

Vale S.A.  
Form 6-K  
March 28, 2012  
[Table of Contents](#)

**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**

**March 2012**

**Vale S.A.**

**Avenida Graça Aranha, No. 26  
20030-900 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.

Edgar Filing: Vale S.A. - Form 6-K

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

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)

(Check One) Yes  No

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7)

(Check One) Yes  No

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- .

---

Table of Contents

**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 November 3, 2009 (File Nos. 333-162822 and 333-162822-01) and July 6, 2009 (File Nos. 333-160448 and 333-160448-01), and shall be deemed to be a part thereof from the date on which this report is furnished to the SEC, to the extent not superseded by documents or reports subsequently filed or furnished.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 the following reports, which are accordingly incorporated by reference in the registration statements on Form F-3 referred to in the preceding paragraph:

- our current report on Form 6-K furnished to the SEC on February 16, 2012, containing our audited consolidated financial statements as of December 31, 2011 and 2010 and for the three years ended December 31, 2011, 2010 and 2009, prepared in accordance with U.S. generally accepted accounting principles (the Audited Financial Statements ); and
- our current report on Form 6-K furnished to the SEC on March 1, 2012, containing the Audited Financial Statements in XBRL format.

**TABLE OF CONTENTS**

	<b>Page</b>
<u>Selected financial data</u>	3
<u>Operating and financial review and prospects</u>	5
<u>Overview</u>	5
<u>Results of operations 2011 compared to 2010</u>	11
<u>Liquidity and capital resources</u>	17
<u>Off-balance sheet arrangements</u>	20
<u>Critical accounting policies and estimates</u>	20
<u>Recent developments</u>	25
<u>Ratio of earnings to fixed charges</u>	28



Table of Contents**SELECTED FINANCIAL DATA**

The tables below present selected consolidated financial information as of and for the periods indicated. You should read this information together with the Audited Financial Statements.

**Statement of income data**

	<b>For the year ended December 31,</b>				
	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
			<b>(US\$ million)</b>		
Net operating revenues	32,242	37,426	23,311	45,293	58,990
Cost of products and services	(16,463)	(17,641)	(13,621)	(18,814)	(23,573)
Selling, general and administrative expenses	(1,245)	(1,748)	(1,130)	(1,701)	(2,334)
Research and development	(733)	(1,085)	(981)	(878)	(1,674)
Impairment of goodwill		(950)			
Gain on sale of assets					1,513
Other expenses	(607)	(1,254)	(1,522)	(2,205)	(2,810)
Operating income	13,194	14,748	6,057	21,695	30,112
Non-operating income (expenses):					
Financial income (expenses), net	(1,291)	(1,975)	351	(1,725)	(1,672)
Exchange and monetary gains, net	2,553	364	675	344	(1,641)
Gain on sale of investments	777	80	40		
Subtotal	2,039	(1,531)	1,066	(1,381)	(3,313)
Income before income taxes and equity results	15,233	13,217	7,123	20,314	26,799
Income taxes charge	(3,201)	(535)	(2,100)	(3,705)	(5,282)
Equity in results of affiliates and joint ventures and change in provision for gains on equity investments	595	794	433	987	1,135
Net income from continuing operations	12,627	13,476	5,456	17,596	22,652
Discontinued operations, net of tax				(143)	
Net income	12,627	13,476	5,456	17,453	22,652
Net income attributable to non-controlling interests	(802)	(258)	(107)	(189)	233
Net income attributable to Company's shareholders	11,825	13,218	5,349	17,264	22,885
Total cash paid to shareholders(1)	1,875	2,850	2,724	3,000	9,000

(1) Consists of total cash paid to shareholders during the period, whether classified as dividends or interest on shareholders' equity.

Table of Contents**Earnings per share**

	2007	For the year ended December 31,(1)			2011
		2008	2009	2010	
		(US\$, except as noted)			
Earnings per share:					
Per common share	2.41	2.58	0.97	3.23	4.33
Per preferred share	2.41	2.58	0.97	3.23	4.33
Weighted average number of shares outstanding (in thousands)(2)(3):					
Common shares	2,943,216	3,028,817	3,181,706	3,210,023	3,197,063
Preferred shares	1,889,171	1,946,454	2,030,700	2,035,783	1,984,030
Treasury common shares underlying convertible notes	34,510	56,582	74,998	18,416	18,416
Treasury preferred shares underlying convertible notes	18,478	30,295	77,580	47,285	47,285
Total	4,885,375	5,062,148	5,364,984	5,311,507	5,246,794
Distributions to shareholders per share(4):					
In US\$	0.39	0.56	0.53	0.57	1.74
In R\$	0.74	1.09	1.01	0.98	2.88

(1) Share and per-share amounts for all periods give retroactive effect to all stock splits. We carried out a two-for-one stock split in September 2007.

(2) Each common ADS represents one common share and each preferred ADS represents one preferred share.

(3) Changes in the number of shares outstanding reflect a global equity offering in July 2008 and share repurchase programs conducted from October 2008 to May 2009, from September 2010 to October 2010 and from May 2011 to November 2011.

(4) Our distributions to shareholders may be classified as either dividends or interest on shareholders' equity. In many years, part of each distribution has been classified as interest on shareholders' equity and part has been classified as dividends.

**Balance sheet data**

	2007	2008	At December 31,		2011
			2009	2010	
			(US\$ million)		
Current assets	11,380	23,238	21,294	31,791	21,736
Property, plant and equipment, net and intangible assets	54,625	49,329	68,810	84,370	90,030
Investments in affiliated companies and joint ventures and other investments	2,922	2,408	4,585	4,497	8,093
Other assets	7,790	5,017	7,590	8,481	8,869
Total assets	76,717	79,992	102,279	129,139	128,728
Current liabilities	10,083	7,237	9,181	17,912	11,043
Long-term liabilities(1)	13,195	10,173	12,703	17,195	16,033
Long-term debt(2)	17,608	17,535	19,898	21,591	21,538
Total liabilities	40,886	34,945	41,782	56,698	48,614
Redeemable non-controlling interests	375	599	731	712	505
Shareholders' equity:					

Edgar Filing: Vale S.A. - Form 6-K

Capital stock	12,306	23,848	23,839	23,726	36,903
Additional paid-in capital	498	393	411	2,188	(61)
Mandatorily convertible notes common ADSs	1,288	1,288	1,578	290	290
Mandatorily convertible notes preferred ADSs	581	581	1,225	644	644
Reserves and retained earnings	18,603	16,446	29,882	42,051	39,939
Total Company shareholders equity	33,276	42,556	56,935	68,899	77,715
Non-controlling interests	2,180	1,892	2,831	2,830	1,894
Total shareholders equity	35,456	44,448	59,766	71,729	79,609
Total liabilities and shareholders equity	76,717	79,992	102,279	129,139	128,728

---

(1) Excludes long-term debt.

(2) Excludes current portion of long-term debt.

Table of Contents

**OPERATING AND FINANCIAL REVIEW AND PROSPECTS**

**OVERVIEW**

We recorded strong performance in 2011, which is reflected in all-time high figures for operating revenue, operating margin, cash generation and net earnings. Our shipments of iron ore and pellets, which totaled almost 300 million metric tons, were our highest ever, while our sales of nickel and copper were the highest since 2008.

Vale is deeply committed to creating shareholder value, with a strong focus on efficient capital management. To that end, we have implemented several initiatives aimed at minimizing risks of delays and cost overruns in the execution of our projects and have taken a more proactive stance towards returning excess cash to shareholders.

In successfully generating record levels of cash while prudently allocating our capital resources we continue to meet the challenge for growth companies: to finance growth, to maintain a sound balance sheet and to meet shareholders' expectations for capital return.

Below are the main highlights of Vale's performance in 2011:

- gross operating revenue of US\$60.4 billion;
- operating income of US\$30.1 billion;
- operating margin, measured as the ratio of operating income to net operating revenues, of 48.5% excluding the gain on the sale of our aluminum assets in February 2011;
- record return of capital to shareholders of US\$12.0 billion, through cash dividends of US\$9.0 billion, equal to US\$1.74 per share, and US\$3.0 billion in share repurchases;
- net income of US\$22.9 billion, or US\$4.33 per preferred and common share; and



Edgar Filing: Vale S.A. - Form 6-K

- strong financial position, supported by cash holdings of US\$3.5 billion, availability of significant medium and long-term credit lines and a low-risk debt portfolio.

