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Canadian Minerals Yearbook (CMY) - 2009

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INTRODUCTION

In 2009, Canada's mining and mineral processing industries rose from the depths of despair at the start of the year to a state of guarded optimism towards the end of the year. The prices of most minerals and metals remained relatively weak in the first quarter of 2009 after plummeting in 2008. During the second quarter of 2009, prices began to rally. By the end of the year, prices were well above historical levels, but below the peaks reached in 2007. In 2009 as a whole, minerals and metals were the best-performing class of assets, eclipsing the indexes of the other commodities, major stock exchanges, bonds, currencies, and real estate around the world.[1]

In addition to the recovery in prices, other notable developments in Canada's mining and mineral processing industries included:

- an increase in the value and quantity of gold and uranium production;
- a decrease in the value and quantity of production of all other major minerals and metals;
- a protracted strike at Vale's operations at Sudbury, Ontario, and Voisey's Bay, Newfoundland and Labrador;
- an increase in average wages in the mining sector;
- a decrease in expenditures on exploration and deposit appraisal in 2009, but an expected increase in 2010;
- a decrease in corporate profits for the first time in seven years;
- a decline in the number and value of mergers and acquisitions of mineral exploration and mining companies for the third consecutive year;
- a record year for financings by companies listed on the Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV);
- an increase in the market capitalization of companies listed on the TSX and TSXV (as measured at year-end);
- on balance, more mine closings and suspensions than openings and re-openings; and
- a positive balance of trade for metals and minerals. Minerals and metals accounted for almost one third of Canada's exports to China in 2009, having risen at a rate of 17% per year over the past decade.

This general review of the Canadian mining industry in 2009 presents a summary of the global economic situation followed by a snapshot of Canada's economy. The prices of most minerals and metals are highly sensitive to global economic growth.[2] The general review then provides an overview of the state of, and recent trends in, Canada's mining and mineral processing industries.

The mining and mineral processing industries are composed of the following four stages:

- Stage 1 - Mineral extraction and concentrating (comprised of North American Industry Classification System [NAICS] class 212): Mining and quarrying (except oil and gas), e.g., gold mining, coal mining, and sand and gravel mining and quarrying;
- Stage 2 - Smelting and refining (comprised of parts of NAICS class 331): Primary metal manufacturing, e.g., nonferrous smelting and refining and the production of primary steel;
- Stage 3 - Nonmetals- and metals-based semi-fabrication (comprised of NAICS class 327): Nonmetallic mineral product manufacturing, and parts of class 331, e.g., copper rolling and concrete products; and
- Stage 4 - Metal fabricating (comprised of NAICS class 332): e.g., ornamental metal products and machine parts.

While all four stages are included in this review, the emphasis is on Stage 1, the mining industry. Unless otherwise noted, the mining industry includes coal and uranium mining, but excludes the extraction and processing of crude petroleum and natural gas.[3]

GLOBAL ECONOMIC CONTEXT

In the fourth quarter of 2008 and the first quarter of 2009, the global economy was in a recession, triggered by the most severe financial crisis in the United States and Europe since the 1930s. In brief, the financial crisis reduced general economic activity by undermining the confidence of firms and consumers, and eroding demand. The financial crisis spread around the world through a variety of channels (e.g., trade and capital flows).

As a result of concerted actions by governments across the globe to stabilize the global financial system and to stimulate economic activity, global economic output began to recover in the second quarter of 2009 (earlier than anticipated) led primarily by the economies in Asia. In 2009 as a whole, global economic activity, as measured by the Gross Domestic Product (GDP), contracted by 0.6% year-over-year (y/y) after rising by 3.0% y/y in 2008. The decline in economic activity in the advanced economies (-3.2% y/y) offset growth in the emerging economies (2.4% y/y).

Looking ahead, the global economy is expected to expand by 4.2% y/y in 2010.[4] The emerging economies are projected to continue to grow rapidly (6.3% y/y) and the advanced economies are forecast to recover gradually (2.3% y/y). However, the recovery may periodically falter. Growth in many economies is forecast to remain dependent upon monetary and fiscal stimuli.

As with the recession, the global economy is expected to recover at varying speeds. The recovery in the United States, Europe, and Japan is projected to be sluggish compared with those of previous recessions. In the United States, economic activity contracted by 2.4% y/y in 2009, but is expected to expand by 3.1% y/y in 2010. Spending by consumers (accounting for almost 70% of GDP) is expected to remain subdued. In 2009, the contraction was most severe in Europe (-4.1% y/y). In 2010, growth is expected to remain weak in Europe (1.0% y/y) as it continues to struggle with sovereign debt problems, weak demand by consumers, and high unemployment. Japan's economy contracted (-5.2% y/y) in 2009, but is forecast to grow by 1.9% y/y in 2010 due to stronger external demand.

China's economy expanded by 8.7% y/y in 2009 and is expected to continue to grow robustly by 10.0% y/y in 2010 due to a strong rebound in exports and resilient domestic demand. India's economy grew by 5.7% y/y in 2009. In 2010, its economy is expected to expand by 8.8% y/y due to rapid expansion in manufacturing output and strong rates of investment and savings. The economies of Brazil and Russia, the other major emerging countries, are projected to expand by 5.5% y/y and 4.0% y/y, respectively, in 2010.

CANADIAN ECONOMY

In 2009, global economic developments had a significant negative impact on the Canadian economy. Canada's GDP decreased by 2.5% y/y to $1.29 trillion (expressed in chained 2002 dollars). Statistics Canada's Composite Leading Indicator[5] (1992=100) index also dropped from 228.3 in 2008 to 219.2 in 2009. However, as economic conditions improved, the index increased steadily in the second half of the year to finish at 228.5 in December, compared to 224.6 in December 2008.

