THE VOLATILITY OF NONFERROUS METAL PRICES
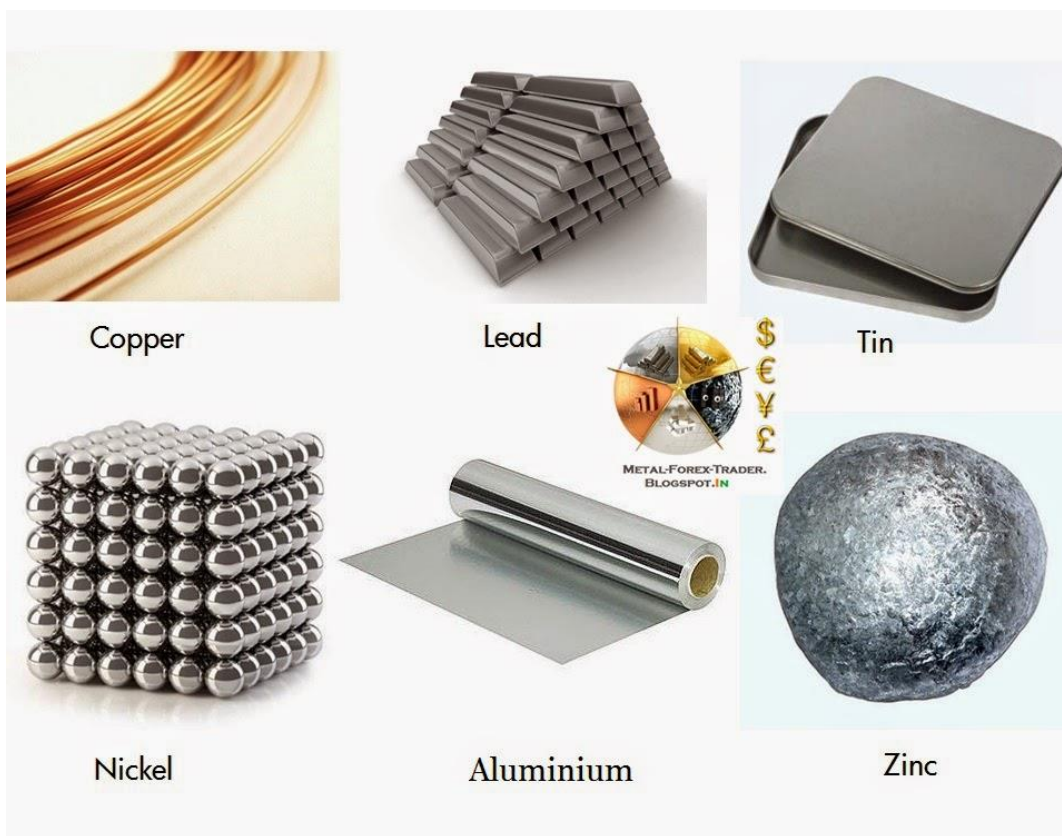
DIRECTORATE MINERAL ECONOMICS

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

THE VOLATILITY OF NONFERROUS METAL PRICES

DIRECTORATE MINERAL ECONOMICS

Compiled by Silungiselelo Mnyameni
Email: Silungiselelo.Mnyameni@dmr.gov.za

Cover Photo: Edward Meir

DEPARTMENT OF MINERAL RESOURCES

Acting Director General   Mr. D Msiza

MINERAL POLICY AND PROMOTION BRANCH

Deputy Director General   Mr. M Mabuza

MINERAL PROMOTION AND INTERNATIONAL COORDINATION CHIEF DIRECTORATE

Chief Director   Ms. S Mohale

MINERAL ECONOMICS DIRECTORATE

Director   Mr. T R Masetlana

Deputy Director Non-Ferrous Metals and Energy   Ms. M Ikaneng

TABLE OF CONTENTS

LIST OF FIGURES

1.   **INTRODUCTION**

Following a period of large price increases driven by rising demand that stimulated investment and increased production capacity, commodity prices have struggled to regain momentum after the global economic crisis. Prices recorded sharp declines over the past few years, resulting in a slowdown in output and economic growth in commodity exporting emerging markets and developing economies, such as South Africa. As commodity prices continue falling, many resource rich countries are faced with challenges of contracting mining investment, reduced company profits and government revenues impacting on government spending on socio economic development programmes. Global production for nonferrous metals has been growing driven by higher demand from emerging markets. In the past decade, with the exception of cobalt and nickel, nonferrous metal production declined as a result of prolonged lower metal prices which made the sector unattractive for investment.

Inventories in the various London Metal Exchange (LME) warehouses piled up from 2008 as global economic growth slowed down putting a downward pressure on metal prices. The industrialisation of China in recent decades benefited South Africa's nonferrous sector in many ways. The rise of nonferrous metals prices until 2011 generated more export revenues for the country making a significant contribution to economic activity, job creation and foreign exchange earnings. China was the largest consumer of nonferrous metals and the rebalancing away for commodity heavy sectors has contributed to the lower demand and low commodity prices. The economy of South Africa as a net exporter of commodities with China as its large export partner, has come under severe strain affected by the economic transformation in China. This has contributed to the currency (Rand) depreciation and the country's Domestic Product (GDP) growth has declined as export income declined. The mining industry's year on year GDP growth has fallen from 24.8 percent in 2006 to a 0.03 percent contraction. In 2006, the mining industry contributed 8.4 percent to the country's total GDP, contracting to 8.0 percent in 2015. The value of the rand depreciated at an average rate of 7.9 percent per year from an average of R6.08 in 2006 to R11.48 in 2015.

2.   COMMODITIES

The focus of this report will is on aluminium, cobalt, copper, lead, nickel and zinc, most of which are used in the construction and manufacturing industries. Copper is used for power transmission including wires, pipes, heating and cooling systems. Lead and zinc are used to produce batteries, fuel cells, castings and brass making. Aluminium is useful in automobiles, aeroplanes, cans, utensils, brakes and construction. The performance of these metals is a great way to measure global economic activity because, while precious metals are stored up and held for investment, base metals are the actual inputs used in major industries. Sudden global economic growth led by China's industrialisation fuelled the higher demand for nonferrous metals which had a supply constrained. This was due to less investment in mining capacity in the previous decade because of sustained lower metal prices.
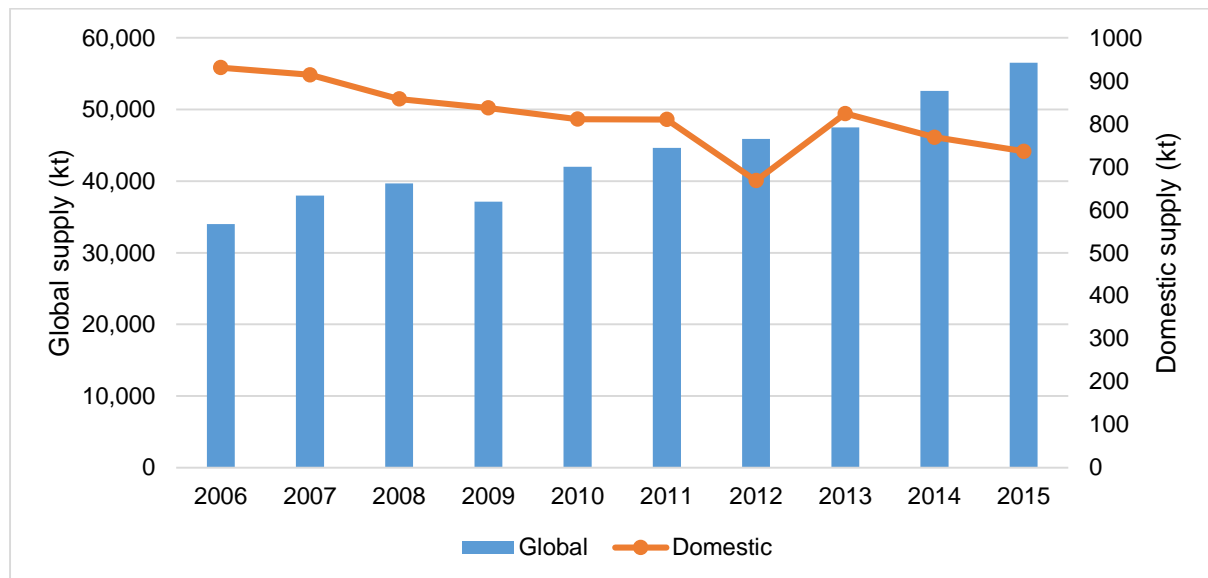
2.1.   Aluminium

2.1.1   Supply and demand

World's aluminium production increased by 16.8 percent from 34 Mt in 2006 to 40 Mt in 2008 (Fig: 1). In 2009, output was slightly interrupted by the recession as a result, production decreased by 6.5 percent to 37.1 Mt. Major producers, which include China, Russia, Canada and the US, ramped up production in 2010 as global economic conditions improved. Upward trends continued reaching the highest at 47.5 Mt in 2013. Demand for aluminium was driven by the construction sector which accounted for an average of 27 percent of aluminium consumption in the past decade, followed by the transportation and electrical sectors. Industrialisation, urban extension and technological advances supported by the rapid Chinese economic growth pushed demand for aluminium. As such, refined aluminium consumption was dominated by China, accounting for more than 60 percent of the total global consumption followed by Europe at around 15 percent and the US at around 10 percent per year.