Table of Contents**Demand and prices**

The following table sets forth our average realized prices for our principal products for each of the periods indicated.

	Year ended December 31,				
	2007	2008	2009	2010	2011
	(US\$ per metric ton, except where indicated)				
Iron ore	45.33	67.32	55.99	103.50	136.07
Iron ore pellets	78.62	131.76	73.75	161.29	193.79
Manganese	107.34	350.46	147.06	230.22	165.70
Ferrous alloys	1,311.48	2,709.60	1,395.26	1,547.84	1,443.01
Nickel	37,442.28	21,662.14	14,596.55	21,980.19	22,680.41
Copper	6,611.27	6,331.07	5,229.39	7,730.09	8,420.73
Potash	264.09	591.18	521.46	410.56	505.28
Platinum (US\$/oz)	1,314.25	1,557.07	1,073.98	1,661.20	1,716.81
Cobalt (US\$/lb)	24.56	31.01	10.03	15.09	15.63
Coal:					
Thermal coal	53.73	85.38	66.60	70.40	95.54
Metallurgical coal	67.37	170.55	115.55	149.96	235.27
Phosphates:					
MAP				565.34	679.65
TSP				451.80	585.98
SSP				221.36	281.53
DCP				570.49	679.63
Nitrogen				450.86	612.01

***Iron ore and iron ore pellets***

Demand for our iron ore and iron ore pellets is a function of global demand for carbon steel. Demand for carbon steel, in turn, is strongly influenced by global industrial production. Iron ore and iron ore pellets are priced based on a wide array of quality levels and physical characteristics. Various factors influence price differences among the several types of iron ore, such as the iron content of specific ore deposits, the various beneficiation and purifying processes required to produce the desired final product, particle size, moisture content, and the type and concentration of contaminants (such as phosphorus, alumina and manganese ore) in the ore. Fines, lump ore and pellets typically command different prices.

Demand for China has been a principal driver of world demand and of prices. Chinese iron ore imports reached 686.1 million metric tons in 2011, 10.8% above the 619.1 million metric tons imported in 2010 and 9.3 % higher than 2009 levels, due mainly to the continued growth in Chinese steel production throughout 2011. We expect China's economic growth to continue at a high rate during 2012, mainly driven by domestic demand.

Our iron ore prices are based on a variety of pricing options, which generally use spot price indices as a basis for determining the customer price.

*Manganese and ferroalloys*

The prices of manganese ore and ferroalloys are mainly influenced by trends in the carbon steel market. Ferroalloy prices are also influenced by the prices of the main production inputs, including manganese ore, power and coke. We sell manganese ore mainly at spot prices or at prices established on a quarterly basis. Ferroalloy prices are negotiated on a quarterly basis.

*Nickel*

Nickel is an exchange-traded metal, listed on the LME. Most nickel products are priced using a discount or premium to the LME price, depending on the nickel product's physical and technical characteristics. Demand for nickel is strongly affected by stainless steel production, which represents, on average, 60-65% of global nickel consumption.

Table of Contents

We have short-term fixed-volume contracts with customers for the majority of our expected annual nickel sales. These contracts, together with our sales for non-stainless steel applications (alloy steels, high nickel alloys, plating and batteries), provide stable demand for a significant portion of our annual production. In 2011, 66% of our refined nickel sales were made into non-stainless steel applications, compared to the industry average for primary nickel producers of 36%, bringing more stability to our sales volumes. As a result of our focus on such higher-value segments, our average realized nickel prices for refined nickel have typically exceeded LME cash nickel prices.

Primary nickel (including ferro-nickel, nickel pig iron and nickel cathode) and secondary nickel (i.e., scrap) are competing nickel sources for stainless steel production. The choice between different types of primary and secondary nickel is largely driven by their relative price and availability. In recent years, secondary nickel has accounted for about 43-48% of total nickel used for stainless steels, and primary nickel has accounted for about 52-57%. In 2011, Chinese nickel pig iron and ferro-nickel production is estimated to have exceeded 250,000 metric tons, representing 16% of world primary nickel supply, compared to 11% of the world's supply in 2010.

Long-term market fundamentals for nickel are expected to remain positive. While a number of nickel projects will be ramping-up in the short-term, future project development is becoming increasingly challenging. Nickel is widely used in consumer and industrial applications, and its use tends to grow as a country's economy develops. We anticipate continued income growth within emerging economies will drive higher nickel consumption over the medium-term.

***Copper***

Growth in copper demand in recent years has been driven primarily by Chinese imports, given the important role copper plays in construction in addition to electrical and consumer applications. Copper prices are determined on the basis of (i) prices of copper metal on terminal markets, such as the LME and the NYMEX, and (ii) in the case of intermediate products such as copper concentrate (which comprise most of our sales) and copper anode, treatment and refining charges negotiated with each customer. Under a pricing system referred to as MAMA (month after month of arrival), sales of copper concentrates and anodes are provisionally priced at the time of shipment, and final prices are settled on the basis of the LME price for a future period, generally one to three months after the shipment date.

Supply growth has struggled to keep pace with growing copper demand, with average mine growth of only 1.4% per annum over the past five years. These circumstances led to a strong 17% rise in copper prices in 2011, relative to 2010. We anticipate market fundamentals to remain strong as demand growth continues and the supply response remains challenging.

***Fertilizer nutrients***

Demand for fertilizers is based on market fundamentals similar to those underlying global demand for minerals, metals and energy. Rapid per capita income growth in emerging economies generally causes dietary changes marked by an increase in the consumption of proteins, which ultimately contributes to increased demand for fertilizer nutrients. Demand is also driven by the demand for bio-fuels, which have emerged as an alternative source of energy to reduce world reliance on sources of climate-changing greenhouse gases, because key inputs for the production of biofuels—sugar cane, corn and palm—are intensive in the use of fertilizers.

## Edgar Filing: Vale S.A. - Form 6-K

Sales of fertilizers are mainly on a spot basis using international benchmarks, although some large importers in China and India often sign annual contracts. Seasonality is an important factor for price determination throughout the year, since agricultural production in each region depends on climate conditions for crop production.

Table of Contents

***Aluminum***

We have a 22.0% interest in Hydro, a major aluminum producer, which we acquired in February 2011 when we transferred the major part of our aluminum businesses to Hydro. For the periods prior to the transaction, our sales of aluminum were made at prices based on the LME of the previous month. Our sales of alumina were based on a percentage of the aluminum price traded on the LME, and our prices for bauxite were determined by a formula linked to the price of aluminum for the three-month futures contracts on the LME and to the price of alumina FOB Australia.

***Coal***

Demand for metallurgical coal is driven by demand for steel, with growth expected especially in Asia. Demand for thermal coal is closely related to electricity consumption, which will continue to be driven by global economic growth, particularly in emerging market economies. Since April 2010, prices for metallurgical coal have been established on a quarterly basis for the majority of the seaborne term contract volumes, although some sellers have begun introducing monthly pricing and a minority of the seaborne trade volumes continue to employ annual pricing. Most of our term contracts have been priced on a quarterly basis since April 2010. Price negotiations for thermal coal are held both on a spot and an annual basis.

***Logistics***

Demand for our transportation services in Brazil is primarily driven by Brazilian economic growth, mainly in the agricultural and steel sectors. We earn our logistics revenues primarily from fees charged to customers for the transportation of cargo via our railroads, port and ships. Our railways generate most of these revenues. Nearly all of our logistics revenues are denominated in *reais* and subject to adjustments for changes in fuel prices. Prices in the Brazilian market for railroad services are subject to ceilings set by the Brazilian regulatory authorities, but they primarily reflect competition with the trucking industry.

**Production and sales volumes**

Our financial performance depends, among other factors, on the volume of production at our facilities. We publish a quarterly production report, which is available on our website and filed with the SEC on Form 6-K. Increases in the capacity of our facilities, resulting from our capital expenditure program, have an important effect on our performance. Our results are also affected by acquisitions and dispositions of businesses or assets, and they may be affected in the future by new acquisitions or dispositions. We had no dispositions of businesses in 2011.