In some respects, 2009 was the mirror image of 2008 in that 2008 started off strongly and, as a result of the global recession, ended weakly, while 2009 started off weakly and rebounded in the latter half of the year. For instance, real GDP declined by 1.8% quarter-over-quarter (q/q) in the first quarter and by 0.9% q/q in the second quarter, before rebounding in the third quarter by 0.2% q/q and in the fourth quarter by 1.2% q/q.

The Canadian dollar averaged US$0.876 in 2009, down from US$0.938 in 2008. After hitting its lowest point in March (US$0.791), it began a steady ascent throughout the remainder of the year with notable increases in the second and third quarters, reflective of improving economic conditions in Canada relative to its major trading partners.

In 2009, total private and public investment was $309.5 million, down 11.4% from $349.3 million in 2008. Intentions for 2010 indicate a potential increase to $323.1 million. Canadian manufacturing shipments reached their lowest level at $38.5 billion in May 2009 and then climbed throughout the remainder of the year to finish at $43.3 billion in December 2009. For 2009 as a whole, shipments were $494.3 billion, 17.4% lower than in 2008.

The industrial rate of capacity utilization averaged 69.7% in 2009, down from 78.0% in 2008. The rate declined in the second quarter before increasing in the third and fourth quarters.

The Bank of Canada, which announces its key interest rate on eight pre-set dates per year, began the year with its target overnight rate at 1.00%. In an ongoing effort to stimulate the economy, the Bank reduced the rate by 0.50% in March and by another 0.25% in April, which brought it to 0.25%, the lowest possible rate, where it remained for the duration of the year.

The annual rate of inflation, as measured by the Consumer Price Index (CPI), averaged 0.3% in 2009 (the rate excluding food and energy averaged 1.1%). The inflation rate peaked at 1.4% in February and declined to -0.9% in September before climbing to 1.3% in December. The Bank of Canada, through monetary policy, aims to keep inflation near 2%, the mid-point of a 1-3% range. In 2009, deflation, as opposed to inflation, was the issue.

With respect to consumption, personal spending climbed in each quarter of 2009 after starting the year at its lowest point since the fourth quarter of 2007. Expenditures on both goods and services contributed to the increase. Expenditures on new and used motor vehicles increased throughout 2009, including a 5.2% increase in the second quarter, after declining in 2008. Spending on furniture and other household items increased marginally in the third and fourth quarters. Spending on services, despite a minor setback in the fourth quarter of 2008, has been trending slowly upward for most of the past decade. On the production side, automotive manufacturers in Canada produced 1.5 million passenger cars, trucks, and vans in 2009, down from 2.1 million in the previous year.

In 2009, building construction continued to suffer as global economic uncertainty affected the housing market in Canada despite lower interest rates. For the second consecutive year, the total value of building permits declined in 2009, down 13.3% from 2008, after reaching a record high in 2007. The decline in the non-residential sector was greater than the increase in the residential sector; the latter trended upward for most of the year. Although housing starts declined to their lowest point of the decade in April, they rebounded and climbed for the remainder of the year.

The global economic situation also had a substantial impact on unemployment as the average annual rate of unemployment climbed to 8.3% in 2009, up from 6.1% in 2008. At the start of 2009, the unemployment rate was 7.3% and it continued to climb through the third quarter, peaking at 8.7% in August, a level not seen since 1997. For the first time in 16 years, the number of individuals employed dropped in 2009, falling 1.6% y/y to 16.8 million. Employment decreased in the goods sector, particularly in the manufacturing and construction industries, while it increased marginally in the service sector.

In 2009, Canada recorded a balance of trade deficit of -$5.1 billion, compared to a surplus of $49.6 billion in the previous year (customs basis).[6] Canadian merchandise exports dropped 25.5% to $360.0 billion in 2009 while imports totaled $365.2 billion, a 15.9% decrease from 2008.

According to the Office of the Superintendent of Bankruptcy Canada, consumer bankruptcies and proposals in Canada reached 151 700 in 2009, up 31.0% from 2008.[7] In 2009, assets of consumer bankruptcies and proposals totaled $11.3 billion while liabilities totaled $16.7 billion.

Since peaking in 1996, business bankruptcies, both corporations and non-corporate business, have trended downward. In 2009, 6729 business bankruptcies and proposals were reported, down 9.6% from 2008. Businesses filing for bankruptcy had assets of $1.4 billion and liabilities of $6.9 billion in 2009. The extractive industries of mining and oil and gas reported 51 bankruptcies and 18 proposals (compared to 31 bankruptcies and 18 proposals in 2008) with assets totaling $167.3 million and liabilities totaling $626.6 million.

MINERAL PRICES

As with 2008, 2009 was a turbulent period for the prices of most minerals and metals. Prices were relatively weak during the first quarter, but, as concerns surrounding the global financial crisis and recession abated during the latter nine months of the year, the prices of most minerals and metals rallied. Overall, prices were relatively weaker in 2009 than in the previous year, but well above historical levels.

Despite significant cuts in aluminum production around the world in 2009, output exceeded consumption. As a result, reported stocks of aluminum climbed from 4.9 Mt at the end of 2008 to 6.8 Mt at the end of 2009, an 39% increase. The average price of aluminum fell from US$1.17/lb in 2008 to US$0.76/lb in 2009.

The market for copper was in surplus in 2009 as world consumption fell by 1.7% to 17.3 Mt. World mine output rose by 2.4% to 15.8 Mt and refined production grew by 0.9% to 18.4 Mt. As a result, inventories increased and the average price of copper fell from US$3.15/lb in 2008 to US$2.34/lb in 2009.

