ROLE OF MINING IN NATIONAL ECONOMIES

Mining Contribution Index (MCI)
5th Edition
This index is designed to improve the understanding of the role of mining in national economies. It illustrates the importance of good mineral resource governance if governments are to ensure that mineral wealth translates into broad-based economic and social progress.

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INTRODUCTION

In countries that rely on their natural resources as the primary driver of economic activity, responsible mining practices can be transformative, leading to substantial reductions in levels of poverty and overall improvements in social wellbeing. ICMM’s Mining Principles set a strong benchmark for the industry’s environmental and social performance, including the application of ethical business practices that support sustainable development and promote open and transparent management of natural resources.

The 2020 Mining Contribution Index (MCI) confirms that many of the world’s most mining dependent countries continue to rely on their natural resources as the primary driver of economic activity. However, resources such as the Natural Resource Governance Institute’s (NRGI) Resource Governance Index and the World Bank’s Worldwide Governance Indicators (WGI), indicate that the governance of natural resources in many of these countries is weak, poor, or failing. It is therefore clear that there is more to do to ensure that mining’s contribution to national economies is maximised.

The MCI synthesises into a single number – and an associated ranking – the significance of the mining sector’s contribution to national economies. MCI scores and rankings provide an indication of the relative importance of mining to the economic life of a country. It is not a measure of success. Whether or not a relatively high position on the index ultimately translates into broader-based economic and social benefits depends on several factors, and quality of governance is a critical one.

This 5th edition of the MCI continues the trend seen in previous editions, that many low and middle-income economies remain dependent on the metals and minerals sector. The data for each edition of the MCI is extracted from two years prior to publication, meaning that the 5th edition of the index uses data from 2018, when mineral and metals prices were in a period of recovery compared to a period of low prices when the 4th edition was published in 2016. We expect the COVID-19 pandemic will have a significant effect on the relative contribution of mining to national economies around the world. Full datasets for this period will be available to explore this impact in the 6th and 7th editions of the MCI in 2022 and 2024, respectively.

1. We define mining-dependent countries using two criteria: (1) metals and minerals accounts for more than 20 per cent of exports by value, or (2) mineral rents are more than 10 per cent of GDP.
METHODOLOGY

The MCI is a composite of four indicators, each capturing different aspects of mining’s contribution to national economies:

- **Mineral and metal export contribution 2018.** This provides a measure for the scale of mining in relation to other productive activities, in particular for small and low to middle-income countries.
  
  Calculated from: Exports of metallic minerals, metals, and coal as share of total merchandise exports (UNCTADstat)

- **Increase/decrease in mineral and metal export contribution between 2013-2018.** This adds a dynamic component to the index by providing an indication of whether the importance of mining as an economic activity is growing or falling over a five-year period.
  
  Calculated from: As above (UNCTADstat)

- **Mineral production value expressed as a percentage of GDP in 2018.** This provides a sense of scale of the value of production relative to the size of the economy. It is important to note that this does not represent the contribution of mining to GDP, as costs and profits are not accounted for in the total production value. On average around a third of production value represents value addition to the national economy.
  
  Calculated from: Total production value in US$, average 2018 price (S&P and United States Geological Survey) expressed as percentage of GDP (World Bank).

- **Mineral rents as a percentage of GDP in 2018.** This is production values minus ‘normal costs’, which provides a clearer indication of tax and profit above ‘normal’ profits from mining.
  
  Calculated from: Total mineral rents as a percentage of GDP. (World Bank)

The index is calculated as follows:

1. Countries are ranked in descending order for each of the four MCI indicators. Countries for which data does not exist are omitted.

2. Country percentile rankings are calculated based on the four indicators, by dividing the country rank by the maximum rank within that indicator – to generate a ranking between 0 and 1.

3. The four MCI indicators are weighted equally at 0.25, summed up, and multiplied by 100. Where data is only available on three of the indicators, these are weighted equally at 0.33 each. If the country only has available data for one or two indicators the country is given a zero score on the MCI and they have been omitted from the main data table and the rankings.
WHAT HAS CHANGED IN THE 5TH EDITION OF THE MCI?