## Edgar Filing: Vale S.A. - Form 6-K

### Table of Contents

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

	2007	2008	Year ended December 31, 2009 (thousand metric tons)	2010	2011
Iron ore	262,687	264,023	229,174	254,902	257,287
Iron ore pellets	33,670	32,218	18,087	39,512	41,861
Manganese	708	759	986	1,119	1,032
Ferroalloys	488	396	253	401	386
Nickel	268	276	223	174	252
Copper	300	320	216	208	302
Potash	674	499	792	682	568
Platinum	345	411	233	97	446
Cobalt	2,494	3,087	1,854	0,902	2,721
Coal:					
Thermal coal	603	1,405	3,083	4,234	5,342
Metallurgical coal	1,894	2,682	2,590	3,150	2,330
Phosphates:					
MAP				703	907
TSP				461	594
SSP				1,533	2,501
DCP				284	556
Nitrogen				747	1,278

### **Currency price changes**

Our results of operations are affected in several ways by changes in currency exchange rates. The most important of these are the following:

- Most of our revenues are denominated in U.S. dollars, while most of our costs of goods sold are denominated in other currencies, principally the *real* (59% in 2011), the American dollar (19% in 2011) and the Canadian dollar (15% in 2011). As a result, changes in exchange rates affect our costs and operating margins. Our margins are adversely affected by a decline in the value of the U.S. dollar.
  
- Most of our long-term debt is denominated in currencies other than the *real* (US\$14.703 billion at December 31, 2011), principally the U.S. dollar. Because our functional currency for accounting purposes is the Brazilian *real*, changes in the value of the U.S. dollar against the *real* result in an exchange gain or loss on our net liabilities.
  
- We had *real*-denominated debt of US\$7.997 billion at December 31, 2011. Since most of our revenue is in U.S. dollars, we use swaps to convert our debt service from *reais* to U.S. dollars. Changes in the value of the U.S. dollar against the *real* result in fair value variation on these derivatives, affecting our financial results.

## Edgar Filing: Vale S.A. - Form 6-K

A decline in the value of the U.S. dollar tends to result in: (i) lower operating margins and (ii) higher financial results due to currency gains on our net U.S. dollar-denominated liabilities and fair value gains on our currency derivatives. Conversely, an increase in the value of the U.S. dollar tends to result in: (i) better operating margins and (ii) lower financial results, due to exchange losses on our net U.S. dollar-denominated liabilities and fair value losses on our currency derivatives.

The U.S. dollar depreciated against both the *real* and the Canadian dollar during the first half of 2011 but began to appreciate in the second half of the year, after the aggravation of the Eurozone's debt crisis in late July. As of December 31, 2011, the U.S. dollar had appreciated 12.1% against the *real* and 2.2% against the Canadian dollar relative to December 31, 2010. The average value of the U.S. dollar in 2011, compared to 2010, was 4.8% lower against the *real* and 4.4% lower against the Canadian dollar. These currency price changes affected our operating margins and resulted in higher foreign exchange gains and gains on derivatives.



Table of Contents

**Operating expenses**

Our principal operating expenses consist of: (i) cost of goods sold, (ii) selling, general and administrative expenses and (iii) research and development expenses. Our cost of goods sold consists of costs of energy (fuel and electric energy), materials (such as components for railroad and mining equipment), outsourced services (especially ore and waste removal, transportation and maintenance), purchased products for processing or resale (such as iron ore, iron ore pellets, nickel and aluminum products), personnel, and depreciation and depletion. Our selling, general and administrative expenses consist principally of personnel expense, sales expense and depreciation. Our research and development expenses consist primarily of investments related to mineral exploration and studies for the development of projects, which are recorded as expenses until the economic viability of the related mining activities can be established.

Table of Contents**RESULTS OF OPERATIONS 2011 COMPARED TO 2010****Revenues**

Our net operating revenues increased 30.2%, to US\$58.990 billion, in 2011, primarily as a result of (i) higher prices for our major products, especially for iron ore and other bulk materials, (ii) the increase in nickel volumes following the end of labor strikes and resumption of our nickel production in Ontario and (iii) the inclusion of a full year of results for fertilizers compared to seven months in 2010. These effects were partly offset by the effect of the sale of our aluminum assets in February 2011. Of a total increase of US\$13.697 billion in gross revenues, US\$9.575 billion was attributable to higher prices for iron ore and iron ore pellets.

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

	Year ended December 31,		2011	% change	
	2010	(US\$ million)			
<b>Bulk Materials:</b>					
Iron ore	US\$	26,384	US\$	35,008	32.7
Iron ore pellets		6,402		8,150	27.3
Manganese		258		171	(33.7)
Ferrous alloys		664		561	(15.5)
Coal		770		1,058	37.4
Subtotal		34,478		44,948	30.4
<b>Base Metals:</b>					
Nickel and other products(1)		4,712		8,118	72.3
Copper concentrate(2)		934		1,126	20.6
Aluminum products(3)		2,554		383	(85.0)
Subtotal		8,200		9,627	17.4
<b>Fertilizers:</b>					
Potash		280		287	2.5
Phosphates		1,211		2,395	97.8
Nitrogen		337		782	132.0
Others fertilizer products		18		83	361.1
Subtotal		1,846		3,547	92.1
<b>Logistics:</b>					
Railroads		1,107		1,265	14.3
Ports		353		461	30.6
Shipping		5			
Subtotal		1,465		1,726	17.8
Other products and services(4)		492		541	10.0
Gross revenues		46,481		60,389	29.9
Value added tax		(1,188)		(1,399)	17.8
Net operating revenues	US\$	45,293	US\$	58,990	30.2

(1) Includes nickel co-products and by-products (copper, precious metals, cobalt and others).

Edgar Filing: Vale S.A. - Form 6-K

- (2) Does not include copper produced as a nickel co-product.
- (3) Reflects aluminum operations sold in February 2011.
- (4) Includes kaolin, pig iron and energy.

Table of Contents

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

	Operating revenue by destination					
	2010		2011			
	(US\$ million)	(% of total)	(US\$ million)	(% of total)	(US\$ million)	(% of total)
<b>North America</b>						
Canada	US\$ 1,126	2.4%	US\$ 1,403	2.3%		
United States	828	1.8	1,672	2.8		
Mexico	74	0.2	102	0.2		
	2,028	4.4	3,177	5.3		
<b>South America</b>						
Brazil	8,150	17.5	10,914	18.1		
Other	810	1.7	1,108	1.8		
	8,960	19.3	12,022	19.9		
<b>Asia</b>						
China	15,379	33.1	19,571	32.4		
Japan	5,240	11.3	7,238	12.0		
South Korea	1,934	4.2	2,779	4.6		
Taiwan	1,179	2.5	1,281	2.1		
Other	1,059	2.2	989	1.6		
	24,791	53.3	31,858	52.8		
<b>Europe</b>						
Germany	3,092	6.7	3,792	6.3		
United Kingdom	1,060	2.3	1,351	2.2		
Italy	1,043	2.2	1,908	3.2		
France	716	1.5	801	1.3		
Other	3,001	6.4	3,585	5.9		
	8,912	19.2	11,437	18.9		
<b>Rest of the world</b>	1,790	3.9	1,895	3.1		
<b>Total</b>	US\$ 46,481	100.0%	US\$ 60,389	100.0%		

**Revenues by segment****Bulk materials**

The 30.4% increase in revenues from sales of bulk materials primarily reflected higher prices for iron ore and iron ore pellets. Our average realized prices were up 31.5% for iron ore and 20.2% for iron ore pellets, due primarily to strong demand from China while demand remained slow elsewhere, particularly in Europe. Volume sold was also up for iron ore (0.9%) and for iron ore pellets (5.9%).

Revenues from bulk materials were also positively affected by higher prices for coal. Our average realized prices were up 35.7% for thermal coal, based on demand from the power industry, and 56.9% for metallurgical coal, based on demand from the steel industry, especially in China. The volume of metallurgical coal sold was adversely affected by heavy rains and flooding in Australia in the early part of 2011, while the volume of thermal coal sold increased based on higher production in Colombia and the start of production at Moatize.