The global consumption of primary nickel fell from 1.29 Mt in 2008 to 1.22 Mt in 2009, or by 5.4%. The global production of primary nickel declined from 1.38 Mt in 2008 to 1.33 Mt in 2009, or by 3.6%, in part because of the strike of workers at Vale's operations in Sudbury, Ontario, and Voisey's Bay, Newfoundland and Labrador.[8] Prior to the strike, the operations accounted for 10% of global production. In 2009, production exceeded consumption and inventories grew to record levels. The average price of nickel plummeted from US$9.54/t in 2008 to US$6.64/t in 2009.

The global production of refined zinc (11.4 Mt) exceeded consumption (10.8 Mt) by 0.6 Mt, the largest surplus since 1993. As a result, stocks expanded and the price of zinc dropped from US$0.85/lb in 2008 to US$0.75/lb in 2009.

As in 2008, the overall physical market for gold (mine supply plus scrap, less jewellery and industrial demand) was in surplus. Investment demand, driven by weakness in the U.S. dollar and an aversion to risk by investors, among other factors, absorbed the surplus and the price of gold rose for the eighth consecutive year from US$871/oz in 2008 to US$972/oz in 2009, or by 12% in dollar terms. In December 2009, the price of gold topped US$1200/oz – a record high.

The average price of rough diamonds fell by 50% between mid-2008 and the spring of 2009. In response, producers slashed production. In the second half of 2009, the price of rough diamonds recovered to pre-recessionary levels due to a resurgence in demand and reduced supply.

Over the past several years, the demand for uranium has been influenced by speculation and, as a consequence, the price of uranium has been highly volatile. In 2007, the price of uranium peaked at over US$150/lb. In 2009, speculative interests were absent and, as a result, the demand for, and spot price of, uranium stabilized at US$47/lb, down from US$64/lb in 2008.

In 2009, global steel production (the destination of over 95% of iron ore) declined by 8%. As a result, demand for iron ore contracted and its price fell by 33% from US$1.45 per dry metric tonne unit (dmtu) (Australian fines) in 2008 to US$0.97/dmtu in 2009. The price of iron ore varied greatly in 2009 as the traditional system of marketing iron ore broke down. Since the 1960s, the world's largest mining companies have negotiated prices through annual contracts with the major steel producers. In 2009, China, the world's largest importer of iron ore, rejected the traditional system, opting instead to purchase the commodity in spot markets.

The consumption of metallurgical coal, which is also used to manufacture steel, shrank in 2009 because the production of steel contracted. The production of internationally traded metallurgical coal fell by 15% from 240 Mt in 2008 to 204 Mt in 2009. As a result, the contract price of metallurgical coal for the fiscal year (April 1, 2009 to March 31, 2010) fell to US$128/t (hard metallurgical coal f.o.b. Vancouver).

The global consumption of potash fell from 28 Mt in 2008 to 25 Mt in 2009, an 11% decline, in part because the prices of most grains declined. The production of potash rose from 36 Mt in 2008 to 38 Mt in 2009, a gain of 5%. In November 2008, the potash price peaked at US$873/t (KCl spot standard grade f.o.b. Vancouver). In 2009, it averaged US$645/t, well above the historical norm of US$120/t.

As a result of the weaker prices of minerals and metals in early 2009, a number of mines reduced production or closed in Canada. In the second half of the year, the situation reversed; mines re-opened or expanded production, and jobs were created or employees were reinstated.

CANADA'S MINING AND MINERAL PROCESSING INDUSTRIES

The worldwide economic and financial crisis of 2008-09 had a significant impact on Canada's mining and mineral processing industries in 2009. As the global recession intensified and continued into 2009, the demand for many commodities continued to decline, resulting in lower prices, quantities, and value of production; lower expenditures on exploration; and lower employment.

The GDP of Canada's mining and mineral processing industries,[9] as shown in Table 2, declined from $39.8 billion (or 3.2% of Canada's total GDP) in 2008 to $31.9 billion (or 2.7% of Canada's total GDP) in 2009.

During the second quarter, the overall economic climate started to improve and Canada's mining and mineral processing industries began to recover. For example, NRCan's index of metal prices, after reaching a trough in December 2008, maintained a steady upward trajectory throughout 2009.[10] The prices of base metals rebounded and, as noted above, the price of gold reached a record

high in December 2009. After reaching a low point in August, the GDP of the mining and mineral processing industries maintained a steady and substantial ascent for the remainder of the year.

The operating profits of the corporations in Canada's mining industry fell from $9.8 billion in 2008 to $7.4 billion in 2009. Profits started to drop in the fourth quarter of 2008 and continued to decline through the third quarter of 2009.

In 2009, the annual rate of capacity utilization in Canada's mining industry dropped from 77.8% in 2008 to 55.3% in 2009, the lowest annual utilization rate on record. The rate for the mining industry was 59.1% in the first quarter of 2009, 53.6% in the second quarter, 50.5% in the third quarter, and 58.0% in the final quarter. The average annual rate of capacity utilization in Canada's primary metals industry was 90.4% in 2008 and 72.1% in 2009. As with the mining sector, the rate dropped in the second and third quarters of 2009 before rebounding in the fourth quarter. The rate of capacity utilization in Canada's nonmetallic mineral products industries grew throughout the year, climbing to 70.6% in the fourth quarter from 65.4% in the first quarter. The capacity utilization rate in the fabricated metals industry peaked in the first and fourth quarters at 66.0%.

In 2009, more mines ceased production than started production in Canada. Three mines closed and ten mines suspended operations. Five new mines were commissioned and three mines re-opened. Of the five new mines that were commissioned, three were gold mines, which is not unexpected given the strong price of bullion during the past several years.

Mineral Production

The value of production of the mining industry (metallic minerals plus nonmetallic minerals plus coal) decreased from $47.0 billion in 2008 (a record high) to $32.2 billion in 2009, the first annual decrease since 2001.[11] The value of production for metals, nonmetals, and coal all fell.

