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## STRENGTH AND FLEXIBILITY Performance of Vale in 2008

Rio de Janeiro, February 19, 2009 - Companhia Vale do Rio Doce (Vale) reports a strong operational and financial performance in 2008, highlighted by several production, sales and financial records.

Eight production records - nickel, bauxite, alumina, copper, coal, cobalt, platinum group metals and precious metals - were achieved while eight products registered all-time high volumes of shipments - iron ore ( 264.0 million metric tons), nickel (276,000 metric tons), copper ( 320,000 metric tons), alumina ( 4.2 million metric tons), cobalt ( 3,087 metric tons), precious metals ( 2.4 million troy ounces), platinum group metals ( 411,000 troy ounces) and coal ( 4.1 million metric tons). The excellence in financial performance was reflected in the achievement of record revenues, operational profit, net earnings, cash generation, dividend distribution, and investment supported by a very strong balance sheet.

In spite of the large downward volatility in mining equity prices during the second half of 2008, Vale preserved the global leadership in shareholder value creation amongst big diversified mining companies, with a total shareholder return of $23.1 \%$ per year over the last five years.

Problems with the global financial system have accelerated sharply since September 2008, precipitating a dramatic change in the pace of macroeconomic activity around the world. The ensuing heightened levels of uncertainty and retrenchment in the demand for minerals and metals resulted in a more moderate operational and financial performance in the last quarter of 2008.

Vale has been very proactive in responding to the deterioration of the economic environment. Production cutbacks involving primarily the shutdown of higher-cost operational units and the implementation of new strategic priorities are the main components of our fast reaction to the global recession. Cost minimization, operational and financial flexibility and reconciliation of cash preservation with the pursuit of profitable growth options have assumed paramount importance to deal with the current scenario.

Given our endowment of world-class low-cost assets, financial strength and the rapid response to changing conditions, we firmly believe we are able to weather the down cycle and create value.

The main highlights of Vale's performance in 2008 were:

- Record gross revenue of US\$ 38.5 billion, $16.3 \%$ more than the US\$ 33.1 billion of 2007.
- Record operational profit, as measured by adjusted EBIT ${ }^{(a)}$ (earnings before interest and taxes) of US\$ 15.7 billion, 19.0\% higher than 2007.

[^0]- Operational margin, as measured by adjusted EBIT margin, of 41.9\%, against $40.9 \%$ in 2007.
- Record cash generation, as measured by adjusted EBITDA ${ }^{(b)}$ (earnings before interest, taxes, depreciation and amortization): US\$ 19.0 billion in 2008, compared to US\$ 15.8 billion of 2007.
- Record net earnings of US\$ 13.2 billion, equal to US\$ 2.61 per share on a fully diluted basis, with an $11.9 \%$ increase over the 2007 figure of US\$ 11.8 billion.
- Record dividend distribution in 2008 was US\$ 2.85 billion, equal to US\$ 0.56 per share, $52.0 \%$ above 2007.
- Record investment - excluding acquisitions - of US\$ 10.2 billion against US\$ 7.6 billion in 2007.
- Strong financial position, supported by large cash holdings of US\$ 12.6 billion, availability of significant medium and long-term credit lines and a low-risk debt portfolio.

The net earnings figure for 2008 - US\$ 13.218 billion -, as well as for 4Q08 - US\$ 1.367 billion -, includes a non-cash extraordinary charge of US\$ 950 million derived from the regular annual impairment review for goodwill. For a full description of the impairment test, please see the box "Impairment test ", on page 23.

Table 1 - SELECTED FINANCIAL INDICATORS

| Annual |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 2004 | 2005 | Pro forma 2006 | 2007 | 2008 |
| Gross revenue | 8,479 | 13,405 | 25,714 | 33,115 | 38,509 |
| Adjusted EBIT | 3,123 | 5,432 | 9,361 | 13,194 | 15,698 |
| Adjusted EBIT margin (\%) | 38.7 | 42.5 | 37.4 | 40.9 | 41.9 |
| Adjusted EBITDA | 3,722 | 6,540 | 11,451 | 15,774 | 19,018 |
| Net earnings | 2,573 | 4,841 | 7,260 | 11,825 | 13,218 ${ }^{2}$ |
| Earnings per share on a fully diluted basis (US\$) ${ }^{3}$ | 0.56 | 1.05 | 1.35 | 2.42 | $2.61{ }^{2}$ |
| Dividends | 787 | 1,300 | 1,300 | 1,875 | 2,850 |
| Quarterly |  |  |  |  |  |
| in US\$ million |  | 4Q07 | 3008 |  | 4Q08 |
| Gross revenue |  | 8,412 | 12,122 |  | 7,442 |
| Adjusted EBIT |  | 2,683 | 5,535 |  | 2,013 |
| Adjusted EBIT margin (\%) |  | 32.9 | 47.2 |  | 27.7 |
| Adjusted EBITDA |  | 3,532 | 6,374 |  | 2,697 |
| Net earnings |  | 2,573 | 4,821 |  | 1,367 ${ }^{2}$ |
| Earnings per share (US\$) |  | 0.53 | 0.96 |  | $0.26{ }^{2}$ |
| Earnings per share on a fully diluted basis (US\$) ${ }^{3}$ |  | 0.52 | 0.94 |  | $0.26{ }^{2}$ |
| ROE (\%) ${ }^{4}$ |  | 35.5 | 28.3 |  | 31.1 |
| Total debt / adjusted LTM EBITDA (x) |  | 1.1 | 1.0 |  | 1.0 |

[^1]
## INDEX

STRENGTH AND FLEXIBILITY. ..... 1
Table 1 - SELECTED FINANCIAL INDICATORS ..... 2
$\checkmark$ BUSINESS OUTLOOK. ..... 4

- RECORD REVENUE ..... 7
Table 2 - GROSS REVENUE BY PRODUCT ..... 8
Table 3 - GROSS REVENUE BY DESTINATION .....  8
$\checkmark$ COSTS .....  9
Table 4 - COST OF GOODS SOLD ..... 12
$\checkmark$ RECORD OPERATING PROFIT ..... 12
$\checkmark$ RECORD NET EARNINGS ..... 12
$\checkmark$ RECORD CASH GENERATION ..... 14
Table 5 - ADJUSTED EBITDA BY BUSINESS AREA ..... 14
Table 6 - QUARTERLY ADJUSTED EBITDA. ..... 14
४ FINANCIAL STRENGTH ..... 14
Table 7 - DEBT INDICATORS ..... 15
$\checkmark$ PERFORMANCE OF THE BUSINESS SEGMENTS ..... 16
Ferrous minerals ..... 16
Table 8 - IRON ORE AND PELLET SALES BY REGION ..... 17
Table 9 - GROSS REVENUE BY PRODUCT ..... 17
Table 10 - AVERAGE SALE PRICE ..... 18
Table 11 - VOLUMES SOLD ..... 18
Non-ferrous minerals ..... 18
Table 13 - GROSS REVENUE BY PRODUCT ..... 20
Table 14 - AVERAGE SALE PRICE ..... 20
Table 15 - VOLUMES SOLD ..... 20
Table 16 - SELECTED FINANCIAL INDICATORS ..... 20
Coal ..... 20
Table 17 - GROSS REVENUE BY PRODUCT ..... 21
Table 18 - AVERAGE SALE PRICE ..... 21
Table 19 - VOLUMES SOLD ..... 21
Logistics services ..... 21
Table 20 - GROSS REVENUE BY PRODUCT ..... 22
Table 21 - LOGISTICS SERVICES ..... 22
Table 22 - SELECTED FINANCIAL INDICATORS ..... 22
$\checkmark$ FINANCIAL INDICATORS OF NON-CONSOLIDATED COMPANIES ..... 22
$\checkmark$ CONFERENCE CALL AND WEBCAST. ..... 22
$\checkmark$ IMPAIRMENT TEST ..... 23
$\checkmark$ ANNEX 1 - FINANCIAL STATEMENTS ..... 24
Table 23 - INCOME STATEMENTS ..... 24
Table 24 - FINANCIAL RESULT ..... 24
Table 25 - EQUITY INCOME BY BUSINESS SEGMENT ..... 24
Table 26 - BALANCE SHEET ..... 25
Table 27 - CASH FLOW ..... 26
$\checkmark$ ANNEX 2 - VOLUMES SOLD, PRICES, MARGINS AND CASH FLOWS ..... 27
Table 28 - VOLUMES SOLD: MINERALS AND METALS ..... 27
Table 29 - AVERAGE SALE PRICE ..... 27
Table 30 - ADJUSTED EBIT MARGIN BY BUSINESS SEGMENT ..... 27
Table 31 - ADJUSTED EBITDA BY BUSINESS SEGMENT ..... 27
$\checkmark$ ANNEX 3 - RECONCILIATION OF US GAAP and "NON-GAAP" INFORMATION ..... 28
Table 32 - Adjusted EBIT ..... 28
Table 33 - Adjusted EBITDA ..... 28
Table 34 - Net debt ..... 28
Table 35 - Total debt / Adjusted LTM EBITDA ..... 29
Table 36 - Total debt / Enterprise value ..... 29
Table 37 - LTM EBITDA adjusted / LTM interest payments ..... 29


## ४ BUSINESS OUTLOOK

Economic data for the last quarter of 2008 have shown a significant and widespread slump in industrial production, suggesting that on a global basis its growth rate entered deep into negative territory. Therefore, as providers of raw materials for manufacturing and construction activities, mining companies have been facing unprecedented weak demand conditions.

For almost a year and a half the global financial system has been under pressure which has accelerated sharply since September 2008 and spilled over to the global economy. As a consequence of the abrupt end of the credit boom, heightened systemic risks, falling asset values, and tightening credit have precipitated a sharp slowdown in global economic activity.

Central banks have been easing monetary policy in order to cushion the recessionary impacts of the financial stress. In particular, the US Federal Reserve Bank has responded aggressively to the crisis since its emergence in the summer of 2007, lowering the federal funds rate target from $5.25 \%$ in September 2007 to a range of $0-0.25 \%$ in December 2008. In its role as the lender of last resort, it has created several tools to provide ample short-term liquidity to financial institutions, which has led to a reduction in systemic risks by assuring market participants that financial institutions will be able to meet demands for cash arising from an eventual loss of confidence. To address declining credit availability in critical nonbank markets, such as commercial paper and asset-backed securities, the Federal Reserve has acted as a liquidity provider to borrowers and investors in these markets. Finally, the Fed has announced plans to purchase longer-term securities to improve conditions in private credit markets.

During financial crises the use of monetary policy - through conventional and nonconventional tools - to counteract their recessionary effects is very important because aggressive monetary easing can reduce the likelihood that financial disruptions might set off an adverse feedback loop in the real economy. However, monetary policy alone cannot offset the contractionary effect of a massive financial disruption in credit markets of the type we have been experiencing.

Fiscal policy can provide a significant short-term boost to economic activity. Nevertheless, fiscal actions are unlikely to promote a lasting recovery unless they are accompanied by strong measures to further stabilize and strengthen the financial system.

The global economy will recover, but the timing and strength of the recovery are highly uncertain. Government policy responses around the world will be critical determinants of the speed and vigor of the recovery. As long as it is able to combine the capacity to unlock financial markets with the preservation of incentives to private sector agents, government intervention will have the power to shorten the recession and to lay the ground for a sustained recovery.

On February 10, the U.S. government unveiled a financial stability plan. It has the potential to restore normality in financial markets but it still needs to be more detailed and better understood by markets.

Amidst a highly uncertain environment we have seen some early signals of improvement although there is no enough evidence to allow us to argue that they represent a trend reversal.

In the bond market, spreads are showing some decrease. In the US, companies raised the largest amount of funds through bond issuance since May 2008.
and India. As long as the PMIs are leading indicators of economic activity, a stabilization of the global PMI would imply a stabilization of global industrial output. The key to a meaningful improvement in global manufacturing is whether new orders continue to rise.

China, currently the most important market in the world for minerals and metals, is likely to have had zero growth at the margin in the last quarter of 2008, when companies responded to the drop in domestic and external demand with sharp production cuts.

However, the announcement of a major fiscal program focused on infrastructure spending and the surge in bank lending in response to a credit easing policy are stimulating capacity utilization to bounce back.

