiro RJ

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**SIGNATURES**

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

VALE S.A.

By: /s/ LUCIANA RIBEIRO DA COSTA WERNER  
Name: Luciana Ribeiro da Costa Werner  
Title: Attorney-in-Fact

By: /s/ GUILHERME FERREIRA BREGA  
Name: Guilherme Ferreira Brega  
Title: Attorney-in-Fact

Date: June 7, 2016