For the second consecutive year, the value of metal produced by Canadian mines declined, falling from $22.6 billion in 2008 to $16.2 billion in 2009. The decrease occurred after substantial growth from 2003 to 2007, when the value of production nearly tripled due to increases in prices as opposed to quantities. In 2009, most major metals declined in value, including copper, iron ore, nickel, and zinc. Two notable exceptions were gold and uranium. The increase in the value of gold was due to a rise in the price of gold as opposed to an increase in the quantity of gold produced, which was virtually unchanged. The value of uranium produced rose from $954 million in 2008 to $1392 million in 2009 due to an increase in quantity (which expanded from 8.7 million kg to 10.1 million kg) and higher prices. Notwithstanding the strong production of uranium, Kazakhstan surpassed Canada as the world's leading uranium producer in 2009.

The value of nonmetallic minerals soared from $11.6 billion in 2007 to $19.4 billion in 2008; however, it dropped to $11.5 billion in 2009, the same level as in 2007. Potash, elemental sulphur (both used mostly for fertilizers), and diamonds were the source of the increase in 2008, but also contributed significantly to the decrease in 2009. The value of potash production fell from $7.7 billion in 2008 to $3.4 billion in 2009 as the potash price steadily declined throughout the year. Due to record prices, the value of elemental sulphur production lept to $2.1 billion in 2008 and then plummeted to $23.9 million in 2009 due to a combination of falling demand and prices. The value of diamonds produced in Canada fell from $2.4 billion in 2008 to $1.7 billion in 2009, a decrease of 29%. The quantity of diamonds declined from 14.5 million ct in 2008 to 10.9 million ct in 2009. Potash and diamonds, the two most valuable nonmetallic minerals produced in Canada, accounted for 29.5% and 14.7%, respectively, of the total value of nonmetallic mineral production in 2009.

The value of coal production fell from $5.0 billion in 2008 to $4.5 billion in 2009 while its volume declined from 67.8 Mt in 2008 to 62.6 Mt in 2009.

In 2009, the value of production of minerals and metals dropped in nine of the thirteen provinces and territories and rose marginally in four provinces and territories.[12] It increased in Quebec (0.1%), Prince Edward Island (4.8%), Nova Scotia (6.4%), and the Yukon (20.9%). Of the other nine provinces and territories, production in each of Newfoundland and Labrador, Ontario, and Saskatchewan fell by over $3 billion. Production in British Columbia and Alberta declined by over $1.5 billion each.

In 2009, the leading four provinces or territories in the production of minerals and metals by value were Ontario ($6.3 billion), Quebec ($6.2 billion), British Columbia ($5.7 billion), and Saskatchewan ($5.0 billion).

Despite the economic turmoil in 2009, Canada remained among the world's leading mining countries and ranked among the largest producers of minerals and metals. According to preliminary estimates for 2009, Canada ranked first in the global production of potash and ranked among the top five in the production of aluminum, cobalt, diamonds, molybdenum, nickel, platinum group metals, salt, sulphur, titanium concentrate, tungsten, uranium, and zinc.

Employment

The quantity of labour employed by an industry is one of the most common measures of its economic impact. In 2009, Canada's mining and mineral processing industries employed 306 974 individuals, a decrease of 12.7% y/y. Employment declined in each of the four stages of the mining and mineral processing industries. Notwithstanding the decline, these four stages continued to be important sources of employment in 2009, accounting for 2.1% of Canada's total employment.

Wages in the mining industry (NAICS 212 or Stage 1) remained high in 2009, rising slightly to $1370 per week. Conversely, average wages in the primary metals industry (NAICS 331, representative of Stage 2) declined 3.8% to $1136 per week. Average wages in the nonmetallic minerals industry (NAICS 327, representative of Stage 3) fell to $969 per week, a 3.9% decrease. Wages in the fabricated metals industry (NAICS 332 or Stage 4) fell 1.8% to $943 per week. Wages in all four stages were well above the national average for all industries of $824 per week in 2009.

Trade

Canada is one of the world's leading exporters of minerals and metals. The export of minerals and metals plays a vital role in Canada's trade balance. In 2009, Canada's total trade (exports plus imports) of minerals and metals equaled $121.6 billion, accounting for 17% of the country's total trade.

In 2009, Canada exported minerals and metals worth over $66 billion ($49 billion in metals, $12 billion in nonmetals, and $5 billion in coal), accounting for 18% of Canada's total exports (Table 2). However, as a result of the global recession, Canada's exports of minerals and metals declined by 30% y/y. Both prices and quantities fell across most commodities, leading to a lower value of exports for the year. Exports to almost all developed countries were down, with the exception of Singapore and several countries in Europe.

In 2009, Canada exported minerals and metals to nearly 200 countries. The principal destinations were the United States (55%), the European Union (16%), China (5%), and Japan (4%). Key exports were iron and steel ($10.3 billion), gold ($9.4 billion), aluminum ($7.7 billion), coal ($5.2 billion), copper ($4.1 billion), potash ($3.7 billion), nickel ($3.5 billion), iron ore ($3.4 billion), diamonds ($1.9 billion), uranium ($1.7 billion), nitrogen ($1.4 billion), and zinc ($1.4 billion).

In 2009, Canada imported minerals and metals worth $55 billion ($46 billion in metals, $8 billion in nonmetals; and $1 billion in coal), accounting for 15% of Canada's total imports. The principal origins of the minerals and metals were the United States (55%), China (9%), the European Union (8%), Peru (4%), and Mexico (4%). Given Canada's close proximity to and relationship with the United States, it is not surprising that imports from that country were so prominent. As with exports, the value of imports of minerals and metals declined substantially, falling 21% y/y in 2009.