There are indications that the steel de-stocking cycle is almost concluded, steel prices are recovering, iron ore inventories are dwindling and iron ore spot prices are rising. Despite the rebound in freight prices - which used to be an indicator of economy recovery - , our iron ore products delivered in China remain competitive.

On the other hand, the cyclical downturn in the Chinese property market still constrains a significant recovery in the demand for steel. Still, it is quite possible that growth in bank lending and the various incentives put in place by the central and provincial governments will be able to engineer a cyclical change in the real estate market, thus strengthening further the demand for steel and iron ore.

In past episodes of global recessions China was able to continue to grow due to the implementation of countercyclical policies, the small contribution of external demand to its aggregate demand and its position as a net lender to the rest of the world.

Over the last ten years, Chinese steel production increased 4.4 times, to 502.0 from 114.6 million metric tons (Mt), while iron ore imports showed an 8.6 -fold increase, to 444.0 Mt from only 51.8 Mt in 1998, highlighting the increasing dependency on imports, despite the efforts to accelerate domestic iron ore output. The continuation of this trend is clearer if we observe that in 2008 China's crude steel production grew by only $2.6 \%$ whereas iron ore imports expanded by $16.0 \%$. As a consequence, even in a more moderate growth environment Chinese demand will continue to pressure the supply of iron ore in the seaborne market.

Vale has been and will continue to be a key supplier of iron ore to the Chinese market due to its unique capability as a reliable large producer of high-quality products.

In the case of base metals retrenchment in global demand produced a sharp fall in prices. One of the normal standards of behavior of base metal prices is volatility clustering. When volatility is high, it is likely to remain high for a certain period of time, and by the same token when it is low it is likely to remain low for some time.

In the second half of 2008, nickel, aluminum and copper prices showed very high downward volatility caused by the continuous arrival of bad news about financial markets and their negative implications for the global economic activity. Since December 2008, base metal prices have been exhibiting low volatility, probably indicating that they have already anticipated the negative economic outlook. Therefore, we expect the short-term trend to be determined by the arrival of the new information about the global macroeconomic environment, in particular regarding the evolution of China's economy.

In the case of nickel, since reaching a cyclical trough in October 2008, prices have
global demand and rising inventories keep prices under pressure, putting a cap on upward volatility in the short-term.

Stainless steel production remains weak in the US, Europe and Japan, while there are good signs of improvement in China. The non-stainless sources of nickel consumption, representing $35-40 \%$ of its global consumption - plating, alloy steels, high-nickel alloys and others - are also showing weakness.

Supply continues to be scaled back in face of the pressures on corporate profitability exerted by the current price levels and by the fact that the majority of Chinese nickel pig iron producers had shut down operations.

As a consequence of two consecutive years of curtailment in stainless steel output, there are almost no stainless steel inventories. In addition, much lower relative prices of high-nickel steels and low nickel and chrome prices provide support for a strong nickel price rally once there are clear signals of an economic recovery.

Vale is well prepared to weather the down cycle given its world-class low-cost assets and financial strength. Minimizing costs, maintaining flexibility, and reconciling cash preservation with the pursuit of profitable growth options have assumed paramount importance for dealing with the current recessive scenario.

During the expansionary cycle, maximization of production was key to maximizing value and we had managed to grow our aggregate output of bulk and non-ferrous mineral products by a compound annual average rate of $11.2 \%$ since 2003 . Now the priority has moved to cost minimization as an important tool for value creation and we are seeking that goal through several initiatives to reduce operational and investment costs.

Given the high level of uncertainty still prevailing, preventing the elaboration of a clear view of market trends in the near future, flexibility in managing production and capex execution is also a priority.

We have maintained the minimum dividend for 2009 at the same level as $2008^{5}$, a year of record cash flow generation, in an effort to satisfy the short-term aspirations of our shareholders, especially in face of a much less liquid world.

On the investment front, we are executing organic growth projects whose development had begun in the past years and which are strategic priorities. Simultaneously, we are taking advantage of our large cash availability to exploit the acquisition growth path to acquire new platforms of future value creation in iron ore, coal, copper and potash, such as the transactions announced over the last couple of months.

We remain strongly committed to maintain financial flexibility to continue to pursue long-term growth and shareholder value creation. Our goal is to remain at the forefront of shareholder value creation, having our world-class assets generating returns far beyond the industry.

The global economy is under great strain but it is important to realize that despite the depth of the recession it is a cyclical phenomenon. Recovery will follow the contractionary cycle and the long-term outlook for minerals and metals remains very promising.

Notwithstanding its severity, the global cyclical downturn will hardly disrupt longterm economic development of emerging market economies and the structural changes that have been taking place over the last years and which caused a rapid expansion in the demand for minerals and metals.

[^2]On the supply side, financial conditions, until recently supportive of project development, will become another constraint to a more meaningful future production growth in addition to geological and institutional factors.

The current crisis has a transformational nature primarily as a consequence of the probable reshaping of the financial industry through consolidation, stricter regulations, emergence of new institutions with new roles and lower risk tolerance. These structural movements are expected to cause permanent changes in other businesses such as the mining business.

In the short-term, the combination of poor business confidence plus lack of financing is leading to the postponement and cancellation of projects. The recent global exploration boom led by junior mining companies is expected to come to an end in a similar way to in the aftermath of the Asian financial crisis.

Even after normalization in financial markets functioning, we expect liquidity to be much more scarce than it had been until last year, making cost of capital higher and access to capital more limited.

In this likely future scenario, large scale, high-quality low-cost assets, internal availability of growth options, efficiency, and financial strength will be even more important to determine the success of mining companies.

Vale is best positioned to thrive in such an environment and to benefit from the exposure to a future expansionary cycle given its financial strength, world-class assets and the wealth of growth options deriving from its large project pipeline and global multi-commodity mineral exploration program.

## ४ RECORD REVENUE

In 2008, our gross operating revenues achieved a historical high of US\$ 38.509 billion, $16.3 \%$ up on the US $\$ 33.115$ billion reached in 2007.

Higher prices of products contributed with US\$ 4.932 billion, $91.4 \%$ of the total increase of US $\$ 5.394$ billion over 2007, while sales volume growth added US\$ 462 million. Higher iron ore and pellet prices were responsible for a revenue increase of US\$ 5.807 billion and US\$ 1.711 billion, respectively, more than offsetting the negative impact of lower nickel prices, which was equal to US\$ 4.373 billion.

In 4Q08, revenues totaled US\$ 7.442 billion, compared to US $\$ 12.122$ billion in 3Q08. The drop of US\$ 4.680 billion is explained by: (a) reduction in sales volumes equal to US $\$ 3.078$ billion - iron ore US\$ 2.338 billion, pellets US $\$ 292$ million, and other products US\$ 448 million; and (b) US $\$ 1.602$ billion due to lower prices, of which US\$ 566 million arising from the decrease in nickel prices.

Ferrous minerals sales represented $64.0 \%$ of the 4 Q 08 gross revenue, non-ferrous minerals $27.8 \%$, logistics $4.2 \%$, coal and others being responsible for the remaining 4.0\%.

In 2008, Asia continued to be the main destination of our sales, responsible for $40.9 \%$ of our revenues, followed by the Americas at $31.1 \%$, Europe $24.5 \%$ and the rest of the world with $3.5 \%$.

On a country basis, China (17.4\%), Brazil (17.3\%), Japan (12.3\%), Germany ( $6.5 \%$ ) and the US ( $6.4 \%$ ) were the most important markets for our products in 2008.

| Table 2 - GROSS REVENUE BY PRODUCT |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4007 | 3 Q 08 | 4Q08 | 2007 | \% | 2008 | \% |
| Ferrous minerals | 4,411 | 8,130 | 4,763 | 15,515 | 46.9 | 23,699 | 61.5 |
| Iron ore | 3,349 | 6,175 | 3,537 | 11,907 | 36.0 | 17,775 | 46.2 |
| Pellets | 695 | 1,399 | 1,024 | 2,648 | 8.0 | 4,245 | 11.0 |
| Manganese ore | 36 | 119 | 24 | 77 | 0.2 | 266 | 0.7 |
| Ferroalloys | 243 | 330 | 138 | 639 | 1.9 | 1,073 | 2.8 |
| Pellet plant operation services | 31 | 13 | 4 | 91 | 0.3 | 56 | 0.1 |
| Others | 57 | 94 | 37 | 153 | 0.5 | 284 | 0.7 |
| Non-ferrous minerals | 3,498 | 3,245 | 2,068 | 15,728 | 47.5 | 12,268 | 31.9 |
| Nickel | 2,018 | 1,358 | 851 | 10,043 | 30.3 | 5,970 | 15.5 |
| Copper | 537 | 630 | 272 | 1,986 | 6.0 | 2,029 | 5.3 |
| Kaolin | 74 | 57 | 45 | 238 | 0.7 | 209 | 0.5 |
| Potash | 58 | 103 | 23 | 178 | 0.5 | 295 | 0.8 |
| PGMs | 81 | 120 | 39 | 342 | 1.0 | 401 | 1.0 |
| Precious metals | 20 | 32 | 22 | 85 | 0.3 | 112 | 0.3 |
| Cobalt | 39 | 56 | 37 | 135 | 0.4 | 211 | 0.5 |
| Aluminum | 350 | 456 | 332 | 1,571 | 4.7 | 1,545 | 4.0 |
| Alumina | 309 | 425 | 438 | 1,102 | 3.3 | 1,470 | 3.8 |
| Bauxite | 13 | 8 | 9 | 49 | 0.1 | 27 | 0.1 |
| Coal | 47 | 203 | 199 | 160 | 0.5 | 577 | 1.5 |
| Logistics services | 389 | 472 | 310 | 1,526 | 4.6 | 1,607 | 4.2 |
| Railroads | 321 | 386 | 240 | 1,220 | 3.7 | 1,303 | 3.4 |
| Ports | 58 | 73 | 60 | 237 | 0.7 | 255 | 0.7 |
| Shipping | 10 | 13 | 10 | 69 | 0.2 | 49 | 0.1 |
| Others | 67 | 72 | 102 | 186 | 0.6 | 358 | 0.9 |
| Total | 8,412 | 12,122 | 7,442 | 33,115 | 100.0 | 38,509 | 100.0 |


| Table 3 - GROSS REVENUE BY DESTINATION |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4007 | 3008 | 4 Q 08 | 2007 | \% | 2008 | \% |
| North America | 1,212 | 1,028 | 685 | 4,922 | 14.9 | 4,236 | 11.0 |
| USA | 673 | 657 | 349 | 2,966 | 9.0 | 2,466 | 6.4 |
| Canada | 502 | 328 | 280 | 1,761 | 5.3 | 1,517 | 3.9 |
| Mexico | 37 | 43 | 56 | 195 | 0.6 | 253 | 0.7 |
| South America | 1,696 | 2,628 | 1,300 | 6,181 | 18.7 | 7,725 | 20.1 |
| Brazil | 1,452 | 2,292 | 1,108 | 5,288 | 16.0 | 6,675 | 17.3 |
| Others | 244 | 336 | 192 | 893 | 2.7 | 1,050 | 2.7 |
| Asia | 3,068 | 5,017 | 3,215 | 13,346 | 40.3 | 15,761 | 40.9 |
| China | 1,542 | 2,482 | 955 | 5,865 | 17.7 | 6,706 | 17.4 |
| Japan | 851 | 1,310 | 1,352 | 3,827 | 11.6 | 4,737 | 12.3 |
| South Korea | 402 | 390 | 456 | 1,473 | 4.4 | 1,474 | 3.8 |
| Taiwan | 99 | 276 | 120 | 1,665 | 5.0 | 954 | 2.5 |
| Others | 174 | 559 | 332 | 516 | 1.6 | 1,890 | 4.9 |
| Europe | 1,931 | 3,015 | 1,891 | 7,325 | 22.1 | 9,450 | 24.5 |
| Germany | 495 | 887 | 523 | 1,856 | 5.6 | 2,511 | 6.5 |
| Belgium | 155 | 313 | 177 | 683 | 2.1 | 910 | 2.4 |
| France | 199 | 297 | 126 | 722 | 2.2 | 815 | 2.1 |
| UK | 235 | 343 | 184 | 1,066 | 3.2 | 1,261 | 3.3 |
| Italy | 206 | 136 | 254 | 632 | 1.9 | 821 | 2.1 |
| Others | 641 | 1,039 | 627 | 2,366 | 7.1 | 3,132 | 8.1 |
| Rest of the World | 505 | 434 | 351 | 1,340 | 4.0 | 1,337 | 3.5 |
| Total | 8,412 | 12,122 | 7,442 | 33,115 | 100.0 | 38,509 | 100.0 |

## COSTS

Maximization of production was key to maximizing cash generation and shareholder value and we have managed to increase our aggregate output at a compound annual average rate of $11.2 \%$ from 2003 to 2008. In the current environment our priority has changed to cost minimization to cushion the negative effects of the global recession on our profitability and cash flow.