Revenues from sales of both manganese and ferroalloys declined on lower prices and lower volumes sold.

***Base metals***

The 17.4% increase in gross revenues from sales of base metals primarily reflected higher volumes of nickel sold. With the end of labor strikes at our production sites in Sudbury and Voisey Bay in the second half of 2010, the volume of nickel sold was 44.8% higher in 2011. The average sale price for nickel also increased 3.2%, reflecting an increase in the LME price due to continued strong demand. Revenues from sales of copper concentrate were also higher, based on higher prices. These effects were partly offset by the sale of our aluminum business in February 2011, because for 2011 we had only two months of aluminum sales.

Table of Contents**Fertilizers**

We acquired our principal phosphate operations in May 2010, and the 92.1% increase in revenues from sales of fertilizers in 2011 primarily reflects a full year of these operations compared to seven months in 2010. In addition, prices were up for both phosphates (13.1% higher average realized price) and nitrogen (35.7% higher average realized price), due to strong demand especially from the Brazilian agricultural sector.

**Logistics**

Gross revenues from sales of logistics services increased 17.8%. Revenues from railroad transportation increased 14.3%. Revenues from port operations increased 30.6% due to higher imports for the steel industry.

**Operating costs and expenses**

	Year ended December 31,		% change
	2010	2011	
	(US\$ million)		
Cost of ores and metals	US\$ 13,326	US\$ 17,898	34.3
Cost of aluminum products	2,108	289	(86.3)
Cost of logistic services	1,040	1,402	34.8
Cost of fertilizer products	1,556	2,701	73.6
Others	784	1,283	63.6
Cost of goods sold	18,814	23,573	25.3
Selling, general and administrative expenses	1,701	2,334	37.2
Research and development	878	1,674	90.7
Gain on sale of assets		(1,513)	
Other costs and expenses	2,205	2,810	27.4
Total operating costs and expenses	US\$ 23,598	US\$ 28,878	22.4

**Cost of goods sold**

The following table summarizes the components of our cost of goods sold for the periods indicated.

	Year ended December 31,		% change
	2010	2011	
	(US\$ million)		
Outsourced services	US\$ 2,740	US\$ 4,244	54.9
Materials costs	2,861	3,758	31.4
Energy:			

Edgar Filing: Vale S.A. - Form 6-K

Fuel	1,880	2,182	16.1
Electric energy	1,211	967	(20.1)
Subtotal	3,091	3,149	1.9
Acquisition of iron ore and pellets	963	1,411	46.5
Acquisition of other products:			
Nickel	358	606	69.3
Aluminum	285	18	(93.7)
Other	58	239	312.1
Subtotal	701	863	23.1
Personnel	2,081	3,138	50.8
Depreciation and depletion	2,803	3,735	33.3
Others	3,574	3,275	(8.4)
Total	US\$ 18,814	US\$ 23,573	25.3

- The largest factors in the 25.3% increase in cost of goods sold were the resumption of normal nickel operations in Ontario, the inclusion of a full year of the phosphate business acquired in 2010 and the start-up of Onça Puma, a nickel project in Brazil. Out of the total increase of US\$4.759 billion, these three factors accounted for US\$3.501 billion. Additional important factors were the appreciation on average of the Brazilian *real* against the U.S. dollar during 2011, which accounted for US\$764 million

Table of Contents

of additional cost of goods sold, and higher sales volumes, which accounted for US\$268 billion of additional cost of goods sold.

- The increases in costs of goods sold attributable to the resumption of Ontario operations and the start-up of Onça Puma were primarily in the following line items: outsourced services (US\$441 million), materials (US\$367 million), energy (US\$242 million), personnel (US\$492 million) and depreciation (US\$502 million).
- The increases in costs of goods sold attributable to the full year of fertilizer operations were primarily in the following line items: outsourced services (US\$277 million), materials (US\$656 million), energy (US\$237 million), personnel (US\$159 million) and depreciation (US\$230 million), partially offset by the purchase price allocation in inventories in connection with our acquisition in 2010.
- The increases in costs were partially offset by the sale of our aluminum assets, which reduced costs by US\$1.819 billion, primarily in these line items: energy costs (US\$712 million), materials (US\$494 million) and product acquisitions (US\$268 million). The reduction in energy costs was particularly significant.
- These factors were partially offset by our efforts to reduce costs by optimizing the flow of materials, optimizing plant and labor utilization, and cutting administrative costs, among other measures.
- In addition to the general factors described above: (i) higher outsourced services costs were affected by increased freight prices, (ii) higher costs for acquisition of products from third parties reflected higher nickel purchases because of operational problems at the Copper Cliff smelter and higher prices of iron ore and iron ore pellets, and (iii) higher personnel costs reflected the signing of a new collective agreement in Brazil.

***Selling, general and administrative expenses***

Selling, general and administrative expenses increased by 37.2%, or US\$633 million, as the result of higher head count due to acquisitions, the signing of a new collective bargaining agreement in Brazil and the appreciation of the Brazilian real against the U.S. dollar.

***Research and development expenses***

Research and development expenses increased by 90.7%, which reflects expenditures for feasibility and other studies for new projects, mineral exploration, natural gas exploration and the development of new processes and technological improvements.



*Other costs and expenses*

Other costs and expenses increased by US\$605 million, mainly due to pre-operating and start-up expenses related to our Onça Puma and Vale New Caledonia projects and contingency expenses.

Table of Contents**Operating income by segment**

The following table provides information about our operating income by segment and as a percentage of revenues for the years indicated.

	Year ended December 31,			
	2010		2011	
	Segment operating income (loss)		Segment operating income (loss)	
	(% of net operating revenues)		(% of net operating revenues)	
	(US\$ million)		(US\$ million)	
<b>Bulk materials:</b>				
Iron ore	US\$ 17,347	66.7%	US\$ 24,030	69.6%
Iron ore pellets	3,511	57.2	4,427	56.2
Manganese ore	105	41.8	(39)	
Ferrous alloys	270	44.9	52	10.1
Coal	(169)		(484)	
<b>Base metals:</b>				
Nickel and other products	165	3.5	1,073	13.2
Copper concentrate	197	21.8	146	13.2
Aluminum products	286	11.3	73	19.3
<b>Fertilizers:</b>				
Potash	(29)		(87)	
Phosphates	(27)		243	10.6
Nitrogen	(41)		6	0.9
Others fertilizer products	1	8.3	70	100.0
<b>Logistics:</b>				
Railroads	85	9.2	(139)	
Ports	47	15.4	48	11.6
Shipping	(8)			
Other products and services	(45)		(820)	
Subtotal	21,695	47.9%	28,599	48.5%
Gain on sale of assets			1,513	
Total	US\$ 21,695	47.9%	US\$ 30,112	51.0%

Operating income as a percentage of net operating revenues increased from 47.9% in 2010 to 51.0% in 2011. In general, all segments benefited from higher prices and volumes sold. The improvement in operating margin in nickel also reflected the resumption of normal operations after the end of the labor disruption in Canada. Lower margins for manganese and ferrous alloys reflected weak markets and lower volumes.

**Non-operating income (expenses)**

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

Year ended December 31,  
2010                      2011  
(US\$ million)

Edgar Filing: Vale S.A. - Form 6-K

Financial income	US\$	290	US\$	718
Financial expenses		(2,646)		(2,465)
Gains on derivatives, net		631		75
Foreign exchange and monetary gains (losses), net		344		(1,641)
Non-operating income (expenses)	US\$	(1,381)	US\$	(3,313)

Table of Contents

We had net non-operating expenses of US\$3.313 billion in 2011, compared to net US\$1.381 billion in 2010. The principal factor in the change was the high level of foreign exchange losses in 2011. This and the other factors in the change are described below:

- The net impact of foreign exchange and monetary variations was a charge of US\$1.641 billion, due to appreciation of the U.S. dollar (in which most our debt is denominated) against the Brazilian *real* (which is our functional currency). This compares with a gain of US\$344 million in 2010, when there was a small depreciation of the U.S. dollar.
- The increase in financial income reflected the high level of cash we built up during late 2010 and 2011, prior to our dividend payments and share repurchases in the fourth quarter of 2011.
- Financial expenses declined by 6.8%, mainly due to a favorable change in the amount recognized for change in the fair value of our outstanding shareholder debentures.
- The net effect of fair value changes in derivatives had a positive impact on earnings of US\$75 million in 2011 and US\$631 million in 2010. This reflected the following categories of derivatives transactions:
  - *Currency and interest rate swaps* We recognized net expense of US\$59 million in 2011, compared to net income of US\$771 million in 2010. These swaps are primarily to convert debt denominated in other currencies into U.S. dollars to protect our cash flow from exchange rate volatility.
  - *Nickel derivatives* We recognized net income of US\$103 million in 2011 and net expense of US\$84 million in 2010. These derivatives are entered into as part of our nickel price protection program.
  - *Bunker oil derivatives* We recognized net income of US\$37 million in 2011. These derivatives were structured to minimize the volatility of the cost of maritime freight.