In the past decade, South Africa's aluminium production decreased by an average rate of 2.1 percent per annum (Fig: 1). This can be associated with rising energy costs as well as the stability of power supply to high electricity intensive producers. In 2013, local production increased by 23.2 percent to 824 kt, as a result of the anticipated Rosslyn expansion for the manufacture of aluminium vehicles. However, the closure of the Bayside smelter in Richards

Bay, Kwa-Zulu Natal in 2014 resulted in the fall in production capacity. Globally, demand improved from major consumers such as automobile manufacturers who switched from using steel to aluminium to trim down the vehicle weight and reduce emissions.

FIGURE 1: SOUTH AFRICA'S ALUMINIUM PRODUCTION FOR THE PERIOD 2006 – 2015

Source: DMR, Mineral Economics
         World Bureau of Metal Statistics, 2016

2.1.2 Stock levels and prices

Following a 2.7 percent rise in aluminium prices to $2 638.59 /t in 2007, (Fig: 2), prices plummeted to an average of $1 664.36 /t in 2009, dropping by 37 percent due to global financial crisis. Global demand for aluminium recovered towards the end of 2009, supported by the transportation and aerospace sectors, which led to a 43 percent increase of aluminium prices reaching a new peak of $2 383.20 /t in 2011. Market surplus as a result of rising production exerted a downward pressure on prices as the global economy slowed. In 2014, prices were stable due to sentiments over planned production cuts from Russia if sanctions for supporting rebels fighting the Ukrainian government were imposed. Prices continued to fall in 2015, reaching $1 665.57 /t on average, as a result of poor global economic growth performance.

5

FIGURE 2: AVERAGE ALUMINIUM LME CASH SETLEMENT PRICE AND LME STOCK
2006 - 2015
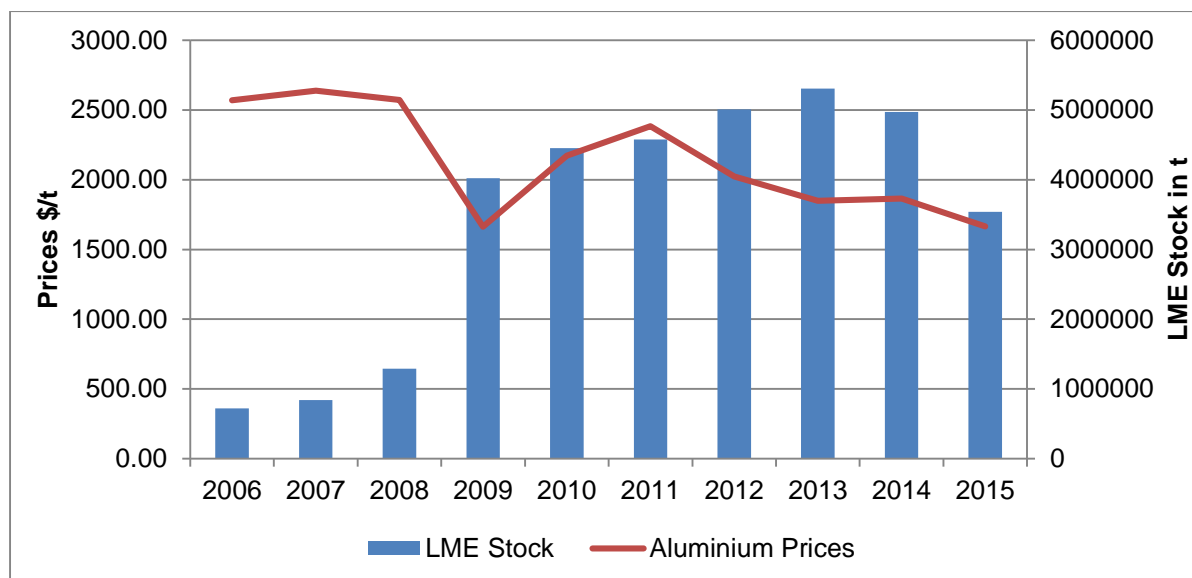
Source: London Metal Exchange (LME)

LME inventory levels have been low for several years as a result of higher demand. In 2008, LME warehouse stocks piled up over 1 Mt on average as the demand started falling due to a global economic slowdown. Sluggish global economy resulted in an increase in stock levels to an annual average of 4 Mt in 2009 and 5.3 Mt in 2013 from 1.3 Mt in 2008 (Fig: 2). Inventory levels have been constantly increasing to record highs as a result of increased capacity from producers. LME stock levels decreased by 28.8 percent in 2015 to an average of 3.5 Mt, this is due to production cuts amid lower prices as well as higher energy costs.

2.2. Cobalt

2.2.1 Supply and demand

The world cobalt production rose by a 5.1 percent growth rate to 2013, according to CRU (Fig: 3). Cobalt production increased from 57.5 Mt in 2006 to 72 kt recorded in 2008 before declining by 14.8 percent in 2009. This was due to the closure of some mining operations in Zambia in late 2008 as well as cutbacks at several nickel and copper-cobalt operation in Democratic Republic of Congo (DRC). In 2010, output rose by 34.4 percent to 88.3 Mt maintaining an upward trends to reach 120 Mt in 2013. This was due to increased production from new projects that came on stream from the world's largest producers, DRC, Canada and China. There has been two major shifts in cobalt demand patterns in the past few years with Asia

overtaking the US and Europe as major cobalt consumers as well the significant increase in the use of cobalt in chemical application as a result of the increase in rechargeable batteries sector. Since overtaking the superalloys sector as the largest consumer of cobalt, the rechargeable battery sector now accounts for an average of 42 percent of total cobalt consumption followed by superalloys at an average of 19 percent. Buoyant demand for batteries used in portable devices, new generation Hybrid Electric Vehicles (HEV) and Electric Vehicles (EV) has and will continue to sustain growth in this sector.

In South Africa, cobalt is produced as a by-product of platinum group metals (PGMs) and nickel mining. During the period 2006 – 2015, domestic cobalt production increased at an average rate of 33 percent per year (Fig: 2). In 2007, local cobalt production rose by 9.7 percent to 293 kt from 267 kt recorded in 2006. As the recession set in 2008, South Africa's cobalt production endured a 16.7 percent decline to 244 kt, which was followed by a further 2.5 percent decline to 238 kt in 2009. Cobalt production surged 252.9 percent to 840 kt in 2010, this was due to increased production from the PGMs mines. An upward trend in production continued in 2011 as new developments in the PGMs came on stream as well as improved recoveries from plants. As a result of rapid growth in output, local cobalt production reached the highest level at 1 362 kt in 2015.