Key imports were iron and steel ($16.8 billion), miscellaneous metals ($10.1 billion), gold ($7.0 billion), aluminum ($4.4 billion), copper ($2.5 billion), glass and glassware products ($2.3 billion), silver ($1.3 billion), coal ($1.1 billion), and clay and clay products ($1.1 billion). Imports of coal decreased by 23.1% to $1.1 billion while imports of metallurgical coal dropped by 85.1% to $72.5 million.

The balance of trade (total exports of minerals and metals minus total imports of minerals and metals) dropped from $26 billion in 2008 to $11 billion in 2009 as the value of both exports and imports dropped. Despite these decreases, the trade balance of minerals and metals compared favourably to the total economy, which had a trade deficit of $5 billion in 2009.

The most notable recent trend in the export of minerals and metals has been the diversification away from the United States. In 2000, the vast majority (78%) of Canada's exports of minerals and metals were destined for the United States. However, the dominance of the United States has declined in the past few years. In 2009, the United States accounted for 55% of Canada's exports of minerals and metals.

Canada's exports of minerals and metals to other countries, particularly China, have grown rapidly over the past decade. Over the period 2000-2009, Canada's exports of minerals and metals to China grew at an average annual compound rate of an astonishing 17%, reaching $3.9 billion in 2009. Minerals and metals accounted for 31% of Canada's total exports to China – the world's fastest-growing and second-largest economy – and are by far Canada's most valuable export to China.

Imports of minerals and metals from China have been steadily increasing since 2000 with the exception of a drop in 2009. Over the past decade, the value of imports of minerals and metals from China more than tripled, reaching $5.0 billion in 2009. China is Canada's second-largest source of minerals and metals after the United States.

Finance

In response to the global financial crisis, mining companies around the world turned to equity markets (largely secondary or follow-on issues as opposed to initial public offerings) to refinance their existing debt and raise capital to continue operations in 2009. Debt was difficult to obtain and, if available, the cost of borrowing was extremely expensive. Junior mineral exploration companies had tremendous difficulty in raising funds.

In 2008, $31.9 billion in equity financing was raised by exploration and mining companies on stock exchanges throughout the world. Of this total, $11.5 billion, or 36%, was raised on Canadian exchanges. In 2009, $62.8 billion in equity financing for exploration and mining companies was raised on stock exchanges globally. Of this total, 34%, or $21.3 billion, was raised on Canadian exchanges. These funds were largely restricted to essential work. Companies struggled to finance the development of new mines. During 2009, the value of equity financing was skewed by Barrick Gold Corporation's sale of stock worth $4.3 billion.

More mining companies are listed on the Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV) than any other exchange in the world. In 2008, a total of 1427 mining companies were listed on the TSX (356) and the TSXV (1071). In 2009, 1434 mining companies were listed on the TSX (331) and the TSXV (1103). As of year-end, the market capitalization of the mining companies listed on the TSX and TSXV totaled $347.1 billion. The number of new listings on the TSX and TSXV totaled 104, almost five times the next most active market, which was the Australian Stock Exchange with 22 new listings. Approximately 50% of the 9700 mineral exploration projects held by mining companies listed on the TSX and TSXV were located outside of Canada.

Mergers and Acquisitions

Mergers and acquisitions routinely occur in the mining industry, in part because larger companies with mines acquire smaller enterprises (particularly, junior exploration companies) in order to replenish or expand their reserves. During the past two years, the number and value of mergers and acquisitions in the mining industry fell around the world due to relatively lower prices of commodities, reduced cash flow, and tighter credit.

In 2009, mergers and acquisitions declined for the third consecutive year in Canada. In 2007, 250 deals were struck with a cumulative value of $34.4 billion. In 2008, 141 deals were struck worth $29.0 billion. In 2009, 137 deals were concluded worth $13.0 billion. Mergers and acquisitions were well below the historic peaks reached in 2006.

Not only did the number and value of deals decline significantly in 2009, but the motivation of sellers also changed. Sellers were motivated by the need to survive as opposed to raising capital to develop and expand projects. As a result, the average value per deal fell from $205.7 million in 2008 to $94.8 million in 2009.

According to PricewaterhouseCoopers, the global value of mergers and acquisitions fell from US$153.4 billion in 2008 to US$77.1 billion in 2009. Depressed prices of shares and an absence of large deals (those in excess of US$1 billion) lowered the average value of deals from US$124 billion in 2008 to US$52 billion in 2009.

In 2009, Chinese companies took advantage of the global economic recession and financial crisis to acquire mining assets around the world, including in Canada. In total, Chinese companies invested US$15.9 billion in mining assets abroad, accounting for nearly one quarter of all global transactions. Of this total, US$3.2 billion, or 20%, was invested in Canada, which was second only to Australia. In the majority of transactions, Chinese investors took a minority stake as opposed to a controlling interest. Transactions were across most commodities. Chinese companies accounted for one quarter of all transactions in Canada.

Exploration[13]

Of the many factors required to develop and sustain Canada's mining industry, exploration is perhaps the most important. According to the Metals Economics Group, global budgets for exploration contracted by 47% y/y in 2009 after having expanded for six straight years. In Canada, preliminary estimates from a federal/provincial/territorial survey indicate that expenditures on exploration and deposit appraisal should reach $1.7 billion in 2009, a 48% decline from the record $3.3 billion in 2008. Companies intend to spend $2.2 billion in 2010, indicating a moderate recovery from 2009. This would be well below the peak level of 2008, but above historical levels.

With the exception of Manitoba (which expects a 13% decrease), expenditures on exploration are expected to increase in all Canadian mining jurisdictions in 2010. After peaking at almost 65% of total expenditures in 2008, spending by junior exploration companies is expected to account for 51% of the total expenditures in Canada in 2010. This is an indication that junior exploration companies are continuing to face difficulties in raising capital in the wake of the financial crisis. In 2009, investors were highly adverse to risky assets, such as junior exploration companies, and are expected to continue to avoid them in 2010.