**Income taxes**

For 2011, we recorded net income tax expense of US\$5.282 billion, compared to US\$3.705 billion in 2010. The effective tax rate on our pretax income was 19.7%, lower than the statutory rate, mainly because of the tax benefit of shareholder distributions categorized as interest on shareholders' equity. For more information see Note 6 to the Audited Financial Statements. Exchange variations directly impact the exchange gains or losses recognized on transactions between the parent company and certain subsidiaries with lower statutory tax rates. Although those gains and losses are eliminated from reported consolidated pretax amounts in the consolidation and currency re-measurement process, they are

## Edgar Filing: Vale S.A. - Form 6-K

not eliminated for tax purposes since in Brazil there is no consolidated income tax regime. Our effective tax rate has historically been lower than the Brazilian statutory rate because: (i) income of some non-Brazilian subsidiaries is subject to lower rates of tax; (ii) we are entitled under Brazilian law to deduct the amount of our distributions to shareholders that we classify as interest on shareholders' equity; (iii) we benefit from tax incentives applicable to our earnings on production in certain regions of Brazil; and (iv) functional currency movements on some non-Brazilian subsidiaries are not taxable under Brazilian law. In addition, some of the foreign exchange variations that affect our operating results are not taxable.

### **Affiliates and joint ventures**

Our equity in the results of affiliates and joint ventures resulted in a net gain of US\$1.135 billion in 2011, compared to a net gain of US\$987 million in 2010. Our joint venture Samarco represented US\$878 million of the 2011 amount, and the increase in 2011 is attributable to higher sales volumes and higher prices for iron ore pellets.

Table of Contents

**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 occasionally by dispositions of assets.

For 2012, we have budgeted capital expenditures of US\$21.4 billion, and announced a minimum dividend payment of US\$6 billion to be paid in two installments of US\$3.0 billion, with the first installment in April and the second in October. We paid \$9 billion in dividends during 2011 and repurchased US\$3 billion of our common and preferred shares during the second half of 2011.

We expect our operating cash flow and cash holdings to be sufficient to meet these anticipated requirements. We also regularly review acquisition and investment opportunities and, when suitable opportunities arise, we make acquisitions and investments to implement our business strategy. We may fund these investments with borrowings.

**Sources of funds**

Our principal sources of funds are operating cash flow and borrowings. Our operating activities generated cash flows of US\$24.5 billion in 2011.

Our major new borrowing transactions in 2011 and to date in 2012 are summarized below:

- In January 2012, our wholly owned finance subsidiary Vale Overseas issued \$1 billion notes due 2022, guaranteed by Vale, with a coupon of 4.375% per year, payable semi-annually.
- In August 2011, we entered into an agreement with a syndicate of financial institutions to finance the acquisition of five large ore carriers of 400,000 DWT and two capesize bulkers of 180,000 DWT. The agreement provides a secured term loan facility of up to approximately US\$530 million, which corresponds to 80% of the contract price of the vessels. As of December 31, 2011, Vale had drawn US\$178 million under the facility. The banks also have the benefit of an insurance policy provided by K-Sure (Korea Trade Insurance Corporation).

## Edgar Filing: Vale S.A. - Form 6-K

- In January 2011, we entered into an agreement with a group of commercial banks with the guarantee of the official Italian credit agency, Servizi Assicurativi Del Commercio Estero S.p.A ( SACE ), to provide us with a US\$300 million facility with a final tenor of 10 years to guarantee lines of credit provided by commercial banks. As of December 31, 2011, we had drawn down all amounts available under this facility.

In addition to the transactions described above, during 2011 we also borrowed US\$1.761 billion under our existing financing agreements.

In February 2011, we concluded the transfer to Hydro of a substantial portion of our aluminum assets, including our interests in Albras, Alunorte and CAP, together with off-take rights, outstanding commercial contracts and net debt of US\$655 million. In this transaction we received US\$503 million in cash and 22% of Hydro's outstanding common shares. Also as part of the transaction, we transferred the Paragominas bauxite mine and all of our other Brazilian bauxite mineral rights (apart from rights owned through our stake in MRN) to Paragominas, 60% of which we transferred to Hydro in exchange for US\$578 million in cash. We will transfer our remaining interest in Paragominas to Hydro in two equal tranches in 2014 and 2016, each in exchange for US\$200 million, subject to certain contingent adjustments.

Table of Contents

In April 2011, we entered into a new revolving credit agreement with a syndicate of banks that added US\$3 billion to the total amount available under our revolving credit facilities, which can be drawn by Vale S.A., Vale Canada Limited and Vale International. As of December 31, 2011, none of the borrowers had drawn any amounts under these facilities.

**Uses of funds**

*Capital expenditures*

Capital expenditures amounted to US\$18.0 billion in 2011, and we have budgeted US\$21.4 billion for 2012. Our actual capital expenditures may differ from the budgeted amount for a variety of reasons, including unexpected changes in currency prices. These capital expenditure figures include some amounts that are treated as current expenses for accounting purposes, such as expenses for project development, maintenance of existing assets, and research and development.

*Distributions*

We paid total dividends of US\$9 billion in 2011 (including distributions classified for tax purposes as interest on shareholders' equity). In January 2011, we paid an extraordinary dividend of US\$1 billion and announced a minimum dividend for the year of US\$4 billion, consisting of US\$2 billion in April 2011 and US\$2 billion in October 2011. Subsequently, we also paid additional dividends of US\$3 billion in August 2011 and US\$1 billion in October 2011. The minimum dividend we have announced for 2012 is US\$6.0 billion, payable in two equal installments in April and October.

*Tax payments*

We paid US\$7.293 billion in income tax during 2011. This amount includes US\$3.746 billion in social contribution tax (*Contribuição Social sobre o Lucro Líquido - CSLL*) that we paid as a result of a recent adverse decision by a Brazilian court, in order to avoid a penalty that would otherwise have applied 30 days after the decision. Vale continues to dispute the merits of this proceeding, which relates to the exemption from CSLL for export revenues. The amount we paid had previously been provisioned.

*Share repurchases*

We repurchased US\$3 billion of our common and preferred shares during the second half of 2011.



*Acquisitions*

In December 2011, we concluded a tender offer to acquire up to 100% of the publicly held shares of our subsidiary Vale Fertilizantes. As a result of the public offer, we acquired 83.8% of the publicly held common shares and 94.0% of the publicly held preferred shares of Vale Fertilizantes, which correspond to 0.1% of the total common shares and 29.8% of the total preferred shares of Vale Fertilizantes. Both the common and preferred shares were acquired for R\$25.00 per share, amounting to a total of R\$2.1 billion (US\$1.1 billion). Shortly thereafter, Vale Fertilizantes' registration as a publicly listed company in Brazil was cancelled. The shareholders of Vale Fertilizantes held a general shareholders meeting in January 2012 and approved the redemption of the remaining free floating common and preferred shares. As a result, Vale holds 100% of the common shares and 100% of the preferred shares of Vale Fertilizantes.

**Debt**

At December 31, 2011, we had aggregate outstanding debt of US\$23.055 billion. Our outstanding long-term debt (including the current portion of long-term debt and accrued charges) was US\$23.033 billion, compared with US\$24.414 billion at the end of 2010. At December 31, 2011, US\$648 million of our debt was secured by liens on some of our assets. At December 31, 2011, the average debt maturity was 9.81 years, compared to 9.92 years in 2010.