In a very proactive response we are undertaking several initiatives to minimize operating and capex costs involving mainly: (a) shutdown of the higher cost operational units; (b) negotiations with labor unions seeking more flexibility in labor contracts to preserve jobs and to reduce costs; (c) restructuring of the corporate center, to maximize efficiency through a leaner structure; (d) cut in administrative costs; (e) renegotiation of existing contracts with service providers entailing the cancellation of some contracts and the reduction of prices and scope of others; (f) renegotiation of existing contracts with suppliers of equipment and engineering services; and (g) reduction of working capital.

These initiatives are expected to generate an important contribution to diminish costs primarily during the next quarters, but as expected their effect was not felt yet in 4Q08.

Another important point to observe is that while financial asset prices and commodity prices tend to anticipate cyclical changes the reaction of prices of goods and services to a recession occurs at a slower pace. These prices have already begun to decline but more significant decreases are expected to take place over the next few months.

Cost of goods sold (COGS) totaled US\$ 17.641 billion in 2008, showing a $7.2 \%$ increase relatively to 2007. COGS in 4Q08 was US\$ 3.520 billion, $31.2 \%$ lower than in 3 Q 08 , at US $\$ 5.116$ billion.

In line with our cost evolution dynamics, the cost decrease in 4 Q 08 was mainly produced by the currency volatility determined by the appreciation of the US dollar against the currencies in which our costs are denominated. From the first quarter of 2009 onwards we expect to see a downward trend influenced by our own initiatives to minimize costs and the natural decrease of input, equipment and service prices.

The exchange rate variations ${ }^{6}$ contributed with US\$ 921 million to the cost reduction in 4Q08 - all other things being equal, COGS would have fallen by $18.0 \%$. The decline in sales volume reduced COGS by US $\$ 741$ million. Prices of inputs and services still produced an increase in costs in 4 Q 08 even though a relatively modest one, of US $\$ 66$ million. Given the long cycle of production of nickel products, their sales costs still reflected the price environment prevailing in mid-2008 and were the main source of this result.

In 4 Q 08 , expenses with energy were the main item in COGS, accounting for $17.3 \%$ and reaching US\$ 610 million. These costs decreased by US $\$ 277$ million compared to 3 Q 08 , being the largest contributor to the COGS decrease.

Fuel and gases costs reached US\$ 379 million, showing a US $\$ 190$ million decline compared to 3 Q 08 . US $\$ 127$ million was due to the appreciation of the US dollar, US\$ 57 million to the reduction of our activities, and only US $\$ 6$ million to lower prices, since there was no reduction in Brazil.

[^3]The cost of electricity in 4Q08 was US\$ 231 million. It decreased US\$ 87 million relative to the previous quarter. Currency price changes and lower consumption contributed with US\$ 61 million and US\$ 36 million, respectively, while tariff hikes added US\$ 11 million.

In 2008, our electricity consumption reached $22.291 \mathrm{GWh}, 44 \%$ of which was taken up by the aluminum operations, $25 \%$ by nickel, $18 \%$ by iron ore and pellets, and $7 \%$ by the ferroalloy operations. We generated 7.186 GWh in our power plants in Brazil, Canada and Indonesia, meeting 32\% of the total consumption.

Costs for outsourced services, making up $16.8 \%$ of COGS, reached US\$ 591 million in 4Q08, compared to US\$ 828 million in 3 Q 08 . The cost reduction was caused mainly by the US dollar appreciation (US\$ 182 million) and lower sales volumes (US\$ 151 million). This was partially offset by higher prices (US\$ 96 million), driven in particular by the previously mentioned nickel production cycle.

The main outsourced services are: (a) cargo freight, which accounted for US\$ 173 million; (b) maintenance of equipment and facilities, US\$ 137 million; and (c) operational services, US\$ 176 million, which include US\$ 52 million for ore and waste removal.

Expenses with railroad freight dropped to US\$ 100 million, with a $49.0 \%$ reduction relatively to the previous quarter, at US\$ 196 million. A major part of the cutback in iron ore production was made in the Southern System mines, where transportation to the maritime terminals is made by the MRS railroad, a nonconsolidated affiliated company.

Costs with maritime freight services totaled US\$ 29 million, in line with the US\$ 28 million spent in 3 Q 08 , as there was no reduction in bauxite volumes moved from the Trombetas mining site to the Barcarena alumina refinery.

Expenses with truck transportation services increased to US\$ 42 million from US\$ 26 million in 3Q08, due to higher sales volume of nickel products which use this service.

The cost of materials - $16.8 \%$ of COGS - was US\$ 590 million. There was a decline of US\$ 195 million against 3Q08, of which US\$ 185 million was influenced by the appreciation of the US dollar and US\$ 155 million by sales reduction, partially offset by higher prices which contributed to increase the cost of materials by US\$ 145 million. Costs of material were adversely impacted by the maintenance of the Thompson operations in Canada.

The main materials items were: spare parts and maintenance equipment, US\$ 167 million (vs. US\$ 264 million in 3Q08), inputs, US\$ 169 million (vs. US\$ 221 million in 3Q08), tires and conveyor belts, US\$ 31 million (vs. US\$ 50 million in 3Q08).

Personnel expenses reached US\$ 487 million, representing 13.8\% of COGS. The decrease of US\$ 72 million relatively to 3Q08 reflected the effect of exchange rate changes (US\$ 96 million) and lower sales volume (US\$ 32 million). On the other hand, the $7 \%$ wage increase in November 2008, as part of the two-year agreement signed with our Brazilian employees in November 2007, contributed to add US\$ 56 million to the costs.

The cost of purchasing products from third parties amounted to US\$ 372 million $10.6 \%$ of COGS - falling by $36.4 \%$ vis-à-vis 3 Q 08 , when it reached US\$ 584 million. This reduction was mainly determined by the lower purchase volumes of all products.

The purchase of iron ore and pellets was US\$ 206 million, against US\$ 286 million in the previous quarter. The volume of iron ore purchased came to 2.110 million metric tons in 4 Q 08 compared with 3.801 million in 3 Q 08 , while the acquisition of pellets from joint ventures totaled 582,000 metric tons - against 856,000 in 3Q08.

The purchase of nickel products reached US\$ 84 million, compared to US\$ 189 million in 3Q08 and US\$ 245 million in 4Q07. Lower volumes and prices contributed $81 \%$ and $19 \%$, respectively, to the quarter-on-quarter cost reduction.

Depreciation and amortization - 15.3 \% of COGS - amounted to US\$ 541 million, US\$ 135 million below the amount recorded in 3Q08, impacted by the effect of exchange rate variation.

Other operational costs reached US\$ 283 million compared to US\$ 734 million in 3Q08.

The deceleration in our activities in the last quarter of 2008 through production cutbacks explains most of the decrease in other operational costs to the extent that it led to lower expenses with the lease of pellet plants, mining royalties and demurrage costs.

In 4 Q 08 , demurrage costs - fines paid for delays in loading ships at our maritime terminals - amounted to US\$ 0.66 per metric ton of iron ore shipped, totaling US\$ 117 million. It was the lowest level since 3Q07, when it reached US\$ 0.54 . Over the year, our average demurrage cost was US\$ 1.34 per metric ton (US\$ 322 million) against US\$ 0.61 in 2007 and US\$ 0.26 in 2006, characterizing an upward trend determined by the strong global demand growth for iron ore.

Given the lower shipment volumes in 4Q08, we took the opportunity to replenish iron ore inventories at the maritime terminals. The lack of stocks caused by the fast pace of shipments was the main factor behind the rise in demurrage costs in the past.

Sales, general and administrative expenses (SG\&A) came to US\$ 708 million, against US\$ 374 million in 3Q08. Lower personnel and travel expenses were more than offset by higher expenses related to the global integration of the IT infrastructure, advertising, brand management and an extraordinary price adjustment of previous copper sales.

Almost all of our copper sales are made of concentrates and anodes. Under the long-established sales contracts in the copper industry, all sales of copper concentrates and anodes are provisionally priced at the time of shipment. Under the MAMA (month after month of arrival) pricing system, final prices are based on the LME quoted prices in a future period, generally one to three months from the shipment date. Due to the substantial downward volatility of copper prices in the last quarter of 2008 - average prices in 4Q08 fell $48.8 \%$ against 3 Q 08 - we made an adjustment to reflect the effective sales prices, amounting to a charge of US\$ 316 million against sales expenses.

Research and development (R\&D) amounted to US\$ 295 million $^{7}$ in the quarter, in line with the US\$ 331 million invested in 3Q08, to support our global mineral exploration program and feasibility studies.

Other operational expenses reached US\$ 719 million, against US\$ 383 million in 3Q08 showing a significant increase due to some one-off events.

[^4]In the nickel business there was a write-off of patent rights (US\$ 65 million) and a negative charge of US\$ 77 million generated by the fair value assessment of inventories.

Finally, US\$ 204 million was accounted as other operational expenses in 4Q08 due to a payment related to use of railroad transportation services by our iron ore operations in the past.

| Table 4 - COST OF GOODS SOLD |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4Q07 | 3008 | 4Q08 | 2007 | \% | 2008 | \% |
| Outsourced services | 842 | 828 | 591 | 2,628 | 16.0 | 2,880 | 16.3 |
| Material | 621 | 785 | 590 | 2,313 | 14.0 | 2,900 | 16.4 |
| Energy | 650 | 887 | 610 | 2,284 | 13.9 | 2,920 | 16.6 |
| Fuels | 415 | 569 | 379 | 1,406 | 8.5 | 1,842 | 10.4 |
| Electric energy | 235 | 318 | 231 | 878 | 5.3 | 1,078 | 6.1 |
| Acquisition of products | 583 | 584 | 372 | 2,872 | 17.4 | 2,214 | 12.6 |
| Iron ore and pellets | 227 | 286 | 206 | 976 | 5.9 | 1,179 | 6.7 |
| Aluminum products | 65 | 99 | 77 | 288 | 1.7 | 318 | 1.8 |
| Nickel products | 245 | 189 | 84 | 1,522 | 9.2 | 606 | 3.4 |
| Other products | 46 | 10 | 5 | 86 | 0.5 | 111 | 0.6 |
| Personnel | 541 | 559 | 487 | 1,873 | 11.4 | 2,139 | 12.1 |
| Depreciation and exhaustion | 697 | 676 | 541 | 2,049 | 12.4 | 2,664 | 15.1 |
| Shared services | 40 | 63 | 46 | 40 | 0.2 | 215 | 1.2 |
| Others | 530 | 734 | 283 | 1,342 | 8.2 | 1,709 | 9.7 |
| Total before inventory adjustment | 4,504 | 5,116 | 3,520 | 15,401 | 93.5 | 17,641 | 100.0 |
| Inventory adjustment FAS 141/142 | - | - | - | $1,062^{8}$ | 6.5 | - | - |
| Total | 4,504 | 5,116 | 3,520 | 16,463 | 100.0 | 17,641 | 100.0 |

## Y RECORD OPERATING PROFIT

In 2008, operating profit, as measured by adjusted EBIT, reached US\$ 15.698 billion, establishing a new record, up $19.0 \%$ in comparison with the US\$ 13.194 billion registered in 2007.