According to the Metals Economics Group, Canada ranked first in the world in expenditures on exploration in 2009, accounting for 16% of the global total. According to an annual survey undertaken by the Fraser Institute, Canada continues to lead the world as the most attractive region to explore for minerals based on criteria such as policy, taxation, and resource potential. In 2009, Canadian provinces (Quebec, New Brunswick, Alberta, Saskatchewan, Newfoundland and Labrador, and Manitoba) accounted for six of the ten leading regions to explore for minerals in the world. For the third straight year, Quebec topped the survey. The *Mining Journal* concluded in January 2010 that, "…Canada's breadth and quality of mineral resources, and its stable political environment, will continue to make it a top destination for exploration companies from around the globe."

Capital Investment

Capital investment in mining is characterized by tremendous risks (e.g., geological and prices), long lags between initial capital investment and production, and sizeable up-front capital expenditures required in the absence of revenues. In 2009, capital investment in mine development (excluding repairs and maintenance) totaled $6.3 billion, compared to $7.2 billion in 2008. For 2010, capital investment (based on intentions) is expected to rise to $8.1 billion.

According to Statistics Canada, investment in construction, machinery and equipment in the mining and mineral processing industries totaled $12.1 billion in 2008. Preliminary estimates of investment indicate a decrease to $9.8 billion in 2009, while intentions for 2010 indicate an increase to $11.9 billion. For the mining industry alone, investment in construction, machinery and equipment was $6.8 billion in 2007, $8.6 billion in 2008, and $7.2 billion in 2009.

CONCLUSION

As with the global economy in general, the year 2009 was a challenging period for Canada's mining and mineral processing industries. Most of the industries' major indicators such as value added, employment, investment, and exports, declined in 2009. However, the industries emerged from the global recession in a strong position. In the latter half of 2009, the prices of most minerals and metals had increased in response to stronger demand and constrained supply.

In 2009 as a whole, Canada's mining and mineral processing industries contributed $32 billion to Canada's GDP (2.7% of the national total), directly employed 306 974 individuals (2.1% of the national total), and exported minerals and metals worth $66 billion, accounting for 18.5% of Canada's total exports. Minerals and metals accounted for almost one-third of Canada's exports to China, which is the world's fastest-growing and second-largest economy. In 2009, Canada ranked among the top five countries in the world in the production of major minerals and metals such as aluminum, diamonds, nickel, platinum group metals, potash, uranium, and zinc.

Looking ahead, the mining and mineral processing industries should be an important source of economic growth in Canada. As a result of expected relatively stronger prices, mines are projected to open, re-open or expand production in Canada in 2010. Export Development Canada forecasted that Canada's exports of ores and metals should rise by 10% in 2010. According to a study by Informetrica, the mining and mineral processing industries are forecast to grow by 6.4% y/y over the period 2010-13, which is double the expected growth rate of the total economy.

ENDNOTES

[1] In 2009, the DJ-UBSCI Industrial Metals Sub-Index increased by 80%, rising more than all other indexes such as the DJ-UBSCI Energy Sub-Index (-5%), MSCI AC World Equity Index (35%), U.S. Tracker 1-10 Yrs Bond Index (-2%), and U.S. EPRA Real Estate Index (22%).

[2] The demand for and prices of minerals and metals are highly pro-cyclical, rising when the economy expands and falling when the economy contracts.

[3] The mining industry includes coal operations, but excludes oil sands. However, under the *Income Tax Act*, the extractive phase of oil sands processing is deemed a mining activity.

[4] The source of the estimates is the International Monetary Fund (April 2010). The World Bank (June 2010) expects the global economy to expand by 2.9% in 2010.

[5] The Canadian Composite Leading Indicator comprises of 10 components that lead cyclical activity in the economy and that together represent all major categories of GDP. It thus reflects the variety of mechanisms that can cause business cycles.

[6] The trade of goods is measured either on a custom basis or a balance of payments basis. According to the custom basis, a transaction occurs when a good crosses a border. According to the balance of payments basis, a transaction occurs when the ownership of a good changes.

[7] A bankruptcy is the state of a consumer or business that has made assignment in bankruptcy or against whom a bankruptcy order has been made. A proposal is an offer to creditors to settle debts under conditions other than existing terms. It is a formal agreement under the *Bankruptcy and Insolvency Act*.

[8] In July 2010, members of the United Steelworkers Union employed by Vale at its nickel operations at Sudbury and Port Colborne, Ontario, voted in favour of a five-year collective agreement, putting an end to the one-year strike. As of July 2010, workers at Vale's nickel operations at Voisey's Bay in Newfoundland and Labrador remained on strike.

[9] As noted in the introduction to this chapter, the GDP of the mining and mineral processing industries includes four stages: mining, nonmetallic mineral product manufacturing, primary metal manufacturing, and fabricated metal manufacturing.

[10] NRCan's index of metal prices is a Fisher ideal index weighed by the annual production of six major metals (gold, silver, copper, nickel, lead, and zinc) in Canada. The Fisher ideal index is the geometric mean of the Laspeyres (weighted by quantities in the base year) and the Paasche (weighted by quantities in the current year) indexes.

[11] Throughout this chapter, the volume and value of production are based on estimates using shipments from domestic sources as the measure of mine production, as published in *Canada's Mineral Production, Preliminary Estimates*, Statistics Canada cat. no. 26-202-XIB. Therefore, foreign ores (e.g., bauxite) are not included.

[12] In Nunavut, the Jericho diamond mine shut down in 2008; as a result, the territory's production was nil in 2009.