Table of Contents

Our short-term debt consists primarily of U.S. dollar-denominated trade financing with commercial banks. At December 31, 2011, we had US\$22 million of outstanding short-term debt.

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

- *U.S. dollar-denominated loans and financing* (US\$3.189 billion at December 31, 2011). This category includes export financing lines, loans from export credit agencies, and loans from commercial banks and multilateral organizations. The largest facility is a pre-export financing facility linked to future receivables from export sales, which was originally entered in the amount of US\$6.0 billion. The outstanding amount at December 31, 2011 was US\$650 million.
- U.S. dollar-denominated fixed rate notes (US\$10.483 billion at December 31, 2011). Through our finance subsidiary Vale Overseas Limited, we have issued in public offerings several series of fixed-rate debt securities with a Vale guarantee, totaling US\$9.131 billion. Our subsidiary Vale Canada has outstanding fixed rate debt in the amount of US\$1.351 billion.
- Euro-denominated fixed rate notes (US\$970 million at December 31, 2011). On March 24, 2010, we issued 750 million of fixed-rate notes in a global public offering. These notes are due in 2018 and have a coupon of 4.375% per year, payable annually.
- Real-denominated non-convertible debentures (US\$2.505 billion at December 31, 2011). In November 2006, we issued non-convertible debentures in the amount of approximately US\$2.600 billion, in two series, with four- and seven-year maturities. The first series, approximately US\$700 million at issuance, matured in 2010. The second series, approximately US\$1.900 billion at issuance, matures in 2013 and bears interest at the Brazilian CDI interest rate plus 0.25% per year. At December 31, 2011, the total amount of the second series was US\$2.157 billion.
- Other debt (US\$5.553 billion at December 31, 2011). We have outstanding debt, principally owed to BNDES and Brazilian commercial banks, denominated in Brazilian reais and other currencies.

We also have a variety of credit lines. At December 31, 2011, these included the following:

- A credit line for US\$530 million with a syndicate of financial institutions to finance the acquisition of five large ore carriers and two capesize bulkers at two Korean shipyards. As of December 31, 2011, we had drawn US\$178 million under this facility.

## Edgar Filing: Vale S.A. - Form 6-K

- A credit line for US\$1 billion with Export Development Canada to finance our investment program. As of December 31, 2011, we had drawn US\$500 million under this facility.
- A US\$1.2 billion facility with The Export-Import Bank of China and the Bank of China Limited to help finance the construction of 12 very large ore carriers. As of December 31, 2011, we had drawn US\$467 million under this facility.
- Framework agreements signed in May 2008 with the Japan Bank for International Cooperation ( JBIC ) and Nippon Export and Investment Insurance ( NEXI ) for US\$5 billion of financing for mining, logistics and power generation projects. We have a fully drawn US\$300 million export facility, through our subsidiary PTVI, with Japanese financial institutions to finance the construction of the Karebbe hydroelectric power plant on the Larona River in Sulawesi, Indonesia.
- Credit lines for R\$7.3 billion, or US\$4.0 billion, with BNDES to help finance our investment program. As of December 31, 2011, we had drawn the equivalent of US\$1.496 billion under this facility.

Table of Contents

- Facilities with BNDES totaling R\$877 million, or US\$492 million, to finance the acquisition of domestic equipment. As of December 31, 2011, we had drawn the equivalent of US\$329 under these facilities.

We have revolving credit facilities with syndicates of international banks. At December 31, 2011, the total amount available under these facilities was US\$4.1 billion. A portion of these facilities, US\$ 1.1 billion, will expire in May 2012. As of December 31, 2011, we had not drawn any amounts under these facilities, but US\$107 million of letters of credit were issued and outstanding under a facility of Vale Canada.

Some of our long-term debt instruments contain financial covenants. Our principal covenants require us to maintain certain ratios, such as debt to EBITDA and interest coverage. We believe that our existing covenants will not significantly restrict our ability to borrow additional funds as needed to meet our capital requirements.

**Shareholder Debentures**

At the time of the first stage of our privatization in 1997, we issued shareholder revenue interests known in Brazil as *debentures participativas* to our then-existing shareholders. The terms of the debentures were established to ensure that our pre-privatization shareholders, including the Brazilian government, would participate alongside us in potential future financial benefits that we derive from exploiting certain mineral resources that were not taken into account in determining the minimum purchase price of our shares in the privatization. In accordance with the debentures deed, holders have the right to receive semi-annual payments equal to an agreed percentage of our net revenues (revenues less value-added tax, transport fee and insurance expenses related to the trading of the products) from certain identified mineral resources that we owned at the time of the privatization, to the extent that we exceed defined thresholds of sales volume relating to certain mineral resources, and from the sale of mineral rights that we owned at that time. Our obligation to make payments to the holders will cease when the relevant mineral resources are exhausted.

We have been making semi-annual payments to holders of shareholder debentures, which reached US\$7 million in 2009, US\$10 million in 2010 and US\$14 million in 2011. See Note 20 to the Audited Financial Statements for a description of the terms of the debentures.

**OFF-BALANCE SHEET ARRANGEMENTS**

At December 31, 2011, we did not have any off-balance sheet arrangements as defined in the SEC's Form 20-F. For information on our contingent liabilities see Note 20 to the Audited Financial Statements.

**CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

We believe that the following are our critical accounting policies. We consider an accounting policy to be critical if it is important to our financial condition and results of operations and if it requires significant judgments and estimates on the part of our management. For a summary of all of our significant accounting policies, see Note 3 to the Audited Financial Statements.

**Mineral reserves and useful life of mines**

We regularly evaluate and update our estimates of proven and probable mineral reserves. Our proven and probable mineral reserves are determined using generally accepted estimation techniques. Calculating our reserves requires us to make assumptions about future conditions that are highly uncertain, including future ore prices, currency prices, inflation rates, mining technology, availability of permits and production costs. Changes in some or all of these assumptions could have a significant impact on our recorded proven and probable reserves.

Table of Contents

One of the ways we make our ore reserve estimates is to determine the mine closure dates used in recording the fair value of our asset retirement obligations for environmental and site reclamation costs and the periods over which we amortize our mining assets. Any change in our estimates of total expected future mine or asset lives could have an impact on the depreciation, depletion and amortization charges recorded in our consolidated financial statements under cost of goods sold. Changes in the estimated lives of our mines could also significantly impact our estimates of environmental and site reclamation costs, which are described in greater detail below.

**Environmental and site reclamation costs**

Expenditures relating to ongoing compliance with environmental regulations are charged against earnings or capitalized as appropriate. These ongoing programs are designed to minimize the environmental impact of our activities.

We recognize a liability for the fair value of our estimated asset retirement obligations in the period in which they are incurred, if a reasonable estimate can be made. We consider the accounting estimates related to reclamation and closure costs to be critical accounting estimates because:

- we will not incur most of these costs for a number of years, requiring us to make estimates over a long period;
- reclamation and closure laws and regulations could change in the future or circumstances affecting our operations could change, either of which could result in significant changes to our current plans;
- calculating the fair value of our asset retirement obligations requires us to assign probabilities to projected cash flows, to make long-term assumptions about inflation rates, to determine our credit-adjusted risk-free interest rates and to determine market risk premiums that are appropriate for our operations; and
- given the significance of these factors in the determination of our estimated environmental and site reclamation costs, changes in any or all of these estimates could have a material impact on net income. In particular, given the long periods over which many of these charges are discounted to present value, changes in our assumptions about credit-adjusted risk-free interest rates could have a significant impact on the size of our provision.

Our Environmental Department defines the rules and procedures that should be used to evaluate our asset retirement obligations. The future costs of retirement of our mines and sites are reviewed annually, in each case considering the actual stage of exhaustion and the projected exhaustion date of each mine and site. The future estimated retirement costs are discounted to present value using a credit-adjusted risk-free interest rate. At December 31, 2011, we estimated the fair value of our aggregate total asset retirement obligations to be US\$1.77 billion.



