Investment in Mining

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THE GLOBAL CONTEXT
Waiting for the bear market to end

Comparing: Late 1990s to Current Bear Market
(Year 0 = 1997 and 2012)

Problem seems to be due to historical global over-investment and excess supply, rather than deficient demand
The nature of global capex in mining & relative trends in the stock value of FDI in mining

Source: SNL Metals and Mining

Source of basic data: ITC Investment Map
### Location of metals mining investment projects and type of metal to be mined - 2013

<table>
<thead>
<tr>
<th>Country</th>
<th>Value of Investment Projects (US$m)</th>
<th>Share of Total Investment Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>64,401</td>
<td>15.3%</td>
</tr>
<tr>
<td>Chile</td>
<td>54,397</td>
<td>13.0%</td>
</tr>
<tr>
<td>Russia</td>
<td>50,635</td>
<td>12.1%</td>
</tr>
<tr>
<td>Australia</td>
<td>48,471</td>
<td>11.5%</td>
</tr>
<tr>
<td>Peru</td>
<td>29,504</td>
<td>7.0%</td>
</tr>
<tr>
<td>Brazil</td>
<td>27,287</td>
<td>6.5%</td>
</tr>
<tr>
<td>USA</td>
<td>18,935</td>
<td>4.5%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>13,215</td>
<td>3.1%</td>
</tr>
<tr>
<td>Argentina</td>
<td>10,775</td>
<td>2.6%</td>
</tr>
<tr>
<td>Guinea</td>
<td>10,000</td>
<td>2.4%</td>
</tr>
<tr>
<td>Philippines</td>
<td>9,695</td>
<td>2.3%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>8,335</td>
<td>2.0%</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>8,000</td>
<td>1.9%</td>
</tr>
<tr>
<td>South Africa</td>
<td>7,895</td>
<td>1.9%</td>
</tr>
<tr>
<td>Cameroon</td>
<td>7,686</td>
<td>1.8%</td>
</tr>
<tr>
<td>Congo (Brazzav)</td>
<td>7,545</td>
<td>1.8%</td>
</tr>
<tr>
<td>Panama</td>
<td>6,181</td>
<td>1.5%</td>
</tr>
<tr>
<td>Sweden</td>
<td>4,994</td>
<td>1.2%</td>
</tr>
<tr>
<td>Mexico</td>
<td>4,360</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other Countries</td>
<td>27,564</td>
<td>6.6%</td>
</tr>
<tr>
<td>Total</td>
<td>419,875</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: E&MJ’s Annual Survey of Global Mining Investment 2014
Global project investments in the metals mining sectors

<table>
<thead>
<tr>
<th>Year</th>
<th>Conceptual and Pre-feasibility</th>
<th>Detailed Feasibility</th>
<th>Construction</th>
<th>Total Number of Projects</th>
<th>Total Value of Projects (US$ Billion)</th>
<th>Average Value per Project (US$ Billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>67</td>
<td>63</td>
<td>21</td>
<td>151</td>
<td>344.1</td>
<td>2.3</td>
</tr>
<tr>
<td>2013</td>
<td>60</td>
<td>72</td>
<td>17</td>
<td>149</td>
<td>321.9</td>
<td>2.2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Feasibility</th>
<th>Plans</th>
<th>Construction</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>12</td>
<td>18</td>
<td>14</td>
<td>44</td>
<td>91.5</td>
<td>2.1</td>
</tr>
<tr>
<td>2013</td>
<td>10</td>
<td>18</td>
<td>20</td>
<td>48</td>
<td>97.9</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Source: E&MJ’s Annual Survey of Global Mining Investment 2014
INVESTMENT IN SOUTH AFRICAN MINING
Estimated value chain for coal and lignite mining in 2014

- **Primary Sector**
  - Labour: R19.4bn
  - Value Added of Coal Mining: R67.1bn
- **Secondary Sector**
  - Total Intermediate Inputs: R46.9bn
  - Secondary Sector: R16.5bn
  - Sales of Domestically-produced Coal: R114.0bn
- **Tertiary Sector**
  - Tertiary Sector: R29.7bn
  - Exports of Coal: R46.7bn

+ **Gross Domestic Product (GDP)**: R45.3bn
+ **Imports of Coal**: R2.9bn
+ **Exports of Coal**: R46.7bn
+ **Imports of Coal**: R2.9bn
+ **Final Demand**: R2.7bn
+ **Households**: R0.4bn
+ **Government**: R0.8bn
+ **Gross Capital Formation**: R3.5bn