Operating margin was $41.9 \%$, 100 basis points above the figure for 2007 .
In 4 Q 08 , lower shipment volumes and prices caused operating profit to decrease to US\$ 2.013 billion from US\$ 5.535 billion in 3 Q 08 , a record quarter, dropping $63.6 \%$. By the same token, the adjusted EBIT margin fell to $27.7 \%$, against $47.2 \%$ in the previous quarter.

## $\checkmark$ RECORD NET EARNINGS

Net earnings in 2008 set an annual record, at US\$ 13.218 billion, with a $11.8 \%$ increase over 2007. This figure includes a non-cash charge of US\$ 950 million, corresponding to the result of the regular annual impairment review of the goodwill accounted in our books. This is a one-off charge, producing only an adjustment in the book value of our assets, with no impact on cash and taxes.

For a full description of the impairment review please see the box "Impairment test", page 23.

[^5]Earnings per share on a fully diluted basis were US\$ 2.61 against US\$ 2.42 in 2007.

Excluding the exceptional non-cash charge, net earnings in 2008 would have reached US\$ 14.168 billion, US $\$ 2.343$ billion above the 2007 figure.

In 4Q08, net earnings, after the non-cash impairment charge, reached US\$ 1.367 billion, showing a decline relatively to the quarterly record of US\$ 4.821 billion in 3Q08. The main contributors for this decline were that exceptional item (US\$ 950 million) and the reduction in operating profit of US $\$ 3.522$ billion.

Financial revenues totaled US\$ 247 million, in line with the US\$ 277 million registered in 3 Q 08 , due to our large cash position. On the other hand, interest expenses reached US $\$ 334$ million, presenting a $14.0 \%$ increase over the previous quarter.

Foreign exchange and monetary variation caused a negative impact of US\$ 241 million on the quarterly earnings. However, it was US\$ 80 million lower than in 3Q08. Despite a slightly higher appreciation of the USD against our functional currency, the Brazilian real $-22.1 \%$ in 4Q08 against $20.3 \%$ in 3Q08 - larger average cash holdings in US dollar contributed to soften the negative effect of the FX variation in our US dollar denominated liabilities.

In $4 Q 08$, the variation of the mark-to-market of derivatives instruments contributed to reduce earnings by US $\$ 586$ million, against US $\$ 587$ million in $3 \mathrm{Q} 08^{9}$.

In 4 Q 08 , the result of the use of currency swaps to convert our BRL-denominated debt into US dollar produced a negative charge of US\$ 699 million. As a counterpart, the US dollar value of our BRL-denominated debt decreased to US\$ 4.2 billion as of December 31, 2008, from US\$ 5.2 billion as of September 30, 2008.

We paid in 4Q08 a value in BRL equal to US\$ 178 million as interest on our BRLdenominated debt linked to transactions with swaps. On the other hand, we received US\$ 26 million from the financial settlement of part of the interest rate swap, contributing to partially offset the impact of interest payment on our cash flow.

The derivative instruments linked to aluminum, copper, gold and platinum prices, used to mitigate the volatility of our cash flow, either expired or were settled by the end of 2008. As an outcome, there was a net cash positive impact of US\$ 41 million, thus contributing to offset part of the negative effect of the decline in metal prices on our cash flow.

In addition, the positions with derivatives related to these products generated a non-cash gain of US\$ 59 million.

We continue to use nickel future contracts to neutralize the effects of fixed price nickel sale contracts with our clients to maintain our full exposure to the price of this metal. Our nickel hedge positions generated a cash loss of US\$ 32 million in this quarter.

Equity income amounted to US\$ 125 million, below the US $\$ 290$ million obtained in 3Q08.

[^6]The non-consolidated affiliates in the logistics business contributed with $74.4 \%$ to the total. Ferrous minerals contributed $64.0 \%$ while non-ferrous minerals, steel and coal had negative contribution.

In individual terms, the largest contributors to equity earnings were MRS (US\$ 87 million), Samarco (US\$ 37 million), and MRN (US\$ 22 million).

## ૪ RECORD CASH GENERATION

Despite the negative impact of the global recession on Vale's 4Q08 results, our cash generation, as measured by adjusted EBITDA, achieved an annual record of US\$ 19.018 billion. It was US\$ 3.244 billion above the 2007 record adjusted EBITDA of US\$ 15.774 billion, a $20.6 \%$ increase.

In 4Q08, adjusted EBITDA reached US\$ 2.697 billion, compared to US\$ 6.374 billion in 3Q08, when a record was achieved. The US\$ 3.677 billion fall in 4Q08 adjusted EBITDA was mostly due to the drop of US\$ 3.522 billion in operational profit.

Vale received US\$ 116 million in dividends distributed by affiliated nonconsolidated companies, of which US\$ 50 million from Samarco and US\$ 27 million from Henan Longyou Resources.

There was a sharp increase in the share of the ferrous minerals business in our total cash generation, rising to $93.6 \%$ in 4Q08 from $79.9 \%$ in 3Q08. The share of the non-ferrous minerals business narrowed to only $8.8 \%$, logistics $3.4 \%$ and expenditures with R\&D amounted to $5.7 \%$ of our cash generation.

|  | Table 5 - ADJUSTED EBITDA BY BUSINESS AREA |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| in US\& million | $\mathbf{4 0 0 7}$ | $\mathbf{3 Q 0 8}$ | $\mathbf{4 0 0 8}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| Ferrous minerals | 2,171 | 5,094 | 2,524 | 8,304 | 13,887 |
| Non-ferrous minerals | 1,447 | 1,342 | 236 | 7,538 | 5,322 |
| Logistics | 159 | 177 | 92 | 649 | 631 |
| Other | $(245)$ | $(239)$ | $(155)$ | $(717)$ | $(822)$ |
| Total | $\mathbf{3 , 5 3 2}$ | $\mathbf{6 , 3 7 4}$ | $\mathbf{2 , 6 9 7}$ | $\mathbf{1 5 , 7 7 4}$ | $\mathbf{1 9 , 0 1 8}$ |


| Table 6 - QUARTERLY ADJUSTED EBITDA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4007 | 3008 | 4Q08 | 2007 | 2008 |
| Net operating revenues | 8,163 | 11,739 | 7,255 | 32,242 | 37,426 |
| COGS | $(4,504)$ | $(5,116)$ | $(3,520)$ | $(16,463)$ | $(17,641)$ |
| SG\&A | (424) | (374) | (708) | $(1,245)$ | $(1,748)$ |
| Research and development | (262) | (331) | (295) | (733) | $(1,085)$ |
| Other operational expenses | (290) | (383) | (719) | (607) | $(1,254)$ |
| Adjusted EBIT | 2,683 | 5,535 | 2,013 | 13,194 | 15,698 |
| Depreciation, amortization \& exhaustion | 737 | 713 | 568 | 2,186 | 2,807 |
| Dividends received | 112 | 126 | 116 | 394 | 513 |
| Adjusted EBITDA | 3,532 | 6,374 | 2,697 | 15,774 | 19,018 |

## FINANCIAL STRENGTH

Vale enjoys an outstanding financial position, anchored on its strong cash flow, large cash holdings, availability of long and medium-term credit lines and a lowrisk debt portfolio - low cost, high interest coverage and long maturity.

As of December 31, 2008, our total debt was US\$ 18.245 billion, with an average maturity of 9.28 years and an average cost of $5.8 \%$ per year. Debt amortization in 2009 will be only US $\$ 322$ million.

Our net debt ${ }^{(\mathrm{c})}$ at the end of 2008 was US\$ 5.606 billion, compared with US\$ 3.928 billion at September 30, 2008 and US\$ 17.984 billion at the end of 2007.

As of December 31, 2008, our cash holdings amounted to US\$ 12.639 billion, including US\$ 2.308 billion in investment in fixed income securities with maturities ranging from 91 to 360 days.

Dividend distribution in 2008 reached US\$ 2.850 billion, a $52.0 \%$ increase over the US\$ 1.875 billion paid to shareholders in the previous year. US\$ 1.600 billion was paid in 4Q08 in addition to the US\$ 1.250 billion paid in 2Q08.

Investment totaled US\$ 10.2 billion in 2008, of which US\$ 3.4 billion was spent in 4Q08.

During 2008 we signed agreements with official credit institutions from Brazil, Japan and Korea for long-term financing of our projects. In 4 Q 08 we have withdrawn R\$ 500 million - equivalent to US\$ 211 million - from the Brazil's BNDES credit line, of R\$ 7.3 billion, to finance our projects.

On October 16, 2008, we announced a 360-day share buy-back program. During 4Q08, we repurchased $18,355,859$ common shares - at an average price of US\$ 12.34 per share - and $46,513,400$ preferred shares - at an average price of US\$ 11.30 per share. Total spending was US\$ 752 million.

In 2008, we used US\$ 163 million from our cash holdings to buy back Vale bonds of several maturities. In 4Q08, spending with the bond repurchase was US\$ 99 million.

On February 19, 2009, Vale's Board of Directors ratified the Executive Board proposal about the sale of its $14,869,368$ common shares issued by Usiminas for R\$ 40.00 per share.

Debt leverage, as measured by total debt/adjusted EBITDA ${ }^{(d)}$ ratio went down to 1.0x on December 31, 2008, against 1.1x on December 31, 2007.

The total debt/enterprise value ${ }^{(\mathrm{e})}$ ratio was $27.1 \%$ on December 31, 2008, against $18.5 \%$ on September 30, 2008 and $11.2 \%$ on December 31, 2007. The fall in share price determined the rise in this ratio.

Interest coverage, measured by the adjusted EBITDA/interest payment ${ }^{(f)}$ ratio, increased to 15.0 x from 11.8 x on December 31, 2007, being another indicator of our financial strength.

Considering hedge positions, $41 \%$ of our total debt at December 31, 2008 was linked to floating interest rates and $59 \%$ to fixed interest rates, while $97 \%$ was denominated in US dollars and the remainder in other currencies.

| Table 7 - DEBT INDICATORS |  |  |  |
| :--- | ---: | ---: | ---: |
| in USS million | 4Q07 | $\mathbf{3 Q 0 8}$ | 4008 |
| Total debt | 19,030 | 19,188 | 18,245 |
| Net debt | 17,984 | 3,928 | 5,606 |
| Total debt / adjusted LTM EBITDA (x) | 1.1 | 1.0 | 1.0 |
| Adjusted LTM EBITDA / LTM interest payment (x) | 11.79 | 15.03 | 15.02 |
| Total debt / EV (\%) | $11.21 \%$ | $18.52 \%$ | $27.06 \%$ |

Enterprise Value $(E V)=$ market capitalization + net debt

## ४ PERFORMANCE OF THE BUSINESS SEGMENTS

## Ferrous minerals

Our iron ore and pellets sales reached 296.241 million metric tons in 2008, a similar level to what was achieved in 2007, 296.357 million metric tons. Sales volume of iron ore amounted to 264.023 million metric tons, the highest in Vale's history, against 262.687 million in the previous year. Shipment of pellets totaled 32.218 million metric tons, against 33.670 million in 2007.

Revenues from the sale of iron ore amounted to US\$ 17.775 billion, with a $49.3 \%$ increase over 2007, as a consequence of higher prices. The average sales price of iron ore in 2008, US $\$ 67.32$ per metric ton, was $48.5 \%$ up on 2007. The retroactive adjustment in prices accrued in 3Q08 produced some volatility in realized prices, with average prices accounted for 4 Q 08 being $7.8 \%$ lower than in the previous quarter.

Revenues with pellet sales totaled US\$ 4.245 billion, $60.3 \%$ higher than the previous year. Despite a slightly lower sales volume, average sales prices increased by $67.6 \%$, to US $\$ 131.76$ per metric ton from US\$ 78.62, determining the rise in revenues.

Given the unprecedented demand contraction resulting from a substantial cutback in global steel production - it decreased $19.5 \%$ in 4Q08 vis-à-vis 3 Q 08 - volumes of our iron ore and pellets shipments were 54.896 million metric tons, falling $36.1 \%$ in 4Q08 vs. 3Q08. Iron ore volumes reached 47.846 million metric tons and pellets, 7.050 million, $37.9 \%$ and $20.9 \%$, respectively, lower than the previous quarter.