Table of Contents

**Impairment of long-lived assets and goodwill**

We have made acquisitions that included a significant amount of goodwill, as well as intangible and tangible assets. Under generally accepted accounting principles, except for goodwill and indefinite-life intangible assets, all long-lived assets, including these acquired assets, are amortized over their estimated useful lives, and are tested to determine if they are recoverable from operating earnings on an undiscounted cash flow basis over their useful lives whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Factors that could trigger an impairment review include the following:

- significant underperformance relating to expected historical or projected future operating results of entities or business units;
- significant changes in the way we use the acquired assets or our overall business strategy; or
- significant negative industry or macroeconomic trends.

When we determine that the carrying value of definite-life intangible assets and long-lived assets may not be recoverable based upon verification of one or more of the above indicators of impairment, we measure any impairment loss based on a projected discounted cash flow method using a discount rate estimated pursuant to technical criteria to be commensurate with the risk inherent in our current business model.

We are required to assign goodwill to reporting units and to assess each reporting unit's goodwill for impairment at least annually and whenever circumstances indicating that recognized goodwill might not be fully recovered are identified. On September 15, 2011, FASB issued Accounting Standards Update (ASU) No. 2011-08, Intangibles - Goodwill and Other (Topic 350): Testing Goodwill for Impairment. The standard provides the option to first assess qualitative factors to determine whether it is necessary to further perform the first and second steps of the goodwill impairment test. In assessing the qualitative factors, if it is more likely than not that the fair value of the reporting unit exceeds its carrying amount, the first and second steps of the goodwill impairment test are not required and no goodwill impairment charge is required. Otherwise, the entity will be required to perform the first and second steps of the goodwill impairment test to assess whether an impairment exists. In the first step of a goodwill impairment test, we compare a reporting unit's fair value with its carrying amount to identify any potential goodwill impairment loss. If the carrying amount of a reporting unit exceeds the unit's fair value, we carry out the second step of the impairment test to measure the amount, if any, of the unit's goodwill impairment loss. Goodwill arising from a business combination with a continuing non-controlling interest is tested for impairment by using an approach that is consistent with the approach that the entity used to measure the non-controlling interest at the acquisition date. For equity investees we determine annually whether there is an other-than-temporary decline in the fair value of the investment.

For impairment test purposes, management determined discounted cash flows based on approved budget assumptions. Gross margin projections were based on past performance and management's expectations of market developments. Information about sales prices is consistent with the forecasts included in industry reports, taking into account quoted prices when available and appropriate. The discount rates used reflect specific risks relating to the relevant assets in each reporting unit, depending on their composition and location.



## Edgar Filing: Vale S.A. - Form 6-K

Recognition of additional goodwill impairment charges in the future would depend on several estimates, including market conditions, recent actual results and management's forecasts. This information will be obtained when our assessment is updated during the fourth quarter of 2012, or earlier if impairment indicators are identified. It is not possible at this time to determine whether an impairment charge will be taken in the future and if it were to be taken, whether such charge would be material.

Table of Contents

**Derivatives**

We are required to recognize all derivative financial instruments, whether designated in hedging relationships or not, on our balance sheet and to measure such instruments at fair value. The gain or loss in fair value is included in current earnings, unless the derivative to which the gain or loss is attributable qualifies for hedge accounting. We have entered into cash flow hedges that qualify for hedge accounting. Unrealized fair value adjustments to cash flow hedges are recognized in other comprehensive income. We use well-known market participants' valuation methodologies to compute the fair value of instruments. To evaluate the financial instruments, we use estimates and judgments related to present values, taking into account market curves, projected interest rates, exchange rates, forward market prices and their respective volatilities, when applicable. We evaluate the impact of credit risk on financial instruments and derivative transactions, and we enter into transactions with financial institutions that we consider to have a high credit quality. The exposure limits to financial institutions are proposed annually by the Executive Risk Committee and approved by the Board of Executive Officers. The financial institution's credit risk tracking is performed making use of a credit risk valuation methodology that considers, among other information, published ratings provided by international rating agencies and other management judgments. During 2011, we implemented hedge accounting partially for strategic nickel hedge and for a foreign exchange hedge. At December 31, 2011, we had US\$37 million of realized gains related to derivative instruments designated as cash flow hedges. In 2011, we recorded to the income statement gains of US\$75 million in relation to derivative instruments.

**Income taxes**

We recognize deferred tax effects of tax losses carryforward and temporary differences in our consolidated financial statements. We record a valuation allowance when we believe that it is more likely than not that tax assets will not be fully recoverable in the future.

When we prepare our consolidated financial statements, we estimate our income taxes based on regulations in the various jurisdictions where we conduct business. This requires us to estimate our actual current tax exposure and to assess temporary differences that result from deferring treatment of certain items for tax and accounting purposes. These differences result in deferred tax assets and liabilities, which we show on our consolidated balance sheet. We must then assess the likelihood that our deferred tax assets will be recovered from future taxable income. To the extent we believe that recovery is not likely, we establish a valuation allowance. When we establish a valuation allowance or increase this allowance in an accounting period, we record a tax expense in our statement of income. When we reduce the valuation allowance, we record a tax benefit in our statement of income.

Determining our provision for income taxes, our deferred tax assets and liabilities and any valuation allowance to be recorded against our net deferred tax assets requires significant management judgment, estimates and assumptions about matters that are highly uncertain. For each income tax asset, we evaluate the likelihood of whether some portion or the entire asset will not be realized. The valuation allowance made in relation to accumulated tax losses carryforward depends on our assessment of the probability of generation of future taxable profits within the legal entity in which the related deferred tax asset is recorded, based on our production and sales plans, selling prices, operating costs, environmental costs, group restructuring plans for subsidiaries and site reclamation costs and planned capital costs.

Table of Contents

**Contingencies**

We disclose material contingent liabilities unless the possibility of any loss arising is considered remote, and we disclose material contingent assets where the inflow of economic benefits is probable. We discuss our material contingencies in Note 20 to our consolidated financial statements.

We record an estimated loss from a loss contingency when information available prior to the issuance of our financial statements indicates that it is probable that a future event will confirm that an asset has been impaired or a liability has been incurred at the date of the financial statements, and the amount of the loss can be reasonably estimated. In particular, given the nature of Brazilian tax legislation, the assessment of potential tax liabilities requires significant management judgment. By their nature, contingencies will only be resolved when one or more future events occurs or fails to occur, and typically those events will occur a number of years in the future. Assessing such liabilities, particularly in the Brazilian legal environment, inherently involves the exercise of significant management judgment and estimates of the outcome of future events.

The provision for contingencies at December 31, 2011, totaling US\$1.686 billion, consists of provisions of US\$751 million for labor, US\$248 million for civil, US\$654 million for tax and US\$33 million for other claims.

**Employee post-retirement benefits**

We sponsor defined benefit pension plans covering some of our employees. The determination of the amount of our obligations for pension benefits depends on certain actuarial assumptions. These assumptions are described in Note 18 to our consolidated financial statements and include, among others, the expected long-term rate of return on plan assets and increases in salaries. In accordance with U.S. GAAP, actual results that differ from our assumptions and are not a component of net benefit costs for the year are recorded in other comprehensive income (loss).

Table of Contents

**RECENT DEVELOPMENTS**

We are providing the following updated disclosures on certain legal proceedings, in view of recent developments in these proceedings and related press reports. See Note 20 to the Audited Financial Statements.

**CFEM-related proceedings**

We are engaged in numerous administrative and judicial proceedings relating to the mining royalty known as the CFEM. For more information about CFEM, see *Regulatory Matters Royalties and other taxes on mining activities*. These arise out of a large number of assessments by the National Mineral Production Department (*Departamento Nacional de Produção Mineral*), or DNPM, an agency of the Ministry of Mines and Energy of the Brazilian government. The proceedings concern different interpretations of the deductibility of tax and transportation expenditures, DNPM's method of estimating sales, the statute of limitations, due process of law, payment of royalties on pellet sales and CFEM charges on the revenues generated by our subsidiaries abroad.