[13] The Canadian Intergovernmental Working Group on the Mineral Industry's *Overview of Trends in Canadian Mineral Exploration* is also a source of exploration information (available on the Internet at www.nrcan-rncan.gc.ca/mms-smm/busi-indu/cme-omc-eng.htm).

Notes: (1) Information in this review was current as of May 2010. (2) Sources include: Bank of Canada, International Monetary Fund, World Bank, Organization for Economic Cooperation and Development, company news releases, Crosbie & Company Inc., ETF Securities, Natural Resources Canada, Office of the Superintendent of Bankruptcy Canada, Statistics Canada, the Toronto Stock Exchange (TSX), the TSX Venture Exchange (TSXV), Mining Journal, PricewaterhouseCoopers, Informetrica Ltd., and Export Development Canada. (3) Numerous other secondary sources of information were also consulted such as consultants, investment banks, international metal study groups, producers' associations, and multilateral groups. (4) This and other reviews, including previous editions, are available on the Internet at www.nrcan-rncan.gc.ca/mms-smm/busi-indu/cmy-amc-eng.htm.

Note to Readers

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TABLE 1. CANADIAN ECONOMIC CONDITIONS, 2008-2010

Leading Indicators	2008	2009	2010 (e)	% Change 2008 to 2009
Real GDP ($ billions, 2002 chained dollars)	1 318.1	1 285.6	1 333.0	-2.5
Consumer prices (% annual change)	+2.3	+0.3	+2.1	n.a.
Operating profits ($ billions)	281.7	218.7	–	-22.4
Unemployment rate (% annual average)	6.1	8.3	8.0	+36.1
Merchandise trade balance (balance of payments basis) ($ billions)	+46.3	-4.6	–	-109.9
Housing starts (000)	211.1	149.1	182.0	-29.4
Canada/U.S. exchange rate (annual average)	0.9381	0.8757	0.9840	-6.7
International current account balance ($ millions)	6 981	-43 523	-31 538	-729.1
Global output (% change)	3.0	-0.6	4.2	n.a.

Sources: Statistics Canada; Bank of Canada; Canada Mortgage and Housing Corporation; International Monetary Fund; The Conference Board of Canada.
– Nil; (e) Estimate; n.a. Not applicable.

TABLE 2. GROSS DOMESTIC PRODUCT OF THE CANADIAN MINERAL INDUSTRY (MILLIONS OF CHAINED 2002 DOLLARS AT BASIC PRICES), 2008 AND 2009

	2008	2009	Change	% of 2009 Mineral Industry	% of Total Economy
	($ millions)		(%)	(%)	(%)
Mining (NAICS 212)	9 067	7 188	-20.72	22.50	0.60
Nonmetallic product manufacturing (NAICS 327)	5 618	4 664	-16.98	14.60	0.39
Primary metal manufacturing (NAICS 331)	11 840	8 968	-24.26	28.07	0.75
Fabricated metal manufacturing (NAICS 332)	13 314	11 126	-16.43	34.83	0.93
Total mineral industry (1)	**39 839**	**31 946**	**-19.81**	**100.00**	**2.67**
Support activities for mining and oil and gas extraction (NAICS 213)	7 124	5 140	-27.85	n.a.	0.43
All industries	1 230 365	1 195 602	-2.83	n.a.	100.00

Source: Statistics Canada, cat. no. 15-001-X, issued May 31, 2010.
n.a. Not applicable.
(1) This is approximate because of the nature of the chaining process; components of a larger whole are not additive.

TABLE 3. CANADIAN MINERAL INDUSTRY IN 2008 AND 2009

Leading Mining Indicators	2008	2009	% Change
Value of non-fuel mineral production ($ millions)	46 952	32 151	-31.5
Exploration expenditures ($ millions)	3 279.5	1 747.4	-46.7
Metal Price Index (1997=100)			
Precious metals	270.29	296.58	n.a.
Base metals	262.47	192.99	n.a.
Direct mining employment (000)	58.5	51.1	-12.6
Value of minerals and mineral products exports ($ billions)	95.2	66.4	-30.2
Mining company operating profits ($ billions)	9.8	7.4	-24.5
Canada (TSX/TSX Venture) mine equity financing ($ billions)	11.5	21.5	+87.0

Sources: Natural Resources Canada; Statistics Canada, CANSIM and *Canada's Mineral Production*, cat. no. 26-202-XIB; Gamah International.
n.a. Not applicable.
Notes: All the indicators above, with the exception of the Metal Price Indexes, include the coal mining industry. Data for 2009 are subject to minor revision.

TABLE 4. VALUE OF CANADIAN MINERAL PRODUCTION, (1) 2008 AND 2009

	2008 (r)	2009 (p)	Change
	($ millions)		(%)
Metallic minerals	22 594.4	16 151.5	-28.5

Nonmetallic minerals	19 372.0	11 455.6	-40.9
Total	41 966.4	27 607.1	-34.2
Coal	4 986.0	4 544.4	-8.9
Total minerals	**46 952.4**	**32 151.5**	**-31.5**

Sources: Natural Resources Canada; Statistics Canada, *Canada's Mineral Production, Preliminary Estimates, 2009*, cat. no. 26-202-XIB.
(p) Preliminary; (r) Revised.
(1) The value of production is based on shipments.
Note: Numbers have been rounded. Percent changes are based on unrounded data.