Table 1: MCI rank and scores for the top 25 countries in the 5th edition

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<td>1</td>
<td>Suriname</td>
<td>98.1</td>
<td>80.1%</td>
<td>39.2 pp</td>
<td>45.28%</td>
<td>19.92</td>
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<td>2</td>
<td>Congo, Dem. Rep.</td>
<td>97.6</td>
<td>91.1%</td>
<td>17.5 pp</td>
<td>32.97%</td>
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<td>3</td>
<td>Mongolia</td>
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<td>5.7 pp</td>
<td>37.61%</td>
<td>28.88</td>
<td>16</td>
<td>+13</td>
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<td>4</td>
<td>Zambia</td>
<td>95.5</td>
<td>76.1%</td>
<td>8.4 pp</td>
<td>20.64%</td>
<td>14.62</td>
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<td>+20</td>
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<td>Guinea</td>
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<td>82.6%</td>
<td>15.3 pp</td>
<td>14.30%</td>
<td>9.68</td>
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<td>-2</td>
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<tr>
<td>6</td>
<td>Burkina Faso</td>
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<td>76.6%</td>
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<td>16.06%</td>
<td>9.64</td>
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<td>-2</td>
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<tr>
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<td>11.89%</td>
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<td>9</td>
<td>Mali</td>
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<td>75.6%</td>
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<td>6.66%</td>
<td>4.11</td>
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<td>9.50%</td>
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<td>6.3 pp</td>
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<td>0.52</td>
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<td>+11</td>
</tr>
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<td>Guyana</td>
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<td>59.2%</td>
<td>-2.7 pp</td>
<td>19.99%</td>
<td>15.13</td>
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<tr>
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<td>47.9%</td>
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<td>1.17</td>
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<tr>
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<td>1.06%</td>
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<td>31</td>
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<tr>
<td>23</td>
<td>Russian Federation</td>
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<td>11.0%</td>
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<td>24</td>
<td>Myanmar</td>
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<tr>
<td>25</td>
<td>Botswana</td>
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<td>13.39%</td>
<td>0.54</td>
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</table>

Table 1 shows a higher degree of stability at the top of the ranking in the 5th edition than in the 4th edition. There are 7 new entrants to the top ranked 25 countries but these countries do not represent significant rises in the rankings (with the exception of Myanmar, which has risen 53 places and Mozambique, which has risen 26 places). In comparison there were 8 new entrants to the top 25 in the 4th edition, with 5 rising 20 or more places. The 10 highest ranked countries in this edition were all featured in the top 25 in the previous edition, with Suriname and the Democratic Republic of the Congo remaining the top ranked countries overall. The countries falling out of the top 25 since the 4th edition were Madagascar (down 35 places), Sierra Leone (down 34 places), Tajikistan and Dominican Republic (both down 23 places), Liberia (down 22 places), Armenia (down 12 places) and Mauritania (down 9 places).
WHAT HAS CHANGED IN THE 5TH EDITION OF THE MCI?

Figure 1 – Mining Contribution Index Map
Unlike in the 4th edition of the MCI, not all countries in the top 25 qualify as resource-dependent using the criteria applied in ICMM’s Social progress in mining-dependent countries report. Kazakhstan, Georgia, Russia, and Myanmar do not qualify as being resource dependent as metals and minerals accounts for less than 20 per cent of exports by value and their mineral rents are less than 10 per cent of GDP. However, the remaining 21 countries do qualify as resource dependent. This is relatively consistent with findings in previous years and continues to signify the dependence of low and middle-income countries on mining and its significance in the economic life of these countries.

**Monetary value of metals and minerals**

In contrast, when countries are ranked solely on the monetary value of metals and minerals production, the top-ranking countries are dominated by upper-middle or higher-income economies2 (see Table 2). Only 6 other countries – India, Indonesia, Philippines, Ukraine, Zambia (lower-middle income) and the Democratic Republic of the Congo (low income) – feature in the top 20 countries based on production value. The top 20 have not changed significantly over the past 2 years, with only Finland and Turkey falling out of the top 20, replaced by Zambia and the Philippines. This again underscores the dependence of low- and middle-income countries on mining, which has been a feature of all five editions of the MCI.