We believe that the DNPM's claims are without merit, and we are contesting them using the available avenues of recourse under Brazilian law, beginning with challenges in administrative tribunals and proceeding with challenges in the judicial courts. We have received some favorable decisions and some unfavorable decisions, but none of the disputes has been finally resolved and we cannot predict the amount of time required before final judicial resolutions. The federal government has established a working group with representatives of Vale and DNPM to review the basis of calculation of the CFEM, which is among the issues in dispute.

The aggregate amount claimed in the pending assessments is approximately R\$5.640 billion (US\$3.019 billion) (including interest and penalties through December 31, 2011). We have established a provision of approximately R\$300 million for losses we consider probable.

**ICMS tax assessments**

In December 2011, the tax authority of the Brazilian state of Minas Gerais issued six tax assessments (*autos de infração*) against us for additional payments of the value-added tax on services and circulation of goods (ICMS) on the iron ore we transport from our mining sites in the state of Minas Gerais to our facilities in the state of Espírito Santo. The tax authority asserts that the calculation of ICMS should be based on the market value of the iron ore transported, as opposed to the cost of production of the ore, which is the manner by which we calculated the ICMS owed in years past. These tax assessments cover the year 2006, in an aggregate amount of R\$1.2 billion (US\$642 million). We have already presented our defense against each of these assessments at the administrative level. While this issue remains unresolved, the tax authority is likely to issue additional assessments covering years subsequent to 2006.

**Tax litigation**

## Edgar Filing: Vale S.A. - Form 6-K

We are engaged in legal proceedings concerning the contention of the Brazilian federal tax authority (*Receita Federal*) that we should pay Brazilian corporate income tax and social security contributions on the net income of our non-Brazilian subsidiaries and affiliates. The position of the tax authority is based on Article 74 of Brazilian Provisional Measure 2,158-34/2001 ( Article 74 ), a tax regulation issued in 2001 by Brazil's President, and on implementing regulations adopted by the tax authority under Article 74.

For accounting purposes, we have determined that the payment of additional taxes under Article 74 is reasonably possible, but not probable, and accordingly we have not established any provision. We intend to continue to vigorously defend our interests in all the related proceedings.

Table of Contents

*Our direct judicial challenge*

In 2003, prior to receiving any assessment of taxes under Article 74, we initiated a legal proceeding (*mandado de segurança*) challenging the applicability of the regulation based on the following arguments: (i) Article 74 disregards certain provisions on the taxation of profits in double taxation treaties between Brazil and the countries where some of our subsidiaries and affiliates are based; (ii) the Brazilian Tax Code prohibits the establishment of conditions and timing of any such tax by means of a provisional measure; (iii) even if Article 74 is valid, currency exchange gains and losses must be excluded from the net income of our foreign subsidiaries and affiliates in the calculation of taxes owed; and (iv) the application of the regulation to net income generated before December 2001 would violate the constitutional principle prohibiting retroactive application of tax laws.

In 2005, the court of first instance ruled against us on the merits of the case, and we appealed. In 2011, our appeal was rejected by the Federal Court of Appeals (*Tribunal Regional Federal da 2ª Região*).

In December 2011, we filed new appeals before the Superior Court of Justice (*Superior Tribunal de Justiça*), with respect to our arguments regarding the violations to federal law and international treaties, and the Supreme Court (*Supremo Tribunal Federal*), with respect to our constitutional arguments. In March 2012, we obtained a ruling from the Superior Court of Justice suspending all collection efforts by the tax authorities in respect of Article 74 assessments, pending a final ruling on the merits of our challenge. This ruling is subject to appeal.

CNI (*Confederação Nacional da Indústria*), a major national industry association, filed a direct constitutional challenge (*ação direta de inconstitucionalidade*) to Article 74 before the Supreme Court in 2001, which is still pending. A decision in the CNI case would have general applicability with respect to the constitutional arguments against Article 74. Even if the Supreme Court rules against the CNI, we intend to continue pursuing our other legal arguments. Other taxpayers and groups have challenged Article 74, and those challenges are also still pending. In April 2011, another taxpayer prevailed in the Superior Court of Justice on the argument that exchange gains and losses must be excluded from the net income of foreign subsidiaries and affiliates in the calculation of taxes owed pursuant to Article 74.

*Tax assessments and our administrative claims*

The tax authority has issued four tax assessments (*autos de infração*) against us for payment of taxes in accordance with Article 74, as follows (including interest and penalties through December 31, 2011):

- Notice of assessment issued in 2007 covering the years 1996 – 2002, for taxes of R\$992 million, plus interest and penalties of R\$2,101 million.
- Notice of assessment issued in 2008 covering the years 2003 – 2006, for taxes of R\$4,076 million, plus interest and penalties of R\$6,778 million.

- Notice of assessment issued in 2009 covering the year 2007, for taxes of R\$5,742 million, plus interest and penalties of R\$7,497 million.
- Notice of assessment issued in 2010 covering the year 2008, for taxes of R\$1,604 million, plus interest and penalties of R\$1,897 million.

Table of Contents

We have challenged each assessment with the tax authority and on appeal to the CARF (*Conselho Administrativo de Recursos Fiscais*), which is an appellate administrative tribunal within the tax authority. Although each assessment relates to different factual circumstances and not all of our arguments apply to all four assessments, these challenges generally assert that Article 74 conflicts with certain provisions of Brazil's international tax treaties on the taxation of dividends, and they dispute the application and calculation of fines on the claimed amounts. We have raised other arguments in respect of the validity of Article 74 in our direct judicial challenge to the regulation, as discussed above. While challenges to Article 74 remain unresolved, the tax authority is likely to issue additional assessments covering years subsequent to 2008 in order to preserve its rights in light of the applicable statute of limitations. We intend to challenge any such assessments.

Decisions of the tax administration may be challenged in judicial courts, with two or sometimes three levels of judicial review. While tax claims are being contested in administrative proceedings, the tax authority cannot seek to collect the assessed amounts. However, if the administrative review process concludes without dismissing the assessment, the tax authority can seek to collect payment, and the taxpayer can only suspend collection efforts if it challenges the administrative decision in the judicial courts. Under Brazilian law, a taxpayer that appeals to the courts must ordinarily provide a bond or security in commensurate amount with the court in order to suspend collection efforts. Although we may contest the application and scope of the bond requirement under the circumstances of our challenges to Article 74 if in the future we need to appeal administrative decisions to the judicial courts, it is likely that in such circumstances we would be required to post bond or some form of security with the court, and, depending on the nature, amount and scope of such bond, this may have a significant financial impact.

During the first quarter of 2012, we received demands for payment in respect of these assessments, because the tax authorities asserted that no further disputes were pending at the administrative level with respect to those amounts. These demands are suspended by the March 2012 injunction of the Superior Court of Justice in our direct judicial challenge to Article 74. While this injunction remains in force, the tax authorities cannot seek collection from us in respect of any Article 74 assessments and, for such time, we are thus not required to post bond in order to avoid collection.



Table of Contents**RATIO OF EARNINGS TO FIXED CHARGES**

	2007	2008	Year ended December 31, 2009 (US\$ million) (unaudited)	2010	2011
Income before discontinued operations, income taxes and equity results	15,233	13,217	7,123	20,314	26,799
Fixed charges:					
Interest costs capitalized	78	230	266	164	234
Interest costs expensed	2,517	1,765	1,558	2,646	2,465
Guaranteed preferred stock dividend	370	475	638	881	1,265
Total fixed charges	2,965	2,470	2,462	3,691	3,964
Amortization of capitalized interest	18	26	38	45	54
Distributed income of equity investees	394	513	386	1,161	1,038
	18,610	16,226	10,009	25,211	31,855
Less: interest capitalized	(78)	(230)	(266)	(164)	(234)
	18,532	15,996	9,743	25,047	31,621
Ratio of earnings to combined fixed charges and preferred dividends	6.25	6.48	3.96	6.79	7.98

Table of Contents

**EXHIBIT INDEX**

**Exhibit A:** Consent of PricewaterhouseCoopers Auditores Independentes

29

---

Table of Contents

**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/ Sonia Zagury*  
Sonia Zagury  
Attorney-in-Fact

By: */s/ Luciana Ribeiro da Costa Werner*  
Luciana Ribeiro da Costa Werner  
Attorney-in-Fact

Date: March 28, 2012