TABLE 5. EMPLOYMENT IN THE CANADIAN MINERAL INDUSTRY, 2008 AND 2009

	2008	2009	Change
	(number)		(%)
Metallic minerals (NAICS 2122)	28 074	23 767	-15.3
Nonmetallic minerals (NAICS 2123)	23 988	21 775	-9.2
Coal mining (NAICS 2121)	6 443	5 575	-13.5
Total mining	58 505	51 116	-12.6
Nonmetallic mineral manufacture (NAICS 327)	52 707	48 711	-7.6
Primary metal manufacture (NAICS 331)	69 107	59 339	-14.1
Fabricated metal manufacture (NAICS 332)	171 126	147 808	-13.6
Total	**351 445**	**306 974**	**-12.7**

Source: Statistics Canada, Survey of Employment, Payroll and Hours.

TABLE 6. CANADA, PRODUCTION OF LEADING MINERALS, 2008 AND 2009

	Volume		Change	Value		Change
	2008 (r)	2009 (p)	2009/2008	2008 (r)	2009 (p)	2009/2008
	(000 tonnes except where noted)		(%)	($ millions)		(%)
METALS						
Nickel	246	132	-46.3	5 713.0	2 238.6	-60.8
Copper	584	480	-17.8	4 329.8	2 774.7	-35.9
Gold (kg)	94 909	95 698	0.8	2 835.3	3 364.9	18.7
Iron ore	32 102	31 699	-1.3	4 063.5	3 174.2	-21.9
Uranium (tU)	8 703	10 076	15.8	953.9	1 392.1	45.9
Zinc	705	672	-4.7	1 408.1	1 242.6	-11.8
Platinum group (kg)	22 764	12 686	-44.3	618.5	280.9	-54.6
Cobalt (t)	4 809	2 276	-52.7	440.9	99.1	-77.5

Silver (t)	709	608	-14.2	364.3	325.7	-10.6
Lead	87	72	-17.2	236.1	140.3	-40.6
Molybdenum (t)	8 229	8 836	7.4	x	x	x
NONMETALS						
Potash (K_2O)	10 379	4 318	-58.4	7 662.3	3 380.2	-55.9
Diamonds (000 carats)	14 523	10 946	-24.6	2 369.3	1 684.3	-28.9
Sulphur, elemental	6 880	6 439	-6.4	2 116.0	23.9	-98.9
Cement	13 604	10 951	-19.5	1 733.1	1 440.5	-16.9
Sand and gravel	241 591	216 170	-10.5	1 690.9	1 487.4	-12.0
Stone	153 556	135 895	-11.5	1 488.3	1 324.0	-11.0
Sulphur, in smelter gas	746	538	-27.9	148.5	79.6	-46.4
Salt	14 224	14 566	2.4	537.3	664.1	23.6
Lime	2 046	1 601	-21.7	273.3	228.7	-16.3
Peat	1 231	1 131	-8.1	238.5	220.7	-7.5
Clay products	. .	. .	. .	187.8	135.6	-27.8
Gypsum	5 819	3 540	-39.2	83.0	55.7	-32.9
Quartz (silica)	1 938	1 296	-33.1	74.9	54.8	-26.8
Nepheline syenite	646	513	-20.6	54.9	54.5	-0.7
Soapstone, talc, pyrophyllite	64	44	-31.3	22.3	19.5	-12.6
Chrysotile (asbestos)	x	x	x	x	x	x
Coal	67 750	62 615	-7.6	4 986.0	4 544.4	-8.9

Sources: Natural Resources Canada; Statistics Canada, *Canada's Mineral Production, Preliminary Estimates*, cat. no. 26-202-XIB.
. . Not available; (p) Preliminary; (r) Revised; x Confidential.
Notes: Numbers have been rounded. Percentage changes are based on unrounded data.

TABLE 7. CANADA, VALUE OF DOMESTIC EXPORTS, TOTAL EXPORTS (INCLUDING RE-EXPORTS), IMPORTS, AND BALANCE OF TRADE OF MINERALS AND MINERAL PRODUCTS, STAGES 1-4 (CUSTOMS BASIS), 2004-09

	2004	2005	2006	2007	2008	2009
			($ millions)			
TOTAL MINING, INCLUDING COAL						
Domestic exports	54 874.4	62 410.9	72 752.6	81 511.4	92 286.2	64 091.6
Total exports	56 682.4	64 607.5	75 527.5	85 103.3	95 147.8	66 427.4
Imports	52 457.2	56 857.7	62 105.8	62 891.1	69 554.4	55 173.3
Balance of trade	4 225.2	7 749.8	13 421.7	22 212.2	25 593.4	11 254.1
TOTAL NON-FUEL MINING						

Domestic exports	52 965.0	58 977.4	69 321.1	78 348.2	85 920.5	59 010.6
Total exports	54 741.2	61 125.0	72 090.3	81 929.4	88 669.2	61 211.1
Imports	51 147.4	55 321.6	60 579.9	61 559.7	67 621.7	53 990.0
Balance of trade	3 593.8	5 803.4	11 510.4	20 369.7	21 047.5	7 221.1
TOTAL MINING, INCLUDING FUELS						
Domestic exports	121 995.1	145 982.5	157 127.9	171 575.9	218 210.5	140 506.5
Total exports	124 093.9	148 808.0	160 818.9	175 877.6	221 866.8	143 298.4
Imports	77 226.7	91 168.6	98 090.3	101 019.1	122 726.6	89 648.0
Balance of trade	46 867.2	57 639.4	62 728.6	74 858.5	99 140.2	53 650.4
TOTAL ECONOMY						
Domestic exports	385 525.9	408 550.3	411 493.5	419 986.8	455 376.2	334 659.7
Total exports	412 290.0	436 350.6	440 365.1	450 413.0	483 579.4	360 030.4
Imports	355 886.2	380 858.2	397 043.8	407 271.5	433 975.9	365 159.0
Balance of trade	56 403.8	55 492.4	43 321.3	43 141.5	49 603.5	-5 128.6

Sources: Natural Resources Canada; Statistics Canada.
Note: Data are based on the May 2010 release of trade data from Statistics Canada.

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