FIGURE 3: COBALT PRODUCTION FOR THE PERIOD 2006 – 2015
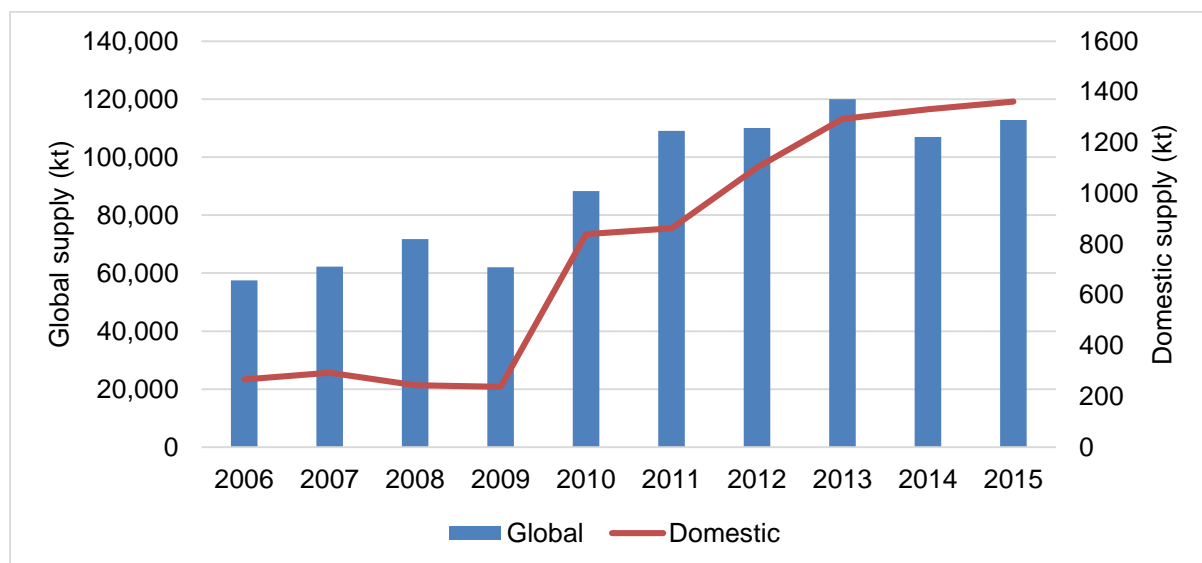
Source: DMR, Directorate Mineral Economics
          CRU, 2016

7

2.2.2 Stock levels and prices

In 2008, cobalt price rose to an average of $38.64 /lb, an increase of 134.5 percent over the 2006 price (Fig: 4), due to higher demand for the metal driven by industrialisation from Asian countries. As the global recession tensed and kept the consumer demand out of the market, prices plummeted by 55.1 percent to an average of $17.35 /lb in 2009, before picking up by 18.6 percent to $20.57 /lb in 2010, due to positive sentiments as global economy slowly started to recover. In 2011, weaker global demand at the face of increasing supply resulted to a market surplus which put a downward trend on prices. Prices continued on a downward trend reaching the lowest in 2013 at $13.17 /lb and improved slightly in 2014 by 9.3 percent to $14.4 /lb. The substitution of the cobalt metal by salt in the battery sector exacerbated the situation further in the cobalt market resulting to a further decline on prices by 8 percent to $13.24 /lb in 2015.

FIGURE 4: AVERAGE COBALT LME CASH SETLEMENT PRICE 2006 – 2015
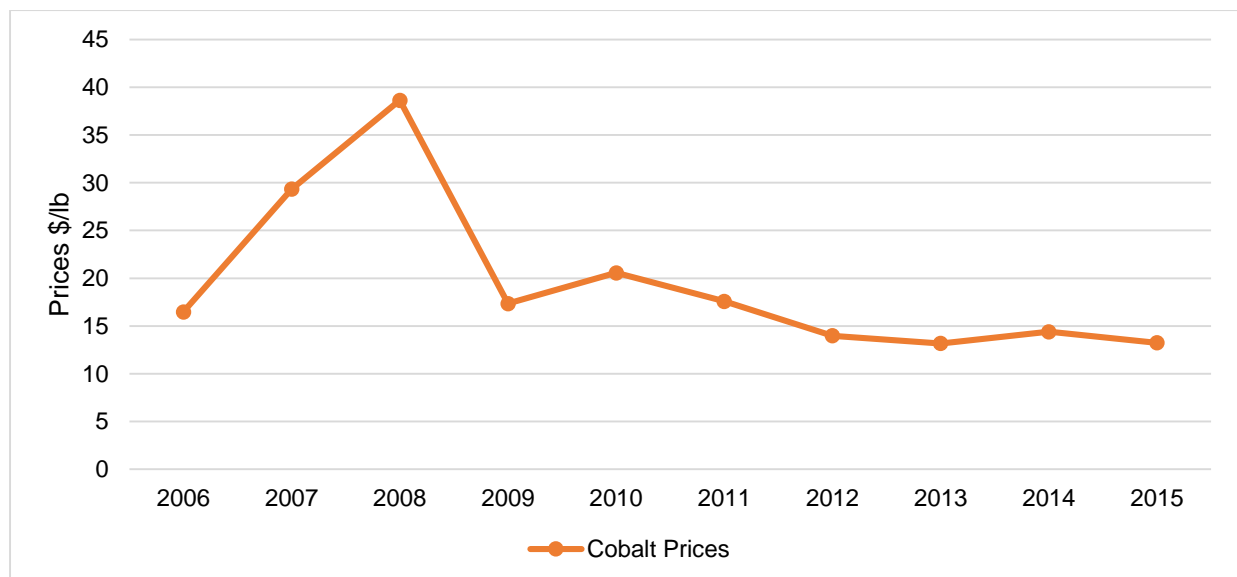
Source: London Metal Exchange (LME)

2.3.   Copper

2.3.1 Supply and demand

The world's copper production growth has been growing at an average rate of 2.1 percent per year. This was due to several new projects coming on stream as the demand for the metal was vast particularly from the Asian market. The highest production was in 2014 at 18.7 Mt with Chile, the largest world's producer, accounting for 32 percent followed by China at 9 percent. Growth in copper's consumption is as a consequence of overall economic growth.

8

Urbanisation is one of the key drivers for development creating a huge market for copper as countries increase spending in power infrastructure, construction and technology. Demand for refined copper has been growing at an average rate of 0.1 percent per year. This growth was led by the Asian region, averaging 70 percent per annum of global consumption followed by Europe (16 percent) and the US (13 percent). Global consumption was driven by the electrical wires in building sector at an average of 20 percent per annum followed by consumer and general product sector at 15 percent. Transportation sector as well as power utilities sector consumed an average of 13 percent each per year.

South Africa's copper production has contracted at a rate of 3.1 percent in the past decade (Fig: 5). Local copper production increased by 6.8 percent from 110 kt in 2006 to 117 kt in 2007. At the onset of the global recession in 2008, South Africa's copper production suffered a 17 percent decline to 97 kt. Declining trends continued reaching 84 kt in 2010. In 2011, local output levels increased by 6.8 percent to 89 kt, due to increased production from platinum group metals (PGMs).

FIGURE 5: COPPER PRODUCTION FOR THE PERIOD 2006 - 2015
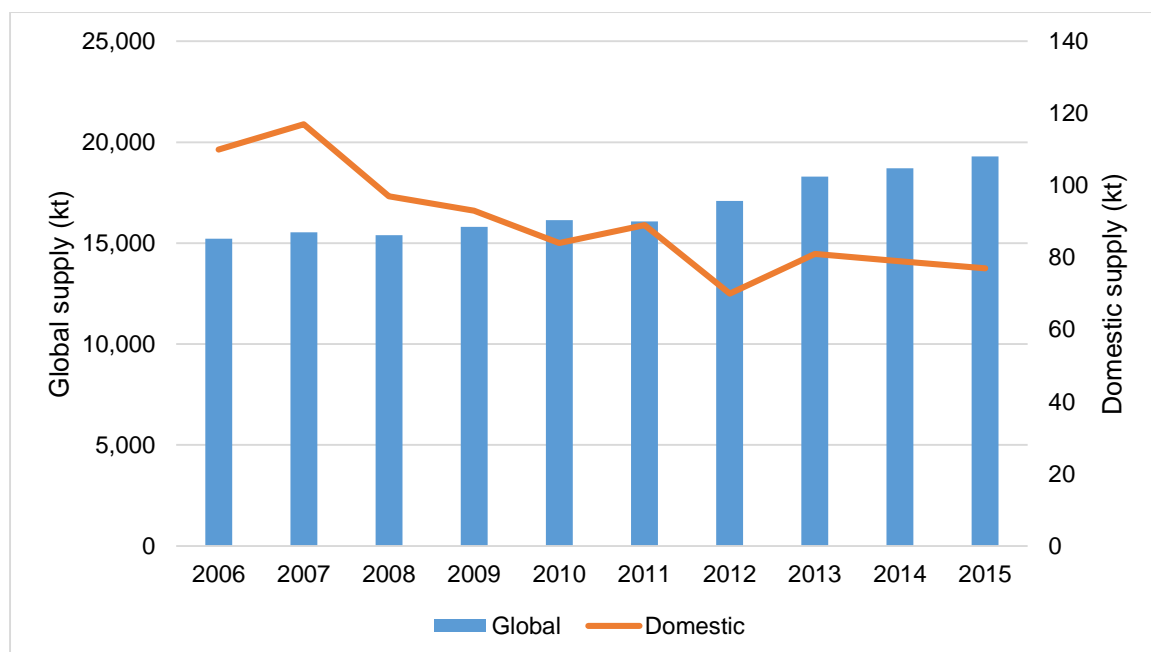
Source: DMR, Directorate Mineral Economics
          World Bureau of Metal Statistics, 2016