As a consequence of the weak demand, Vale has reduced iron ore production, shutting down mines with higher-cost and lower-quality output within our operational universe. Currently, seven of our eight pellet plants (four whollyowned and four operated under lease agreements) and three of the four plants of our JVs, are temporarily shutdown.

Due to a significant reduction in shipments to China in 4Q08, to 11.699 million metric tons from 26.867 million in 3Q08, its share in total sales volume decreased temporarily to $21.3 \%$. For the year, China accounted for $28.7 \%$ of the shipments. Asia was responsible for $47.8 \%$ of total sales in 2008, Europe for $24.4 \%$, the Americas for $23.1 \%$ and remaining $4.7 \%$ was spread through the Middle East, Africa and Australasia.

In 2008, revenues generated from sales of manganese ore and ferroalloys reached a record figure of US\$ 1.339 billion, increasing $87.0 \%$ against 2007. This significant rise is explained by higher prices, reflecting the strong market tightness prevailing during most of 2008.

The average sales price for manganese ore was US\$ 350.46 per metric ton, more than tripling relatively to the US $\$ 107.34$ in 2007. For ferroalloys, the average sale price in 2008 was US\$ 2,709.60 per metric ton, increasing $106.6 \%$ in relation to the average price of 2007, at US $\$ 1,311.48$.

Shipments of manganese ore reached 759,000 metric tons in 2008, $7.2 \%$ above 2007. On the other hand, sales volumes of ferroalloys in 2008, at 396,000 metric tons, were below the previous year, at 488,000 metric tons, due to the shutdown of some of our ferroalloy plants.

In 4Q08, manganese ore revenues amounted to US\$ 24 million, with 61,000 metric tons in sales volume - against 251,000 in 3Q08 - and average sales price of US\$ 393.44 per metric ton, $17.0 \%$ less than the previous quarter, as a consequence of the demand weakening. In the same period, ferroalloys revenues totaled US\$ 138 million, with 53,000 metric tons in shipments $-44.2 \%$ lower than the value registered in 3Q08 - and average sales price of US\$ 2,603.77 per metric ton, compared with US\$ $3,473.68$ in the previous quarter.

Gross revenues from ferrous minerals - iron ore, pellets, manganese, ferroalloys and pig iron - were US\$ 23.699 billion in 2008 and US\$ 4.764 billion in 4Q08.

The adjusted EBIT margin for the ferrous minerals business was $54.1 \%$ in 2008, 620 basis points higher than the $47.9 \%$ registered in 2007. In 4Q08, adjusted EBIT margin was $51.0 \%$, showing a decline compared to the $58.4 \%$ for 3 Q 08 .

Adjusted EBITDA for ferrous minerals operations totaled US\$ 13.887 billion in 2008, $67.2 \%$ more than 2007 and a new annual record. In 4Q08 adjusted EBITDA reached US\$ 2.524 billion.

The decline of US\$ 2.570 billion in 4Q08 relatively to 3 Q 08 was driven by the volumes (US\$ 2.199 billion) and prices (US\$ 285 million), partially cushioned by the favorable impact on costs produced by the US dollar appreciation (US\$ 525 million).

| '000 metric tons | 4Q07 | 3008 | 4Q08 | 2007 | \% | 2008 | \% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Americas | 19,307 | 19,575 | 10,146 | 73,130 | 24.7 | 68,499 | 23.1 |
| Brazil | 14,851 | 15,660 | 8,356 | 58,647 | 19.8 | 56,205 | 19.0 |
| Steel mills and pig iron producers | 10,103 | 13,256 | 8,356 | 38,100 | 12.9 | 45,585 | 15.4 |
| JVs pellets | 4,748 | 2,404 | 0 | 20,547 | 6.9 | 10,620 | 3.6 |
| USA | 927 | 1,079 | 291 | 3,655 | 1.2 | 2,571 | 0.9 |
| Others | 3,529 | 2,836 | 1,499 | 10,828 | 3.7 | 9,723 | 3.3 |
| Asia | 37,035 | 41,259 | 28,096 | 141,568 | 47.8 | 141,735 | 47.8 |
| China | 24,474 | 26,867 | 11,699 | 94,521 | 31.9 | 85,164 | 28.7 |
| Japan | 6,770 | 8,250 | 10,028 | 27,459 | 9.3 | 34,145 | 11.5 |
| South Korea | 3,255 | 3,041 | 4,048 | 10,440 | 3.5 | 12,584 | 4.2 |
| Others | 2,536 | 3,101 | 2,321 | 9,148 | 3.1 | 9,842 | 3.3 |
| Europe | 19,177 | 21,439 | 12,756 | 72,996 | 24.6 | 72,207 | 24.4 |
| Germany | 5,524 | 6,946 | 5,088 | 22,781 | 7.7 | 23,370 | 7.9 |
| France | 3,052 | 3,316 | 1,198 | 11,038 | 3.7 | 9,157 | 3.1 |
| Belgium | 1,588 | 2,373 | 1,290 | 6,381 | 2.2 | 7,936 | 2.7 |
| Italy | 2,963 | 1,336 | 2,256 | 9,320 | 3.1 | 8,340 | 2.8 |
| Others | 6,050 | 7,468 | 2,924 | 23,476 | 7.9 | 23,404 | 7.9 |
| Rest of the World | 2,696 | 3,642 | 3,898 | 8,663 | 2.9 | 13,800 | 4.7 |
| Total | 78,215 | 85,915 | 54,896 | 296,357 | 100.0 | 296,241 | 100.0 |

Table 9 - GROSS REVENUE BY PRODUCT

| Table 9 - GROSS REVENUE BY PRODUCT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4Q07 | 3008 | 4Q08 | 2007 | 2008 |
| Iron ore | 3,349 | 6,175 | 3,537 | 11,907 | 17,775 |
| Pellet plant operation services | 31 | 13 | 4 | 91 | 56 |
| Pellets | 695 | 1,399 | 1,024 | 2,648 | 4,245 |
| Manganese ore | 36 | 119 | 24 | 77 | 266 |
| Ferroalloys | 243 | 330 | 138 | 639 | 1,073 |
| Others | 57 | 94 | 37 | 153 | 284 |
| Total | 4,411 | 8,130 | 4,764 | 15,515 | 23,699 |


| Table 10 - AVERAGE SALE PRICE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$/metric ton | 4007 | 3008 | 4008 | 2007 | 2008 |
| Iron ore | 48.00 | 80.19 | 73.92 | 45.33 | 67.32 |
| Pellets | 82.28 | 157.00 | 145.25 | 78.62 | 131.76 |
| Manganese ore | 140.63 | 474.10 | 393.44 | 107.34 | 350.46 |
| Ferroalloys | 1,928.57 | 3,473.68 | 2,603.77 | 1,311.48 | 2,709.60 |
| Table 11 - VOLUMES SOLD |  |  |  |  |  |
| in '000 metric tons | 4Q07 | 3008 | 4Q08 | 2007 | 2008 |
| Iron ore | 69,768 | 77,004 | 47,846 | 262,687 | 264,023 |
| Pellets | 8,447 | 8,911 | 7,050 | 33,670 | 32,218 |
| Manganese ore | 256 | 251 | 61 | 708 | 759 |
| Ferroalloys | 126 | 95 | 53 | 488 | 396 |
| Table 12 - SELECTED FINANCIAL INDICATORS |  |  |  |  |  |
|  | 4Q07 | 3008 | 4Q08 | 2007 | 2008 |
| Adjusted EBIT margin (\%) | 42.7\% | 58.4\% | 51.0\% | 47.9\% | 54.1\% |
| Adjusted EBITDA (US\$ million) | 2,171 | 5,094 | 2,524 | 8,304 | 13,887 |

## Non-ferrous minerals

Given the downward trend in nickel prices since 3Q07, non-ferrous minerals nickel, copper, bauxite, alumina, aluminum, kaolin, potash, platinum group metals, precious metals and cobalt - have been losing their share in Vale's revenues and cash flow generation. Revenues came to US\$ 12.268 billion in 2008, a decrease of $22.0 \%$ over the previous year, in spite of record shipments of nickel, alumina, copper and cobalt.

In 4Q08 revenues were US\$ 2.068 billion, compared with US\$ 3.245 billion in 3Q08 and US\$ 3.498 billion in 4Q07.

Nickel sales in 2008 were US\$ 5.970 billion, $40.6 \%$ less than in 2007, mostly due to a $42.1 \%$ drop in the average nickel sales price. In 2008, we shipped 275,596 metric tons, compared to 268,240 in 2007.

71,000 metric tons of finished nickel were shipped in 4Q08, against 69,000 in 3Q08. Revenues amounted to US\$ 851 million, decreasing by $37.3 \%$ relatively to 3Q08, due to the fall in average sales prices to US\$ 11,927 per metric ton from US\$ 19,691 in 3Q08.

Revenues from sales of bauxite, alumina and aluminum were US\$ 3.042 billion, against US\$ 2.722 billion in 2007. The increase was determined by higher volumes ( $80 \%$ ) - mainly due to expansion of the Barcarena alumina refinery - and average prices (20\%).

The average sale price of aluminum was US\$ $2,805.86$ per metric ton in 2008 against US $\$ 2,784.70$ in 2007, while the price of alumina, which is mostly indexed to the metal price, increased to US\$ 348.42 per metric ton from US\$ 338.76 in 2007.

Shipments of aluminum totaled 546,000 metric tons, compared with 562,000 in 2007. Sales of alumina amounted to 4.219 million metric tons, a record level helped by the expansion of the alumina refinery (Alunorte $6 \& 7$ stages).

In 4Q08, Vale sold 134,000 metric tons (vs. 150,000 in 3 Q 08 ) of aluminum and 1.362 million metric tons (vs. 1.163 million in 3Q08) of alumina.

The average sales price of aluminum was US\$ $2,470.15$ per metric ton in 4 Q 08 , against the average LME price of US\$ $1,830.31$ in the same period. This is
concentration of our sales in September, when market prices were higher than the LME average price of US\$ 2,166.55 in the three-month period ended in November.

Sales of copper amounted to US\$ 2.029 billion, compared with US\$ 1.986 billion in 2007. Copper shipments during the year reached 320,000 metric tons, $6.7 \%$ greater than the volume shipped in 2007. In 4Q08, we sold 89,000 metric tons, down $5.8 \%$ versus 3Q08.

The average copper sale price for 2008 was US\$ 6,331 per metric ton, below the average for 2007 , at US $\$ 6,611$ per metric ton. In $4 Q 08$, the average price dropped substantially to US\$ 3,041 per metric ton versus US\$ 6,635 in 3 Q 08 , thus reflecting the fast and sharp drop in LME prices.

PGMs produced revenues of US\$ 401 million, influenced by the higher average platinum price, US\$ 1,557 per troy ounce, $18.5 \%$ above the 2007 level.

In 4Q08, PGMs revenues, US\$ 39 million, declined $67.3 \%$ from 3Q08 figures, mostly driven by the accentuated fall in prices.

Potash revenues increased significantly in 2008, rising to US\$ 295 million, showing a $65.7 \%$ increase over the previous year.

The performance of potash revenues was determined by the rising prices caused by a situation of excess demand. The average sale price increased to US\$ 591.18 in 2008 from US\$ 264.09 in 2007. On the other hand, volumes decreased to 499,000 metric tons from 674,000 metric tons in the previous year, heavily influenced by the slowdown in the last quarter of the year.

In 4 Q 08 , there was a substantial decline in the quantity of potash sales, down to 34,000 from 126,000 metric tons in 3 Q 08 . This was explained by the weak performance of the Brazilian agricultural sector along with the large inventories accumulated by farmers in the expectation of higher fertilizer prices.

The price of potash dropped by $17.2 \%$ against 3 Q 08 , reaching US\$ 676 per metric ton.

Sales volumes of cobalt reached an all-time high in 2008, with 3,087 metric tons against 2,494 metric tons in 2007. Revenues had a very good performance, amounting to US\$ 211 million and increasing 56.3\%.

Cobalt revenues totaled US\$ 37 million in 4Q08 compared with US\$ 56 million in 3Q08. Despite the slight increase in sales volume, the $35.8 \%$ drop in sales prices contributed to lower revenues in the quarter.

Shipments of kaolin generated revenues of US\$ 209 million, below the US\$ 238 million level of 2007, influenced by the weaker demand for paper coating.