**Table 2: Top 20 countries ranked on production value of metallic mineral and coal**

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<td>+3</td>
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<td>Russian Federation</td>
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<td>Brazil</td>
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<td>Chile</td>
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<td>8</td>
<td>South Africa</td>
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<td>9</td>
<td>Canada</td>
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<td>Peru</td>
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<td>India</td>
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<td>-6</td>
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<td>76</td>
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<td>Poland</td>
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<td>16</td>
<td>0</td>
<td>69</td>
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<tr>
<td>17</td>
<td>Colombia</td>
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<td>18</td>
<td>Ukraine</td>
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<td>Philippines</td>
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<td>Zambia</td>
<td>5.6</td>
<td>30</td>
<td>+10</td>
<td>4</td>
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What accounts for some of the major changes in the MCI rankings?

There are four countries which have risen to feature in the top 10 countries in the 5th edition of the MCI - Mongolia, Zambia, Sudan, and Zimbabwe (see Table 1). The reasons for this are varied across the four indicators but all four economies saw an increase in the change in mineral export contribution between 2013-18. In the previous edition the mineral export contribution between 2011-16 for these countries had contracted, resulting in a negative figure for this indicator. This indicator shows whether the importance of mining as an economic activity is growing or falling over a five-year period and accounts for some of the changes in ranking for each edition of the MCI. These four countries also experienced a variety of different increases across both production value as a % of GDP and mineral rents as a % of GDP.

Seven countries dropped out of the top 25 in this edition - Madagascar, Sierra Leone, Tajikistan, Dominican Republic, Liberia, Armenia and Mauritania – due to a range of factors. However, one common factor is that the countries have seen an increase in their GDP leading to a decline in the production value and/or minerals rents as a percentage of GDP. In the 4th edition of the MCI, the top 25 saw an increase of African countries featured in the top 25 due to a collective decline in GDP on the continent. This trend is reversed in this edition as many economies in Africa saw their GDP recover between 2016 and 2018.

The countries which experienced the most substantial changes – either an improvement or a decline in their ranking of more than 30 per cent of the index [a change of 55 places or more] are listed in Table 3. In all cases, the biggest gainers experienced positive changes in export contributions, whereas the opposite was true for the countries that experienced a significant decline in their rank, which all saw the value of export contributions decline.

Table 3: Countries that experienced dramatic changes in ranking

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<tbody>
<tr>
<td>89</td>
<td>Belize</td>
<td>+72</td>
<td>+3%</td>
<td>+4.40%</td>
</tr>
<tr>
<td>101</td>
<td>Lebanon</td>
<td>+57</td>
<td>+11%</td>
<td>+4.03%</td>
</tr>
<tr>
<td>106</td>
<td>Vanuatu</td>
<td>+56</td>
<td>+15</td>
<td>+3.26%</td>
</tr>
<tr>
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<td>+11%</td>
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</tr>
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</tr>
<tr>
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<td>Cambodia</td>
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<td>+23%</td>
<td>-7.51%</td>
</tr>
<tr>
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<td>Switzerland</td>
<td>-64</td>
<td>+5%</td>
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</tr>
<tr>
<td>164</td>
<td>Macao SAR, China</td>
<td>-69</td>
<td>+22%</td>
<td>-1.78%</td>
</tr>
</tbody>
</table>

If you are interested in exploring the underlying data in greater depth the Mining Contribution Index is included in full as an appendix to this document. The data is also available for download via an interactive data tool on our website.
Overall, the 5th edition of the MCI has similar findings to previous years, confirming that the majority of countries which rank highly on the MCI continue to be mining dependent countries. This has remained the case across the previous editions of the MCI and across commodity cycles. The highest ranked countries in the 5th edition also featured prominently in the 4th edition, showing that these economies continue to be reliant on mining as their primary driver of economic activity.

Of the top 25 ranked countries in the 5th edition of the MCI, 21 are also featured in NRGI’s Resource Governance Index. Of these 21, 84 per cent were rated by NRGI as weak, poor, or failing. This suggests that there is scope to improve practices that can transform the economic contribution from mining, perhaps including taxes and royalties, to support the delivery of the Sustainable Development Goals. From ICMM’s own research we know that in low- and middle-income mining dependent countries, responsible mining practices can be transformative, leading to substantial reductions in levels of poverty and overall improvements in social wellbeing. However, mineral resource governance is key to ensuring mineral wealth translates into broader-based economic and social progress.

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CONCLUSION
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</tr>
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<td>85.6%</td>
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