In 2012, local production decreased by 21.8 percent due to the plant closure during refurbishment that took place at Palabora Copper, the primary copper producer. While output improved in 2013, lower ore grade from the primary producer resulted to a declining trends on production levels.

2.3.2 Stock levels and prices

Copper prices rose significantly in 2006 to an annual average of $6 723.54 /t from an average of $3 678.82 /t in 2005. This was driven primarily by strong demand from emerging economies, low inventory levels and the impact of earlier capacity closures when the market was in a prolonged slump. Prices continued on an upward trend reaching an average of $7 118.72 /t in 2007 before the market was interrupted by the global recession in 2008 (Fig: 6). As a result of global downturn, prices plunged 28 percent to an average of $5 112.77 /t in 2009. Positive sentiments about global economic recovery as well as China's announcement of a number of economic measures to stimulate growth inspired confidence in the market. This led to prices increasing by 73 percent to reach a record high average of $8 832.89 /t in 2011 which also supported the development of new projects that came on stream. 2012 marked the beginning of a downward trend of market price amid poor global economic growth particularly in China and the economic turmoil in Europe as well as a supply surplus in the global copper market. Downward trending continued in 2015 reaching six year lows at an average of $5 500.67 /t.

FIGURE 6: AVERAGE COPPER LME CASH SETLEMENT PRICES AND STOCK LEVELS 2006 - 2015
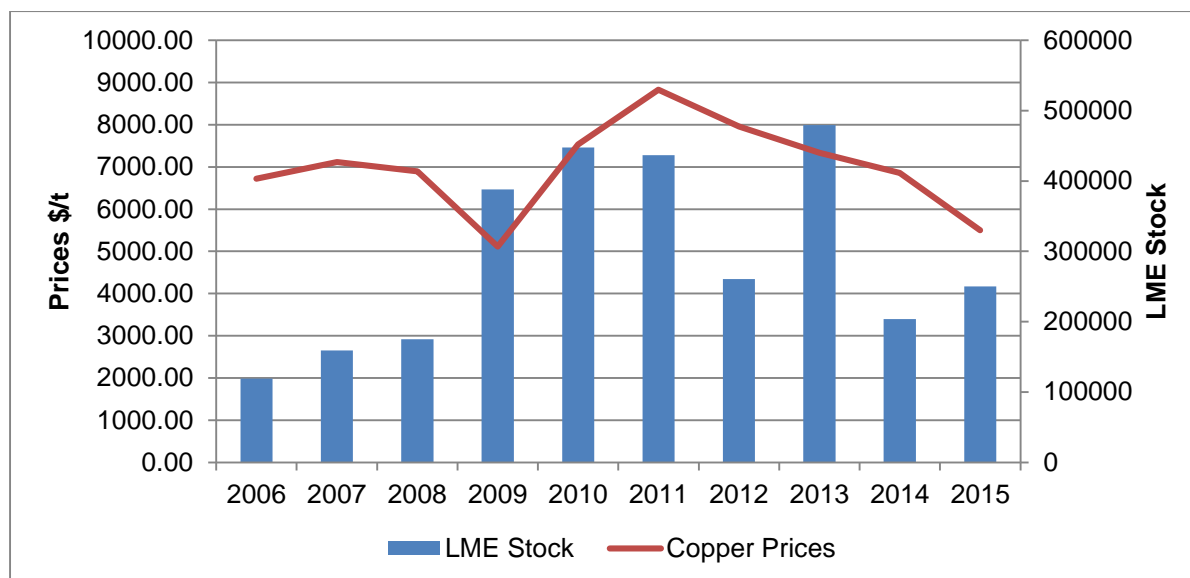
Source: London Metal Exchange (LME)

Inventory levels at the LME warehouses have been low resulting from higher demand reaching a decade low at an average of 119 kt in 2006 (Fig: 6). This was due to accelerated demand from emerging economies which resulted in market deficit pushing prices up. In 2009, stock level surged 121.5 percent to an average of 388 kt due to global economic recession and thereafter slowly piled up into the following year. LME stock levels piled up to 480 kt in 2013 as a result of increased capacity while demand remained subdued. In 2014, LME inventories fell significantly by 57.6 percent to an average of 204 kt, due to positive copper market fundamentals resulting from increased import to China as well as Indonesia's ban on mineral export.

2.4.   Lead

2.4.1   Supply and demand

Global lead mine production has been consistently increasing at an average rate of 5.7 percent per annum until 2014 when output from China decreased as a result of environmental regulations that had an impact on production. China, the largest lead producer, accounts for more than 50 percent of the total world lead production. Demand for lead is dominated by the battery sector which accounts for more than 80 percent of total demand followed by rolled and extruded products at 6 percent and pigments and other components at 5 percent. Global

refined lead metal consumption grew at an average rate of 2.6 percent per year in the previous decade. This growth was primarily driven by the growth in the e-bike sector in China, the largest consumer of the lead acid battery.

FIGURE 7: LEAD PRODUCTION FOR THE PERIOD 2006 - 2015
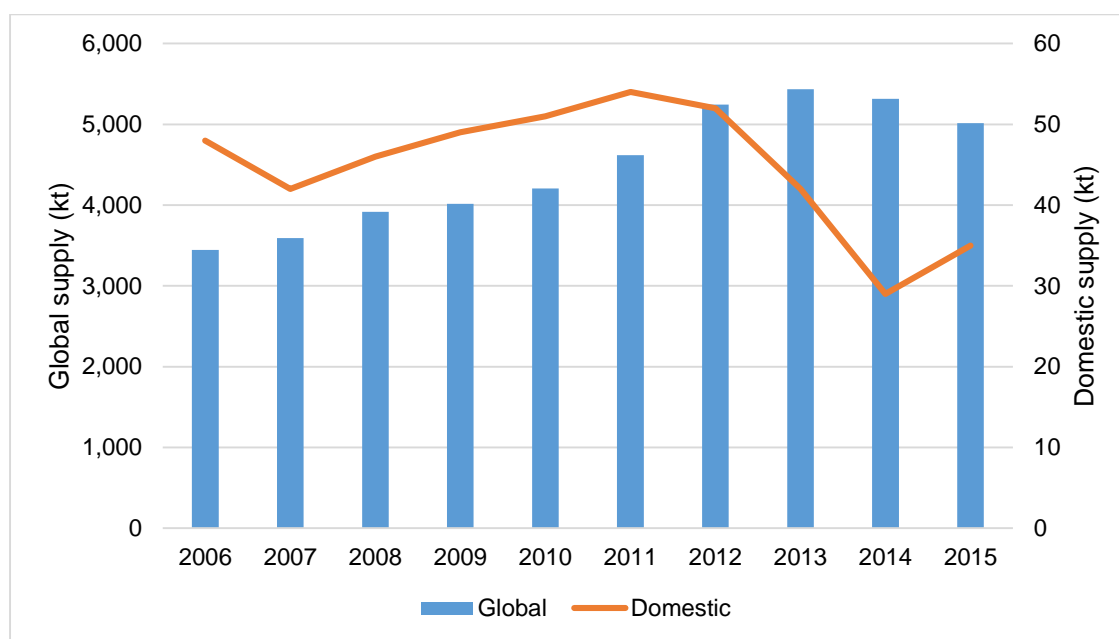
Source: DMR, Directorate Mineral Economics
World Bureau of Metal Statistics, 2016