- **Intermediate Demand** (Inputs into Other Sectors): R72.8bn
- **Net Indirect Taxes**: R2.4bn
- **Labour**: R19.4bn
- **Gross Domestic Product (GDP)**: R45.3bn
- **Primary Sectors**: R63.5bn
- **Secondary Sectors**: R6.3bn

**Value Chain Breakdown**
- **Total Intermediate Inputs**: R46.9bn
- **Labour**: R19.4bn
- **Gross Domestic Product (GDP)**: R45.3bn
- **Net Indirect Taxes**: R2.4bn
- **Intermediate Demand (Inputs into Other Sectors)**: R72.8bn
- **Imports of Coal**: R2.9bn
- **Exports of Coal**: R46.7bn
- **Final Demand**: R2.7bn
- **Households**: R0.4bn
- **Government**: R0.8bn
- **Gross Capital Formation**: R3.5bn
Estimated value chain for gold and uranium ore mining in 2014
Relative trends in fixed capital formation and mining exports

Source of basic data: SARB Quarterly Bulletin

Source of basic data: SARS (via Quantec), IMF WEO
Trends in the gross fixed capital formation of the mining sector

Source of basic data: SARB Quarterly Bulletin
Trends in the fixed capital stock of the mining sector

Source of basic data: SARB Quarterly Bulletin
Estimated value of the fixed capital stock in the mining sector

Source of basic data: SARB Quarterly Bulletin, StatsSA AFS Analysis
Trends in the fixed capital stock in mining

Source of basic data: SARB Quarterly Bulletin, StatsSA AFS Analysis
Indicative returns on different types of mining

- With the exception of service activities and diamonds, returns on all other types of mining declined between 2009 and 2013.
- A number of mining activities (chrome, PGMs, dimension stone, other mining) achieved negative returns on assets in 2013.

According to PWC Mine 2016, the top 40 mining companies globally made a collective loss of US$27 billion in 2015 – the first time ever. The market cap of the top 40 miners dropped by 37%.
Relative trends in investment and relationship between investment levels and economic performance

Source of basic data: SARB Quarterly Bulletin
South African project investments in the metals mining sectors

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</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>10</td>
<td>8.4</td>
<td>0.84</td>
</tr>
<tr>
<td>2013</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>9</td>
<td>3.5</td>
<td>0.39</td>
</tr>
</tbody>
</table>

<table>
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<th>Year</th>
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</thead>
<tbody>
<tr>
<td>2012</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>6.3</td>
<td>1.05</td>
</tr>
<tr>
<td>2013</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>4.4</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Source: E&MJ’s Annual Survey of Global Mining Investment 2014

Gold: 26%
Diamonds: 27%
PGMs: 48%
LOOKING FOR REASONS FOR SOUTH AFRICA’S DETERIORATING INVESTMENT PERFORMANCE
• SA still has attractive known reserves – so primary reason for location choice should still hold

• So why losing ground i.t.o. investment?
  – Licensing/royalty arrangements/policy uncertainty
  – Energy constraints (new projects need to be self sufficient)
  – High cost producer during extended commodity price downturn
  – Ease of doing business
  – Logistics
  – Proximity to major consumer markets
Relationship between Ease of Doing Business ranking and share of global metals mining investment project value in 2013

Source: E&MJ’s Annual Survey of Global Mining Investment 2014, World Bank
Relationship between Logistics Performance Index ranking and share of global metals mining investment project value in 2013

Source: E&MJ’s Annual Survey of Global Mining Investment 2014, World Bank
Conclusion

• The nascent uptick in some commodity prices seems unlikely to gain significant momentum over the medium term: the bear market seems likely to remain intact.

• A sustainable price turnaround will depend largely on supply cuts rather than a dramatic recovery in demand.

• A significant recovery in global mining investment therefore still seems some years off. The nature of investment will continue to shift to sustaining investment, rather than new mines.

• Even within the context of a gloomy global environment, South Africa’s mining sector has underperformed.

• While proximity to major markets is a factor, the main reasons for the underperformance appear to have been largely self-inflicted (policy uncertainty, electricity constraints, fractious labour relations).

• Given depressed output levels, investment has been high (in some cases unsustainably so), but there is still little indication that the nature of investment is consistent with a radically changed, mechanised mining sector.