In 4 Q 08 , kaolin revenues amounted to US\$ 44 million. The US\$ 13 million quarter-on-quarter decline was due to lower sales volume (69\%) and lower average prices (31\%).

The adjusted EBIT margin for non-ferrous minerals was $23.1 \%$ in 2008.
In 4Q08, the several charges against the nickel business in the presence of lower prices resulted in a negative operational margin, minus $23.5 \%$. Although there was an influence of one-off effects on costs, we are still working to cut costs and to make some structural changes, rationalizing the product line, shortening the production cycle, and improving inventory management.

The decline of US\$ 1.106 billion relative to 3 Q 08 was a result of lower sales prices (US\$ 1.110 billion), partially offset by positive effect of exchange rate variation (US\$ 291 million).

Table 13-GROSS REVENUE BY PRODUCT

| Table 13 - GROSS REVENUE BY PRODUCT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4007 | 3 Q 08 | 4008 | 2007 | 2008 |
| Nickel | 2,018 | 1,358 | 851 | 10,043 | 5,970 |
| Copper | 537 | 630 | 272 | 1,986 | 2,029 |
| Kaolin | 74 | 57 | 45 | 238 | 209 |
| Potash | 58 | 103 | 23 | 178 | 295 |
| PGMs | 81 | 120 | 39 | 342 | 401 |
| Precious metals | 20 | 32 | 22 | 85 | 111 |
| Cobalt | 39 | 56 | 37 | 135 | 211 |
| Aluminum | 350 | 456 | 332 | 1,571 | 1,545 |
| Alumina | 309 | 425 | 438 | 1,102 | 1,470 |
| Bauxite | 13 | 8 | 9 | 49 | 27 |
| Total | 3,498 | 3,245 | 2,068 | 15,728 | 12,268 |
| Table 14 - AVERAGE SALE PRICE |  |  |  |  |  |
| in US\$/metric ton | 4Q07 | 3008 | 4008 | 2007 | 2008 |
| Nickel | 29,745.48 | 19,691.15 | 11,926.62 | 37,442.28 | 21,662.14 |
| Copper | 6,004.29 | 6,635.14 | 3,041.35 | 6,611.27 | 6,331.07 |
| Kaolin | 212.03 | 198.61 | 185.95 | 195.88 | 194.06 |
| Potash | 333.33 | 817.46 | 676.47 | 264.09 | 591.18 |
| Platinum (US\$/oz) | 1,440.46 | 1,498.02 | 865.27 | 1,314.25 | 1,557.07 |
| Cobalt (US\$/lb) | 25.79 | 30.64 | 19.68 | 24.56 | 31.01 |
| Aluminum | 2,585.19 | 2,973.33 | 2,470.15 | 2,784.70 | 2,805.86 |
| Alumina | 322.21 | 365.43 | 321.59 | 338.76 | 348.42 |
| Bauxite | 38.12 | 44.20 | 41.67 | 36.08 | 41.47 |
| Table 15 - VOLUMES SOLD |  |  |  |  |  |
| in '000 metric tons | 4Q07 | 3 Q 08 | 4Q08 | 2007 | 2008 |
| Nickel | 68 | 69 | 71 | 268 | 276 |
| Copper | 89 | 95 | 89 | 300 | 320 |
| Kaolin | 349 | 287 | 242 | 1,215 | 1,077 |
| Potash | 174 | 126 | 34 | 674 | 499 |
| Precious metals (oz) | 548 | 673 | 597 | 2,283 | 2,394 |
| PGMs (oz) | 72 | 114 | 109 | 345 | 411 |
| Cobalt (metric ton) | 686 | 829 | 853 | 2,494 | 3,087 |
| Aluminum | 135 | 150 | 134 | 562 | 546 |
| Alumina | 959 | 1,163 | 1,362 | 3,253 | 4,219 |
| Bauxite | 341 | 181 | 216 | 1,358 | 651 |
| Table 16 - SELECTED FINANCIAL INDICATORS |  |  |  |  |  |
|  | 4Q07 | 3 Q 08 | 4008 | 2007 | 2008 |
| Adjusted EBIT margin (\%) | 26.2\% | 24.4\% | -23.5\% | 37.6\% | 23.1\% |
| Adjusted EBITDA (US\$ million) | 1,447 | 1,342 | 236 | 7,538 | 5,322 |

Coal
2008 was the first full year of operations of our coal business. Revenues reached US\$ 577 million in 2008, of which US\$ 457 million from sales of metallurgical coal (semi-hard, semi-soft and PCI) and US\$ 120 million from thermal coal.

Coal shipments reached 4.087 million metric tons, comprised of 2.682 million metric tons of metallurgical coal and 1.405 million metric tons of thermal coal.

The average sale price of metallurgical coal in 2008 was US\$ 170.55 per metric ton, increasing by $153.2 \%$ in relation to 2007 . The average sale price of thermal coal was US\$ 85.38 per metric ton, $58.9 \%$ higher than in the previous year.

In 4 Q 08 , revenues from metallurgical coal and thermal coal came, respectively, to US\$ 161 million and US\$ 38 million. We sold 1.031 million metric tons $-629,000$ metric tons of metallurgical coal and 402,000 metric tons of thermal coal - slightly lower than 3Q08 figures.

Given the nature of our contracts, prices in 4Q08 did not reflect yet the sharp drop in spot market prices, with average sale prices staying at US\$ 256.25 per metric ton for metallurgical coal and US\$ 93.32 per metric ton for thermal coal.

| Table 17 - GROSS REVENUE BY PRODUCT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4Q07 | 3008 | 4008 | 2007 | 2008 |
| Thermal coal | 6 | 41 | 38 | 32 | 120 |
| Metallurgical coal | 41 | 162 | 161 | 128 | 457 |
| Total | 47 | 203 | 199 | 160 | 577 |
| Table 18 - AVERAGE SALE PRICE |  |  |  |  |  |
| in US\$/metric ton | 4Q07 | 3Q08 | 4Q08 | 2007 | 2008 |
| Thermal coal | 57.39 | 91.51 | 93.32 | 53.73 | 85.38 |
| Metallurgical coal | 69.02 | 235.17 | 256.25 | 67.37 | 170.55 |
| Table 19 - VOLUMES SOLD |  |  |  |  |  |
| in '000 metric tons | 4Q07 | 3008 | 4008 | 2007 | 2008 |
| Thermal coal | 115 | 451 | 402 | 603 | 1,405 |
| Metallurgical coal | 797 | 689 | 629 | 1,894 | 2,682 |

## Logistics services

Logistics services generated revenues of US\$ 1.607 billion in 2008, a $5.3 \%$ increase over the US\$ 1.526 billion in 2007. Higher average prices caused by the increase in fuel costs and changes in the mix of cargo more than offset the slight reduction in the volume of freight cargo.

Rail transportation of general cargo produced revenues of US\$ 1.303 billion, port services, US\$ 255 million, and coastal shipping and port support services US\$ 49 million.

Vale railroads - Carajás (EFC), Vitória a Minas (EFVM), Norte-Sul (FNS) and Centro-Atlântica (FCA) - transported 25.966 billion ntk of general cargo for clients in 2008, decreasing $5.6 \%$ compared to 2007 levels, and 5.883 billion in 4Q08, against 6.461 billion in the same quarter of the previous year.

Our ports and maritime terminals handled 26.176 million metric tons of general cargo, against 28.443 million metric tons in 2007.

The decline in the volumes of general cargo is explained by the reduction in transportation of agricultural products, mainly grains, as a consequence of weaker Brazilian exports during 2008. In addition, the reduction of Brazilian steel output and pig iron exports in 4Q08 contributed also to reduce our level of activity in the logistics business.

The main cargoes carried by our railroads in 2008 were steel industry inputs and products ( $46.8 \%$ ), agricultural products ( $40.1 \%$ ), fuels ( $5.3 \%$ ), building materials and forestry products ( $3.3 \%$ ), and others ( $4.5 \%$ ).

Due to the crop season in Brazil, 4 Q 08 is a seasonally weak quarter in the demand for general cargo freight. Thus, revenues fell to US\$ 310 million from US\$ 472 million in 3 Q 08 , in a result that was also affected by the drop in transportation of steel products.

In 2008, adjusted EBIT margin was $21.1 \%$ against $24.0 \%$ for 2007. In 4Q08 adjusted EBIT margin was $15.8 \%$, compared to $16.2 \%$ in the same quarter of the previous year.

Adjusted EBITDA reached US\$ 631 million in 2008, in line with the 2007 value of US\$ 649 million. Higher average sales prices (US\$ 190 million) - caused by the increase in fuel costs and better mix of cargo - were more than offset by lower transported volume (US\$ 75 million), higher input prices (US\$ 55 million) and the negative effect of average variation of Brazilian real/US dollar exchange rate in the year (US\$ 43 million).

| Table 20 - GROSS REVENUE BY PRODUCT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4Q07 | 3008 | 4Q08 | 2007 | 2008 |
| Railroads | 321 | 386 | 240 | 1,220 | 1,303 |
| Ports | 58 | 73 | 60 | 237 | 255 |
| Shipping | 10 | 13 | 10 | 68 | 49 |
| Total | 389 | 472 | 310 | 1,526 | 1,607 |
| Table 21 - LOGISTICS SERVICES |  |  |  |  |  |
|  | 4Q07 | 3008 | 4Q08 | 2007 | 2008 |
| Railroads (million ntk) | 6,461 | 7,138 | 5,883 | 27,500 | 25,966 |
| Table 22 - SELECTED FINANCIAL INDICATORS |  |  |  |  |  |
|  | 4Q07 | 3 Q 08 | 4Q08 | 2007 | 2008 |
| Adjusted EBIT margin (\%) | 16.2\% | 22.3\% | 15.8\% | 24.0\% | 21.1\% |
| Adjusted EBITDA (US\$ million) | 159 | 177 | 92 | 649 | 631 |

## $\checkmark$ FINANCIAL INDICATORS OF NON-CONSOLIDATED COMPANIES

For selected financial indicators of the main companies not consolidated, see our quarterly financial statements on www.vale.com/ Investors/ Financial Performance / SEC Reports.

## ४ CONFERENCE CALL AND WEBCAST

Vale will hold a conference call and webcast on February 20, at 11:00 am Rio de Janeiro time, 9:00 am US Eastern Standard Time, 2:00 pm UK time and 3:00 pm Paris time. To connect the webcast, please dial:

Participants from Brazil: (55 11) 4688-6301
Participants from USA: (1-800) 860-2442
Participants from other countries: (1-412) 858-4600
Access code: VALE

Instructions for participation will be available on the website www.vale.com/ Investor. A recording will be available on Vale's website for 90 days from February 20.

## ४ IMPAIRMENT TEST

According to US Financial Accounting Standards Board (FASB) statements, FAS 141 (Business combinations) and 142 (Goodwill and other intangible assets), at the time of acquisition all the incorporated firm's assets should be revalued to reflect present market conditions. After the revaluation of all assets and liabilities at market prices on the acquisition date, the excess acquisition value compared to market value adjusted net assets is booked at a goodwill account.

Under generally accepted accounting principles, all long-lived assets, including acquired assets and their associated goodwill, are tested to determine if they are still recoverable 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 manner in which we use the acquired assets or our overall business strategy; or
- significant negative industry or economic trends.

Moreover, we are required to test goodwill for impairment at least annually and whenever circumstances indicating that recognized goodwill may not be fully recovered are identified. As matter of fact, Vale performs a regular annual impairment review of goodwill.

The main purpose of the impairment test is the accounting adjustment of a company's balance sheet to better reflect current market conditions.

The impairment test is done in two steps:
(1) In the first step, we compare a business unit's fair value with its carrying amount - accounting asset values, including goodwill - to identify any potential goodwill impairment loss. Fair value is calculated using discount cash flow valuation model. If the carrying amount of a business unit exceeds its fair value, we must carry out the second step of the impairment test to measure the amount, if any, of the business unit's goodwill impairment loss.
(2) In the second step, we calculate the goodwill value as if the business unit had being tested was acquired at the fair value obtained in the first step. We should compare the accounting goodwill value with the new estimated goodwill. If the last one is lower than the first, the difference is recognized in the result as impairment and the accounting goodwill value is substituted for the lower one.