In the previous decade, South Africa's lead mine production has been fairly stable at average output levels above 40 kt per annum (Fig: 7). In 2007, production declined by 13.3 percent to an average of 42 kt, due to the closure of Broken Hill and Swartberg mine at the end of 2006. Despite the global recession in 2008, output levels increased to reach a peak of 54 kt in 2011 resulting from operational improvements at the Deeps Shaft which was commissioned in 2007. 2012 marked the beginning of declining trends for lead mine production resulting from lower ore grades. Despite the reopening of the Swartberg mine in 2013, output levels continued to decrease reaching the lowest output levels in 2014 at an average of 29 kt per year. This was due to lower ore grade from both the Deeps Shaft and Swartberg mine. In 2015, domestic production increased by 20.7 percent to 35 kt, due to higher ore grade at Black Mountain Mining

2.4.2 Stock levels and prices

In 2007, LME average annual prices of lead almost doubled to $2 578.75 /t from $1 289.77 /t recorded in 2006 (Fig: 8). The main reason for the upsurge was the imbalance in the market as a result of higher demand from Asian markets particularly China. During the recession, prices fell by 33 percent to $1 718.86 /t in 2009. Despite a decrease in prices in 2012 as China's growth slowed down, the development of new technologies in recent years particularly in telecommunication sector and the use of uninterrupted power supply in the health facilities where lead-acid batteries being used as power storage kept lead demand stable.

FIGURE 8: AVERAGE LEAD LME CASH SETLEMENT PRICES AND STOCK LEVELS 2006 - 2015
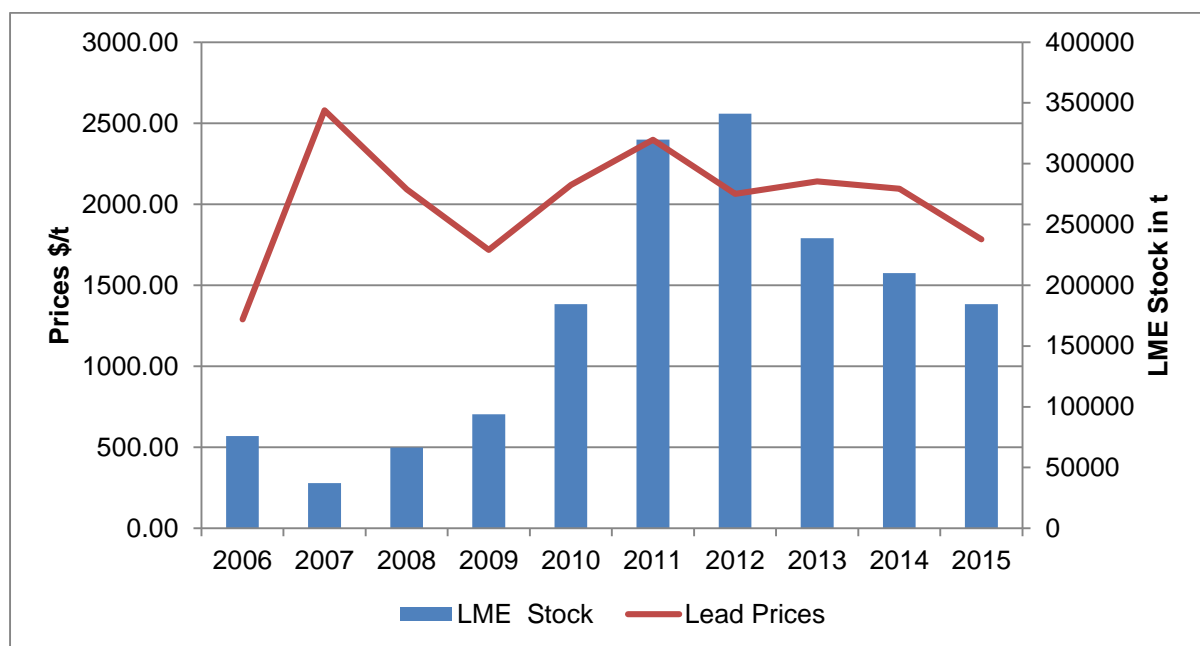
Source: London Metal Exchange (LME)

The second half of 2014 marked a declining trend period in LME lead prices as demand from China's e-bike industry fell as well as the introduction of new lead batteries substitute, lithium-ion batteries. In 2015, prices fell by 15 percent compared with 2014 regardless of the closure of 2 large lead and zinc mines which were expected to bring the market into a deficit. This is mainly due to lower production and sales of e-bikes in China, the biggest consumer of lead-acid batteries.

LME lead metal stock levels dropped significantly by 51.1 percent in 2007 to an average of 37 kt resulting from a sudden demand from Asian markets (Fig: 8). Stock levels piled up in the following years as a result of global economic slowdown. In 2012, inventories reached a record high of 341 kt due to the market surplus resulting from slow demand for the metal. Despite lacklustre demand, LME warehouses have been recording decreasing stock levels as from 2013 due to the anticipated market deficit due to the closures of major lead and zinc mines in 2014.

2.5.   Nickel

2.5.1   Supply and demand

Global nickel production increased in 2007 by 10.7 percent to 1.6 Mt prior to a two year successive decline as the global recession had a negative impact on demand. The turnaround of the market in 2010 marked the upward trend of the global output as new projects came on stream. The demand growth for refined nickel has been rising at a rate of 4.1 percent driven by industrialisation in Asia.

Demand for nickel has mainly been driven by the stainless steel industry which accounted for over 65 percent of global nickel output, followed by nonferrous alloys at 12 percent while ferrous alloys consume an average of 8 percent per year. As the largest crude stainless steel producer, China remained the largest nickel consumer, with an annual compound growth rate of approximately 20 percent over the period under study.

FIGURE 9: NICKEL PRODUCTION FOR THE PERIOD 2006 - 2015
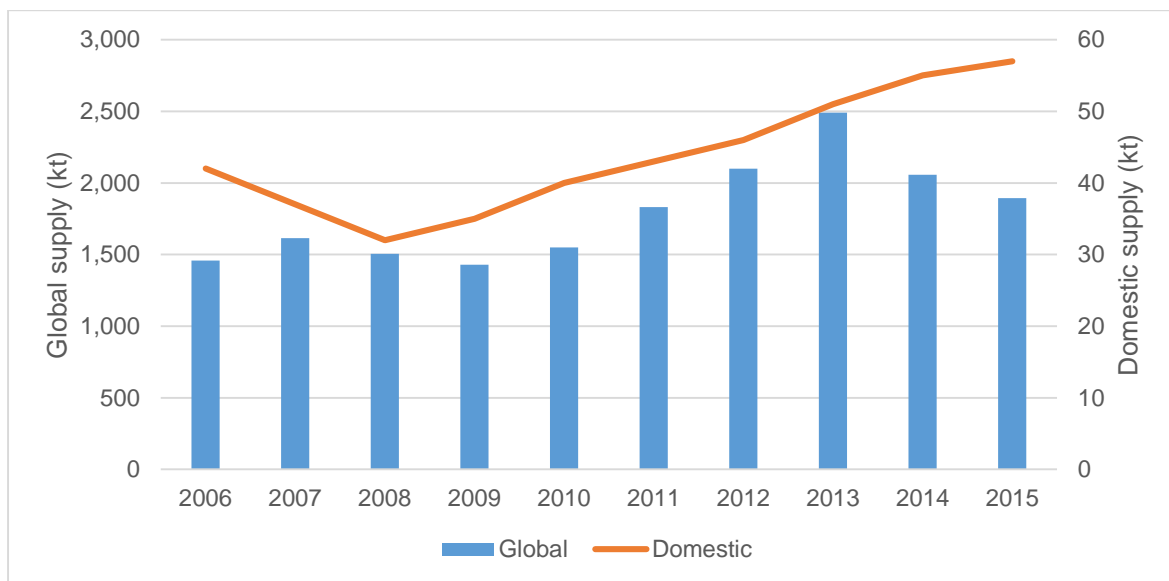
Source: DMR, Directorate Mineral Economics
World Bureau of Metal Statistics, 2016

South Africa's nickel production grew at a rate of 4 percent per annum from 2006 (Fig: 9), primarily due to the Phase II expansion at the primary nickel producer, Nkomati Nickel in Mpumalanga. This increase was also maintained by new developments in the PGMs sector that came on stream over the years. Higher demand for stainless steel from Asian economies resulted in strong demand for nickel which quickly outstripped supply.

2.5.2 Stock levels and prices

LME nickel prices rose by 53.5 percent from an annual average of $24 246.16 /t in 2006 to $37 208.50 /t in 2007 (Fig: 10), due to higher demand from Asian economies which embarked on industrialisation. LME nickel prices suffered a steep decline of 61 percent to an annual average of $14 633.19 /t in 2009 during the economic recession which resulted in a muted industrial activity. In 2010, prices recovered to an average of $21 803.81 /t and by a further 5.2 percent in 2011 to $22 938.74 /t, resulting from stimulation of the Chinese economy. However, capacity growth as new projects came on stream as well as lower demand for stainless steel exerted a downward pressure on prices from an average of $17 577.39 /t in 2012 to the low of $11 824.73 /t in 2015.

FIGURE 10: AVERAGE NICKEL LME CASH SETLEMENT PRICES AND STOCK LEVELS
2006 - 2015
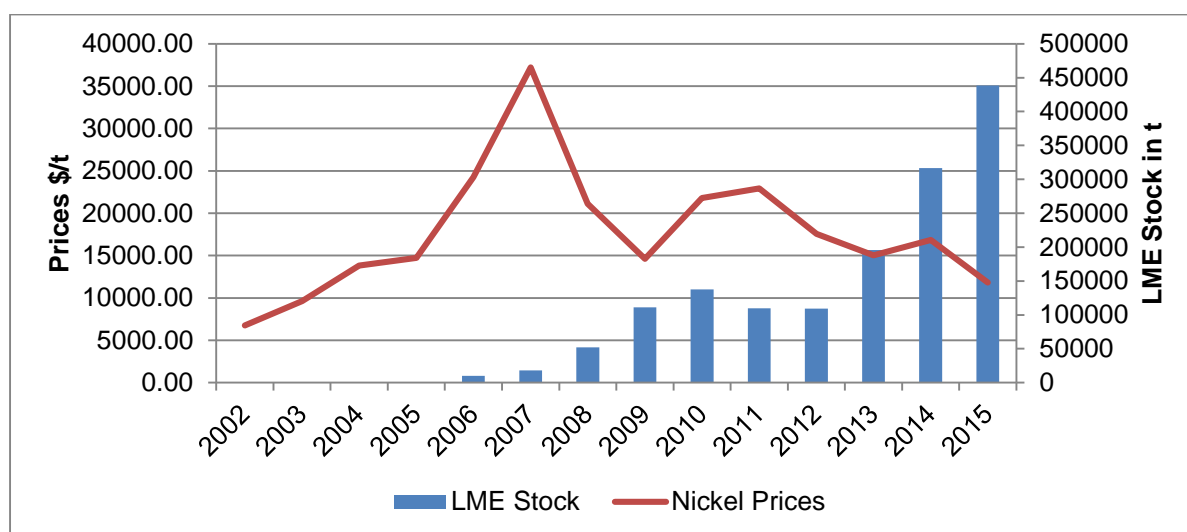
Source: London Metal Exchange (LME)

In 2015, despite positive fundamentals for nickel as the market tightened, annual average
prices decreased to a 10 year low of $11 824 /t. This was attributed to lower demand from
stainless steel markets which consumes more than 70 percent of nickel as well as rising
inventory levels at the LME warehouses. LME stock levels have been increasing steadily since
2006, driven by high output supported by strong global economic growth (Fig: 10). At the onset
of the recession in 2008, many economies slowed down and demand reduced resulting in a
slow piling up of stocks. Stock levels reached 138 kt in 2010, rising by 42 percent to reach 196
kt in 2013 and a further 124.2 percent to 439 kt in 2015, owing to weak global demand.

2.6 Zinc

2.6.1 Supply and demand

The world's zinc mine production growth increased at an average rate of 3.3 percent per year
in the past decade. Higher production was driven by China, the largest producer which
accounts for more than 30 percent of the total world production, Australia and Peru. In the
past decade, the growth rate for refined zinc consumption grew at a rate of 3 percent per year.
Industrialisation in the Asian economies have been the main drivers of zinc demand. The

galvanising of steel in the construction sector together with publicly funded infrastructure consumed over 45 percent of zinc per annum followed by transportation and automotive sector at 25 percent while consumer goods and electrical appliances account for an average of 24 percent per year.

South Africa's zinc mine production decreased by 1 percent in the past 10 years (Fig: 11). This was due to the closures of Broken Hill and Swartberg in 2006 resulting in a 10 percent decrease in output in 2007, and continued to fall at an average of 6.4 percent per year to 2009. Output increased by 28.3 percent in 2010 and continued to rise to a peak of 37 kt per year in 2012. This was due to an increased production from Black Mountain's Deeps Shaft which was commissioned in 2007. Despite the reopening of the Swartberg mine in 2013, zinc mine production was on a downward trend reaching 26 kt in 2014 due to lower ore grade. In 2015, mine production improved by 11.5 percent to 29 kt, this was due to higher ore grade on the feed.

FIGURE 11: ZINC PRODUCTION FOR THE PERIOD 2006 - 2015
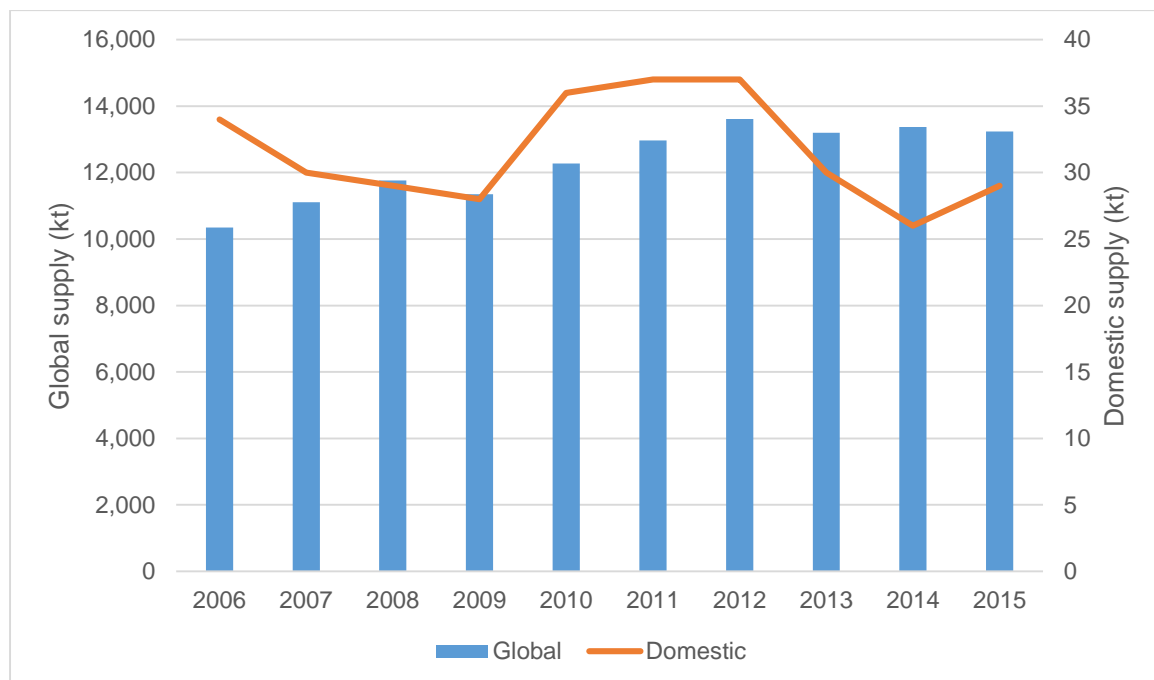
Source: DMR, Directorate Mineral Economics
World Bureau of Metal Statistics, 2016

2.6.2 Stock levels and prices

LME zinc prices fell by 1 percent from an annual average of $3 276.10 /t in 2006 to $3 242.50 /t in 2007 (Fig: 12) due to market surplus resulting from smelting capacity expansion, particularly from China, the largest zinc producer. The global financial crisis of 2008 - 2009 led to a 49 percent decrease in annual average prices from $3 242.50 /t recorded in 2007 to $1 653.77 /t in 2009. Despite price recovery in 2010, the market remained in surplus limiting price growth as global demand remained weak. In 2014, average zinc prices increased by 13 percent from $1 912.33 /t in 2013 to $2 162 /t, mainly due to positive and strong fundamentals which include, better macroeconomic outlook, an anticipated supply deficit and substantial declines in stock levels. However, a lacklustre global economic growth and concerns over China's growth offset any positive impact from permanent mine closures and production cuts by various producers resulting in a significant fall in prices in 2015.