In 4 Q 08 , we performed the annual impairment test of our nickel business units and we obtained a fair value lower than the accounting carrying amount. Thus, we had to pursue the second step of the test.

In the second step, the revised goodwill for nickel business units were US\$ 1.335 billion, against the accounting goodwill of US\$ 2.285 billion. As a consequence, the US\$ 950 million difference was recognized in the nickel operational result as an impairment charge and its balance sheet was adjusted to reflect the new accounting goodwill of US\$ 1.335 billion.

Therefore, as a result of our regular annual impairment test we had an impairment non-cash charge of US\$ 950 million recognized in 4Q08, reducing our operating income and, consequently, our net income by the same amount, since the impairment charge has no impact in our income taxes. It has no effect in our cash flow, being only a one-off non-cash item.

The counter effect in our balance sheet is the reduction of goodwill account value by the same amount.

## $\checkmark$ ANNEX 1 - FINANCIAL STATEMENTS

| Table 23 - INCOME STATEMENTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4Q07 | 3008 | 4Q08 | 2007 | 2008 |
| Gross operating revenues | 8,412 | 12,122 | 7,442 | 33,115 | 38,509 |
| Taxes | (249) | (383) | (187) | (873) | $(1,083)$ |
| Net operating revenue | 8,163 | 11,739 | 7,255 | 32,242 | 37,426 |
| Cost of goods sold | $(4,504)$ | $(5,116)$ | $(3,520)$ | $(16,463)$ | $(17,641)$ |
| Gross profit | 3,659 | 6,623 | 3,735 | 15,779 | 19,785 |
| Gross margin (\%) | 44.8 | 56.4 | 51.5 | 48.9 | 52.9 |
| Selling, general and administrative expenses | (424) | (374) | (708) | $(1,245)$ | $(1,748)$ |
| Research and development expenses | (262) | (331) | (295) | (733) | $(1,085)$ |
| Others | (290) | (383) | (719) | (607) | $(1,254)$ |
| Impairment | - | - | (950) | - | (950) |
| Operating profit | 2,683 | 5,535 | 1,063 | 13,194 | 14,748 |
| Financial revenues | 58 | 277 | 247 | 295 | 602 |
| Financial expenses | (554) | (457) | (399) | $(2,517)$ | $(1,765)$ |
| Gains (losses) on derivatives, net | 316 | (587) | (586) | 931 | (812) |
| Monetary variation | 315 | (321) | (241) | 2,553 | 364 |
| Gains on sale of affiliates | - | - | - | 777 | 80 |
| Tax and social contribution (Current) | (610) | (477) | 966 | $(3,901)$ | $(1,338)$ |
| Tax and social contribution (Deferred) | 394 | 621 | 219 | 700 | 803 |
| Equity income and provision for losses | 136 | 290 | 125 | 595 | 794 |
| Minority shareholding participation | (165) | (60) | (27) | (802) | (258) |
| Net earnings | 2,573 | 4,821 | 1,367 | 11,825 | 13,218 |
| Earnings per share (US\$) | 0.53 | 0.96 | 0.26 | 2.45 | 2.66 |


| Table 24 - FINANCIAL RESULT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| in US\$ million | 4007 | 3008 | 4Q08 | 2007 | 2008 |
| Gross interest | (313) | (293) | (334) | $(1,348)$ | $(1,194)$ |
| Debt with third parties | (312) | (290) | (334) | $(1,344)$ | $(1,188)$ |
| Debt with related parties | (1) | (3) | - | (4) | (6) |
| Tax and labour contingencies | (39) | (23) | (23) | (98) | (99) |
| Tax on financial transactions (CPMF) | (27) | - | - | (132) | - |
| Others | (175) | (141) | (42) | (939) | (472) |
| Financial expenses | (554) | (457) | (399) | $(2,517)$ | $(1,765)$ |
| Financial income | 58 | 277 | 247 | 295 | 602 |
| Derivatives | 327 | (587) | (586) | 931 | (812) |
| Foreign exchange and monetary gain (losses), net | 304 | (321) | (241) | 2,553 | 364 |
| Financial result, net | 135 | $(1,088)$ | (979) | 1,262 | $(1,611)$ |

Table 25 - EQUITY INCOME BY BUSINESS SEGMENT

| in US\$ million | 4Q07 | 3008 | 4Q08 | 2007 | \% | 2008 | \% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ferrous minerals | 63 | 175 | 80 | 301 | 50,6 | 543 | 68,4 |
| Non-ferrous minerals | 21 | 18 | (12) | 84 | 14,1 | 28 | 3,5 |
| Logistics | 40 | 47 | 93 | 125 | 21,0 | 133 | 16,8 |
| Coal | 14 | 28 | (2) | 46 | 7,7 | 62 | 7,8 |
| Steel | (7) | 26 | (35) | 30 | 5,0 | 29 | 3,7 |
| Others | 5 | (4) | 1 | 9 | 1,5 | (1) | $(0,1)$ |
| Total | 136 | 290 | 125 | 595 | 100,0 | 794 | 100,0 |


| Table 26 - BALANCE SHEET |  |  |  |
| :---: | :---: | :---: | :---: |
| in US\$ million | 12/31/07 | 09/30/08 | 12/31/08 |
| Assets |  |  |  |
| Current | 11,380 | 28,008 | 23,238 |
| Long-term | 7,790 | 6,982 | 4,956 |
| Fixed | 57,547 | 57,135 | 51,737 |
| Total | 76,717 | 92,125 | 79,931 |
| Liabilities |  |  |  |
| Current | 10,083 | 7,737 | 7,237 |
| Long term | 33,358 | 33,170 | 30,138 |
| Shareholders' equity | 33,276 | 51,218 | 42,556 |
| Paid-up capital | 12,804 | 24,993 | 24,241 |
| Mandatory convertible notes | 1,869 | 1,869 | 1,869 |
| Reserves | 18,603 | 24,356 | 16,446 |
| Total | 76,717 | 92,125 | 79,931 |


| Table 27 - CASH FLOW | in US\$ million |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4007 | 3008 | 4008 | 2007 | 2008 |
| Cash flows from operating activities: |  |  |  |  |  |
| Net income | 2,573 | 4,821 | 1,367 | 11,825 | 13,218 |
| Adjustments to reconcile net income with cash provided by operating activities: |  |  |  |  |  |
| Depreciation, depletion and amortization | 737 | 713 | 568 | 2,186 | 2,807 |
| Dividends received | 112 | 126 | 116 | 394 | 513 |
| Equity in results of affiliates and joint ventures and change in provision for losses on equity investments | (136) | (290) | (125) | (595) | (794) |
| Deferred income taxes | (394) | (621) | (219) | (700) | (803) |
| Impairment | - | - | 950 | - | 950 |
| Loss on sale of property, plant and equipment | 104 | 243 | 10 | 168 | 376 |
| Gain on sale of investment | - | - | - | (777) | (80) |
| Foreign exchange and monetary losses | (266) | 1,133 | 740 | $(2,827)$ | 451 |
| Net unrealized derivative losses | (326) | 587 | 586 | (917) | 812 |
| Minority interest | 165 | 60 | 27 | 802 | 258 |
| Net interest payable | (23) | 83 | (3) | 102 | 116 |
| Others | 46 | 1 | 17 | 115 | (3) |
| Decrease (increase) in assets: |  |  |  |  |  |
| Accounts receivable | 135 | $(1,481)$ | 1,615 | 235 | (466) |
| Inventories | (558) | (77) | (43) | (343) | (467) |
| Others | 80 | 5 | (171) | (292) | (242) |
| Increase (decrease) in liabilities: |  |  |  |  |  |
| Suppliers | 429 | 237 | 200 | 998 | 703 |
| Payroll and related charges | 106 | 97 | (25) | 170 | 1 |
| Income tax | (582) | (291) | 119 | 393 | (140) |
| Others | 260 | (14) | 564 | 75 | (96) |
| Net cash provided by operating activities | 2,462 | 5,332 | 6,293 | 11,012 | 17,114 |
| Cash flows from investing activities: |  |  |  |  |  |
| Short term investments | - | (634) | $(1,674)$ | - | $(2,308)$ |
| Loans and advances receivable | (33) | (25) | 39 | (22) | 6 |
| Guarantees and deposits | (50) | (26) | (71) | (125) | (133) |
| Additions to investments | (230) | (85) | (19) | (324) | (128) |
| Additions to property, plant and equipment | $(2,747)$ | $(1,553)$ | $(3,689)$ | $(6,651)$ | $(8,972)$ |
| Proceeds from disposals of investment | - | - | - | 1,042 | 134 |
| Net cash used to acquire subsidiaries | - | - | - | $(2,926)$ | - |
| Net cash used in investing activities | $(3,060)$ | $(2,323)$ | $(5,414)$ | $(9,006)$ | $(11,401)$ |
| Cash flows from financing activities: |  |  |  |  |  |
| Short-term debt, net issuances (repayments) | 144 | - | (124) | (557) | (235) |
| Loans | (38) | (16) | 33 | (14) | 34 |
| Long-term debt | 646 | 71 | 253 | 7,212 | 1,890 |
| Mandatorily convertibles | - | - | - | 1,869 | - |
| Repayment of long-term debt | (114) | (313) | (65) | $(11,130)$ | $(1,130)$ |
| Capital increase | - | 12,190 | - | - | 12,190 |
| Treasury stock | - | - | (752) | - | (752) |
| Interest attributed to shareholders | $(1,050)$ | - | $(1,600)$ | $(1,875)$ | $(2,850)$ |
| Dividends to minority interest | (429) | - | (56) | (714) | (143) |
| Net cash used in financing activities | (841) | 11,932 | $(2,311)$ | $(5,209)$ | 9,004 |
| Increase (decrease) in cash and cash equivalents | $(1,439)$ | 14,941 | $(1,432)$ | $(3,203)$ | 14,717 |
| Effect of exchange rate changes on cash and cash equivalents | (23) | $(2,469)$ | $(2,863)$ | (198) | $(5,432)$ |
| Cash and cash equivalents, beginning of period | 2,508 | 2,154 | 14,626 | 4,448 | 1,046 |
| Cash and cash equivalents, end of period | 1,046 | 14,626 | 10,331 | 1,046 | 10,331 |
| Cash paid during the period for: |  |  |  |  |  |
| Interest on short-term debt | (8) | (1) | - | (49) | (11) |
| Interest on long-term debt | (361) | (305) | (314) | $(1,289)$ | $(1,255)$ |
| Income tax | (732) | (726) | (149) | $(3,284)$ | $(2,867)$ |
| Non-cash transactions |  |  |  |  |  |
| Interest capitalized | (15) | (14) | (185) | (78) | (230) |