FIGURE 12: AVERAGE ZINC LME CASH SETLEMENT PRICES AND STOCK LEVELS 2006 - 2015
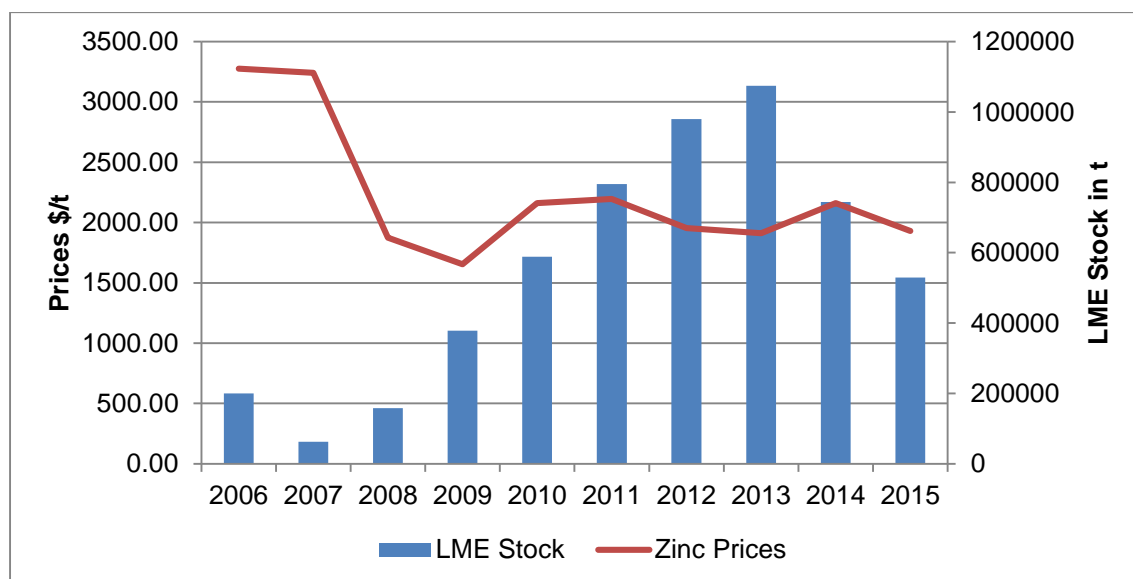
Source: London Metal Exchange (LME)

LME zinc stock levels fell 58.3 percent to 200 kt in 2006 due to strong demand from emerging economies driven by industrialisation (Fig: 12). LME zinc inventories were at their lowest in 2007, recording an average of 63 kt before a sustained piling up of stock triggered by the global recession in 2009. Inventories reached a record high of an average of 1.07 Mt in 2013

before falling by 33.8 percent in 2014 and a further 28.8 percent in 2015. This was highly influenced by the anticipated shortage of the metal resulting from the permanent closures of three large zinc mines in 2014 and 2015.

3. IMPACT ON MINING INDUSTRY AND ECONOMY

- **Investment**

During a period of high commodity prices, South Africa experienced an increase in mining investment. Investment in PGMs greenfield and brownfield projects, associated with cobalt and nickel, increased; Palabora Copper underwent capacity upgrades and Vedanta began exploring for more lead and zinc resources giving birth to the Gamsberg project; Nkomati Nickel also underwent an expansion of the Phase II project. Most expansion projects were driven by the appetite of China for nonferrous metals for their industrialisation drive. A lot of capital was injected into capacity expansions, however, this has now created an oversupply in the market. Mining companies are now cutting back on investment in new developments and expansions, with others planning to shut operations down. BHP Billiton's Bayside aluminium smelter in Richards Bay shutdown in August 2014 as a result of falling prices while rising electricity costs had a negative impact on the energy intensive smelters.


- **Rising costs**

The continued downswing in commodity prices contributed to shrinking profit margins and impairment provision for most mining houses. These were compounded by increasing energy costs and the rising wage bill. Cost increases have been more than inflationary and put serious pressure on companies in the current low commodity price environment. In 2015 alone, operating expenses increased by 14 percent, driven mainly by high labour costs. In order to curb rising costs, mining houses have been shedding assets as well as mothballing marginal projects or curtailing capacity. There has also been a drop in capital expenditure, indicative of an almost stagnant investment environment.

- **Employment**

South Africa's mining employment experienced a sharp increase during the period of higher commodity prices, as various mining houses embarked on capacity expansion to take

advantage of mineral demand from Asian countries. Total mining employment increased by 8.5 percent in 2007 to an average of 495 150 thousand employees and a further 4.8 percent in 2008 to an average of 518 729 thousand employees (Fig: 13). The global recessions had a negative impact on local mining employment resulting in the loss of more than 25 000 jobs in 2009, from an average of 518 729 in 2008 to 491 794 workers. As the global economy recovered in 2010, mining employment increased by 6.7 percent to reach 524 873 workers in 2012. Between 2013 and 2015, mining industry lost over 31 600 employees as a result of metal commodity price melt down.

FIGURE 13: AVERAGE SA EMPLOYMENT AND NON-FERROUS EMPLOYMENT 2006 – 2015
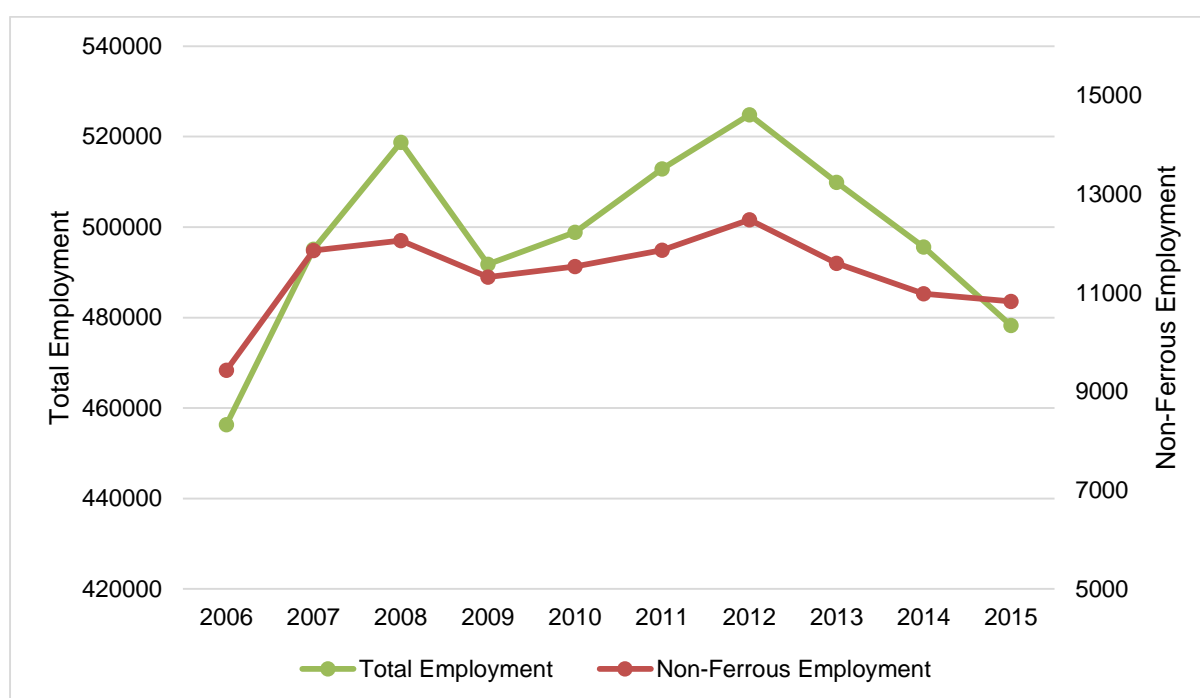
Source: DMR, Directorate Mineral Economics

In the nonferrous sector, employment increased by 25.8 percent to average of 11 862 workers in 2007, as various mining houses ramped up production to meet the demand from Asia (Fig: 13). As economic downturn intensified in 2009, employment from nonferrous sector went down by 6.1 percent to 11 321 workers. Employment improved in 2010 as global demand recovered and upwards trends continued to 2012. Lower commodity prices which resulted from concerns over China's economic growth, the largest consumer of the nonferrous metals, led to a rapid decrease of employment from an average of 12 480 in 2012 to 10 831 employees in 2015.