# Y ANNEX 2 - VOLUMES SOLD, PRICES, MARGINS AND CASH FLOWS 

Table 28 - VOLUMES SOLD: MINERALS AND METALS

| in '000 metric tons | 4007 | $\mathbf{3 Q 0 8}$ | $\mathbf{4 Q 0 8}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Iron ore | 69,768 | 77,004 | 47,846 | 262,687 | 264,023 |
| Pellets | 8,447 | 8,911 | 7,050 | 33,670 | 32,218 |
| Manganese ore | 256 | 251 | 61 | 708 | 759 |
| Ferroalloys | 126 | 95 | 53 | 488 | 396 |
| Nickel | 68 | 69 | 71 | 268 | 276 |
| Copper | 89 | 95 | 89 | 300 | 320 |
| Kaolin | 349 | 287 | 242 | 1,215 | 1,077 |
| Potash | 174 | 126 | 34 | 674 | 499 |
| Precious metals (oz) | 548 | 673 | 597 | 2,283 | 2,394 |
| PGMs (oz) | 72 | 114 | 109 | 345 | 411 |
| Cobalt (metric ton) | 686 | 829 | 853 | 2,494 | 3,087 |
| Aluminum | 135 | 150 | 134 | 562 | 546 |
| Alumina | 959 | 1,163 | 1,362 | 3,253 | 4,219 |
| Bauxite | 341 | 181 | 216 | 1,358 | 651 |
| Thermal coal | 115 | 451 | 402 | 603 | 1,405 |
| Metallurgical coal | 797 | 689 | 629 | 1,894 | 2,682 |
| Railroads (million ntk) | 6,461 | 7,138 | 5,883 | 27,500 | 25,966 |


|  | Table 29 - AVERAGE SALE PRICE |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| in US\$/metric ton | $\mathbf{4 Q 0 7}$ | $\mathbf{3 Q 0 8}$ | $\mathbf{4 0 0 8}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| Iron ore | 48.00 | 80.19 | 73.92 | 45.33 | 67.32 |
| Pellets | 82.28 | 157.00 | 145.25 | 78.62 | 131.76 |
| Manganese | 140.63 | 474.10 | 393.44 | 107.34 | 350.46 |
| Ferroalloys | $1,928.57$ | $3,473.68$ | $2,603.77$ | $1,311.48$ | $2,709.60$ |
| Nickel | $29,745.48$ | $19,691.15$ | $11,926.62$ | $37,442.28$ | $21,662.14$ |
| Copper | $6,004.29$ | $6,635.14$ | $3,041.35$ | $6,611.27$ | $6,331.07$ |
| Kaolin | 212.03 | 198.61 | 185.95 | 195.88 | 194.06 |
| Potash | 333.33 | 817.46 | 676.47 | 264.09 | 591.18 |
| Platinum (US\$/oz) | $1,440.46$ | $1,498.02$ | 865.27 | $1,314.25$ | $1,557.07$ |
| Cobalt (US\$/lb) | 25.79 | 30.64 | 19.68 | 24.56 | 31.01 |
| Aluminum | $2,585.19$ | $2,973.33$ | $2,470.15$ | $2,784.70$ | $2,805.86$ |
| Alumina | 322.21 | 365.43 | 321.59 | 338.76 | 348.42 |
| Bauxite | 38.12 | 44.20 | 41.67 | 36.08 | 41.47 |
| Thermal coal | 57.39 | 91.51 | 93.32 | 53.73 | 85.38 |
| Metallurgical coal | 69.02 | 235.17 | 256.25 | 67.37 | 170.55 |


| Table 30 - ADJUSTED EBIT MARGIN BY BUSINESS SEGMENT |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $\mathbf{4 Q 0 7}$ | $\mathbf{3 Q 0 8}$ | $\mathbf{4 Q 0 8}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |  |
| Ferrous minerals | $42.7 \%$ | $58.4 \%$ | $51.0 \%$ | $47.9 \%$ | $54.1 \%$ |  |
| Non-ferrous minerals | $26.2 \%$ | $24.4 \%$ | $-23.5 \%$ | $37.6 \%$ | $23.1 \%$ |  |
| Logistics | $16.2 \%$ | $22.3 \%$ | $15.8 \%$ | $24.0 \%$ | $21.1 \%$ |  |
| Total | $\mathbf{3 2 . 9 \%}$ | $\mathbf{4 7 . 2 \%}$ | $\mathbf{2 7 . 7 \%}$ | $\mathbf{4 0 . 9 \%}$ | $\mathbf{4 1 . 9 \%}$ |  |


|  | Table 31 - ADJUSTED EBITDA BY BUSINESS SEGMENT |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| in US\$ million | 4Q07 | $\mathbf{3 Q 0 8}$ | $\mathbf{4 0 0 8}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| Ferrous minerals | 2,171 | 5,094 | 2,524 | 8,304 | 13,887 |
| Non- ferrous minerals | 1,447 | 1,342 | 236 | 7,538 | 5,322 |
| Logistics | 159 | 177 | 92 | 649 | 631 |
| Others | $(245)$ | $(239)$ | $(155)$ | $(717)$ | $(822)$ |
| Total | $\mathbf{3 , 5 3 2}$ | $\mathbf{6 , 3 7 4}$ | $\mathbf{2 , 6 9 7}$ | $\mathbf{1 5 , 7 7 4}$ | $\mathbf{1 9 , 0 1 8}$ |

# $\checkmark$ ANNEX 3 - RECONCILIATION OF US GAAP and "NONGAAP" INFORMATION 

(a) Adjusted EBIT

| Table 32 - Adjusted EBIT |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | :---: | :---: |
| in US\& million | 4007 | $\mathbf{3 Q 0 8}$ | $\mathbf{4 Q 0 8}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |  |  |
| Net operating revenues | 8,163 | 11,739 | 7,255 | 32,242 | 37,426 |  |  |
| COGS | $(4,504)$ | $(5,116)$ | $(3,520)$ | $(16,463)$ | $(17,641)$ |  |  |
| SG\&A | $(424)$ | $(374)$ | $(708)$ | $(1,245)$ | $(1,748)$ |  |  |
| Research and development | $(262)$ | $(331)$ | $(295)$ | $(733)$ | $(1,085)$ |  |  |
| Other operational expenses | $(290)$ | $(383)$ | $(719)$ | $(607)$ | $(1,254)$ |  |  |
| Adjusted EBIT | $\mathbf{2 , 6 8 3}$ | $\mathbf{5 , 5 3 5}$ | $\mathbf{2 , 0 1 3}$ | $\mathbf{1 3 , 1 9 4}$ | $\mathbf{1 5 , 6 9 8}$ |  |  |

## (b) Adjusted EBITDA

EBITDA defines profit or loss before interest, tax, depreciation and amortization. Vale uses the term adjusted EBITD $\boldsymbol{A}$ to reflect exclusion, also, of: monetary variations; equity income from the profit or loss of affiliated companies and joint ventures, less the dividends received from them; provisions for losses on investments; adjustments for changes in accounting practices; minority interests; and non-recurrent expenses. However our adjusted EBITDA is not the measure defined as EBITDA under US GAAP, and may possibly not be comparable with indicators with the same name reported by other companies. Adjusted EBITDA should not be considered as a substitute for operational profit or as a better measure of liquidity than operational cash flow, which are calculated in accordance with GAAP. Vale provides its adjusted EBITDA to give additional information about its capacity to pay debt, carry out investments and cover working capital needs. The following table shows the reconciliation between adjusted EBITDA and operational cash flow, in accordance with its statement of changes in financial position:

Table 33 - Adjusted EBITDA

| RECONCILIATION BETWEEN ADJUSTED EBITDA AND OPERATIONAL CASH FLOW |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| REC Adjusted EBITDA |  |  |  |  |  |  |
| in US million | 4007 | $\mathbf{3 Q 0 8}$ | 4008 | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |  |
| Operational cash flow | 2,462 | 5,332 | 6,293 | 11,012 | 17,114 |  |
| Income tax | 610 | 477 | $(966)$ | 3,901 | 1,338 |  |
| FX and monetary losses | $(38)$ | $(812)$ | $(499)$ | 268 | $(815)$ |  |
| Financial expenses | 192 | 684 | 741 | 1,195 | 1,859 |  |
| Net working capital | 130 | 1,524 | $(2,259)$ | $(1,236)$ | 707 |  |
| Other | 176 | $(831)$ | $(613)$ | 634 | $(1,185)$ |  |
| Adjusted EBITDA | $\mathbf{3 , 5 3 2}$ | $\mathbf{6 , 3 7 4}$ | $\mathbf{2 , 6 9 7}$ | $\mathbf{1 5 , 7 7 4}$ | $\mathbf{1 9 , 0 1 8}$ |  |

(c) Net debt

Table 34 - Net debt
RECONCILIATION BETWEEN GROSS DEBT AND NET DEBT

| in US\$ million | $\mathbf{4 Q 0 7}$ | $\mathbf{3 Q 0 8}$ | $\mathbf{4 Q 0 8}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Total debt | 19,030 | 19,188 | 18,245 | 19,030 | 18,245 |
| Cash and cash equivalents | 1,046 | 15,260 | 12,639 | 1,046 | 12,639 |
| Net debt | 17,984 | 3,928 | 5,606 | 17,984 | 5,606 |

(d) Total debt / Adjusted LTM EBITDA

| Table 35 - Total debt / Adjusted LTM EBITDA |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| ( | 4007 | 3008 | 4008 | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ |  |
| Total debt / Adjusted LTM EBITDA (x) | 1.1 | 1.0 | 1.0 | 1.1 | 1.0 |  |
| Total debt / LTM operational cash flow (x) | 1.7 | 1.4 | 1.1 | 1.7 | 1.1 |  |

(e) Total debt / Enterprise value

| Table 36 - Total debt / Enterprise value |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4007 | 3008 | 4 Q 08 | 2007 | 2008 |
| Total debt / EV (\%) | 11.21 | 18.52 | 27.06 | 11.21 | 27.06 |
| Total debt / total assets (\%) | 24.81 | 20.83 | 22.91 | 24.81 | 22.91 |

Enterprise value $=$ Market capitalization + Net debt
(f) LTM EBITDA adjusted / LTM interest payments

|  | 4007 | 3008 | 4Q08 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Adjusted LTM EBITDA / LTM interest payments (x) | 11.79 | 15.03 | 15.02 | 11.79 | 15.02 |
| LTM operational profit / LTM interest payments (x) | 9.86 | 12.39 | 12.40 | 9.86 | 12.40 |

[^7]
[^0]:    Except where otherwise indicated the operational and financial information in this release is based on the consolidated figures in accordance with US GAAP and, with the exception of information on investments and behavior of markets, quarterly financial statements are reviewed by the company's independent auditors. The main subsidiaries that are consolidated are the following: Vale Inco, MBR, Cadam, PPSA, Alunorte, Albras, Valesul, Vale Manganês S.A., Vale Manganèse France, RDMN, Urucum Mineração, Ferrovia Centro-Atlântica (FCA), Vale Australia, Vale International and Vale Overseas.

[^1]:    ${ }^{1}$ In order to facilitate comparisons with the past and better evaluate Vale's performance, we shall, in this document, be using pro forma data for 2006, as if Inco Ltd, now Vale Inco Ltd, had been acquired from January $1^{\text {st }}$ 2006 - with the exception of information concerning debt.
    ${ }^{2}$ After non-cash exceptional charge of US $\$ 950$ million, resulting from the impairment of goodwill.
    ${ }^{3}$ Earnings per share on a fully diluted basis consider in addition to the number of shares in circulation the shares held in treasury underlying notes mandatorily convertible into ADRs.
    ${ }^{4}$ Return on equity.

[^2]:    ${ }^{5}$ Minimum dividend announced in January 2008 for 2008 was US $\$ 2.5$ billion.

[^3]:    ${ }^{6}$ COGS currency exposure in 2008 was made up as follows: $62 \%$ in Brazilian reais, $20 \%$ in Canadian dollars, $14 \%$ in US dollars, $2 \%$ in Indonesian rupiah and $2 \%$ in other currencies.

[^4]:    ${ }^{7}$ This is an accounting figure. In the press release issued in January 21, 2009 about investments made in 2008, we disclosed a figure of US\$ 302 million for research \& development, computed in accordance with financial disbursements in 4 Q 08 .

[^5]:    ${ }^{8}$ This amount reflects the inventory accounting adjustments, according to FAS 141 and 142, a non-cash accounting effect in 2007, related to Vale Inco acquisition.

[^6]:    ${ }^{9}$ For a full description of our risk management policy and the use of derivatives, please see the Box "Risk management", page 21, "Reaching new highs, performance of Vale in 3 Q 08 " press release, issued on October 23, 2008.

[^7]:    This press release may include declarations about Vale's expectations regarding future events or results. All declarations based upon future expectations, rather than historical facts, are subject to various risks and uncertainties. Vale cannot guarantee that such declarations will prove to be correct. These risks and uncertainties include factors related to the following: (a) the countries where Vale operates, mainly Brazil and Canada; (b) the global economy; (c) capital markets; (d) the mining and metals businesses and their dependence upon global industrial production, which is cyclical by nature; and (e) the high degree of global competition in the markets in which Vale operates. To obtain further information on factors that may give rise to results different from those forecast by Vale, please consult the reports filed with the Brazilian Comissão de Valores Mobiliários (CVM), the French Autorité des Marchés Financiers (AMF), and with the U.S. Securities and Exchange Commission (SEC), including Vale's most recent Annual Report on Form 20F and its reports on Form 6K.