- **Contribution to economy (mining contribution)**

In the past decade, mining contribution to the economy was increasing at an average rate of 9 percent per annum. Mining contribution increased from 8.4 percent in 2006 to 9.7 percent in 2008 (Fig: 14). This was primarily due to higher mineral export sales to the Asian markets for their mineral intensive industrialisation. Rising company profits boosted the government's tax receipts, allowing it to spend more on services.

FIGURE 14: CONTRIBUTION OF MINING AND NON FERROUS SECTOR TO TOTAL GDP 2006 - 2015
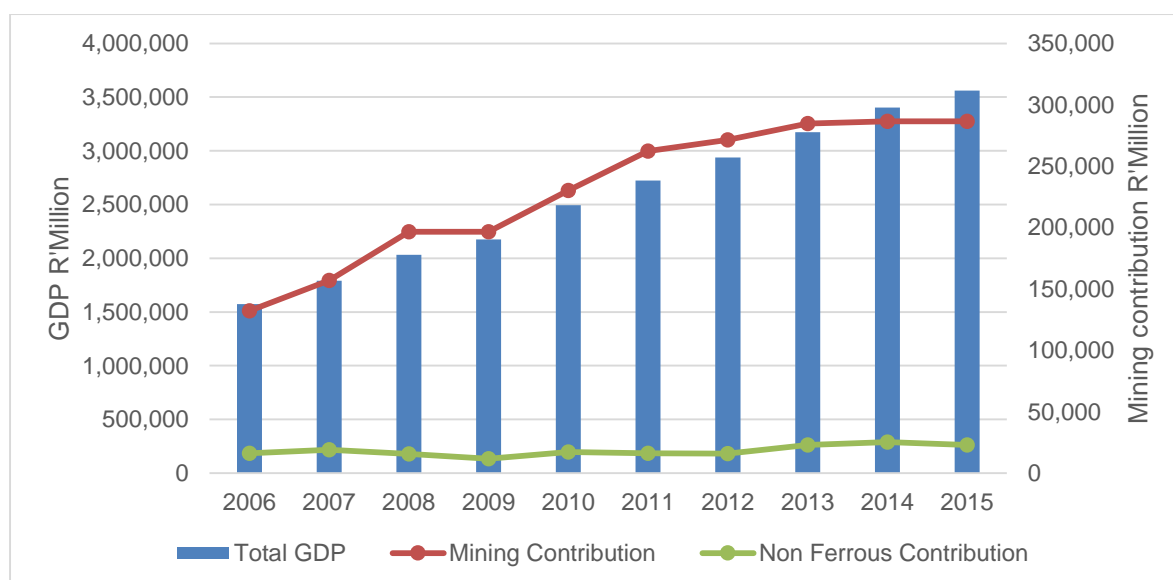
Sources: Statistic South Africa, 2016

During this period, the contribution of the nonferrous sector to the economy grew at an average of 0.7 percent per year. In 2007, nonferrous contribution increased from 1 percent in 2006 to 1.1 percent (Fig: 14). This was due to higher demand for nonferrous metals from industrialisation in the Asian economies. As the global growth stagnated in 2008 and 2009, the nonferrous contribution to economy shrank to 0.8 and 0.5 percent, correspondingly. Nonferrous contribution increased in 2010 to 0.7 percent resulting from global growth recovery, particularly in China. Nonferrous contribution was lower in 2011 to 2012, due to lower economic growth from China, the largest consumer of the nonferrous metals. The contribution rose to 0.7 percent in 2013 and 2014 before declining to 0.6 in 2015 as a results of lower global demand for nonferrous metals.

4. CONCLUSION

Non-ferrous metals industry is likely to remain subdued in the short term, due to weak global growth. Since demand for these metals is linked closely to global economic growth, lower global growth forecast for 2016 and 2017 by International Monetary Fund (IMF) means that the downward trends for prices will continue for a longer period. Sluggish growth in advanced economies and weakening expansion in emerging markets particularly uncertainty regarding growth in China is one of the primary factors underpinning negative outlook across the industrial metals. However, China will continue to be crucial to the prosperity of the mining industry, representing approximately 40 percent of global demand. Nevertheless, the reliance on China as the sole driver of prosperity in the mining sector has to be reduced. China's New Economic Plan highlights the nation's aspiration to transition from a manufacturing-based economy to a service-based economy. As this transition gains momentum, China's rampant demand for raw commodities seen during the boom will not be replicated.

The build-up of LME inventory levels on various metals will need to be meaningfully reduced before prices can resume an upward trend. Given that the demand remains relatively weak, this is likely to take several years to rebalance the market. The US demand for nonferrous metals remains strong but it's not enough to counter for the weakening global trends particularly China. It is projected that nonferrous commodity prices will remain subdued through 2016 and 2017 if the global geopolitical status quo remains. The slowdown in China's economy and excess metals capacity within the country is a primary driver for sustained demand led price decline in nonferrous commodities.

South Africa has a resource-dependent economy and value addition still accounts for a relatively small share of output. Minerals are exported in a raw state without being processed, refined or having had value added to them. As such, the country is susceptible to swings in global commodity prices. The low global commodity prices provide scope for development of downstream value addition activities. The expansion of the manufacturing sector by value addition will provide a country with the means to increase the direct benefit derived from its natural resources, including improved tax potential and a larger set of job opportunities. The

protracted commodity price slump provides an impetus for sectorial rebalancing away from the extractive sector, towards a greater diversification of the economic base.

The finalisation of Mineral and Petroleum Resources Development Act (MPRDA) Amendment Bill, 2013 which strives to boost the investor confidence by promoting the wider access to mineral rights and create environment for innovative thinking that could transform the mining industry of today. The amendment bill provides for the streamlining of administration processes of the mining application. The Department of Mineral Resources (DMR) together with the Departments of Water and Sanitation as well as Environmental Affairs, have been developing a system of streamlining licensing and permitting processing in order to reduce application timeframes to within 300 days for compliant applicants. In December 2014, companies could submit their mining license application together with the Environmental Authorisation at the DMR. Work is still underway for the inclusion of the Water Use license into the "one stop shop".

This initiative may begin to encourage investment into the nonferrous sector which is currently struggling because of poor commodity prices. The recent approval of the prospecting rights, to explore 14 properties of copper, lead, silver and zinc in the Namaqualand in Northern Cape has the potential to further develop the domestic nonferrous metal sector. These projects together with Gamsberg mine and the Lift II in Palabora Copper have incentives to take full advantage of market prices as the cycle is expected to change to more favourable conditions.

5. REFERENCES

1.   *Creamer Media: Base Metals Report, December 2015*
2.   *Creamer Media: A review of South African steel sector 2016*
3.   *CRU, Cobalt Market Outlook 2016 Edition*
4.   *DMR, Mineral Economics Directorate*
5.   *EY's Global Mining & Metal: Mining and rapid-growth economies, 2013*
6.   *ICICI Bank: Industrial Metals, China slowdown suggests end of super-cycle in prices 2014*
7.   *International Monetary Fund: World Economic Outlook, October 2015*
8.   *Mining Weekly, 26 October 2015*
9.   *Mining Weekly, 07 March 2016*
10.   *Statistics South Africa*
11.   *World Bureau of Metal Statistics, 2016*
12.   *www.westmetall.com*
13.   *www.engineeringnews.co.za*
14.   *www.tralac.org*
15.   *www.forbes.com*
16.   *www.kpmg.com*
17.   *www.riksbank.se*
18.   *www.worldbank.org*