DISCUSSION NOTE | MAY 2020 | 052020

# An analysis of non-fuel mineral blocks auctions in India

Ganesh Sivamani

BROOKINGS INDIA

QUALITY. INDEPENDENCE. IMPACT.

# An analysis of non-fuel mineral blocks auctions in India

Ganesh Sivamani**

*All content reflects the individual views of the authors. Brookings India does not hold an institutional view on any subject.

**Ganesh Sivamani is a Research Assistant with the Natural Resources, Energy and Sustainability vertical at Brookings India. The author would like to gratefully acknowledge Rajesh Chadha, Program Director, Natural Resources, at Brookings India, for his comments and feedback on this Discussion Note.

# 1. Introduction

The Mines and Minerals (Development and Regulation) Act of 1957 (referred to as MMDR Act) regulates the mining sector in India, including specifying the rules for the allocation of mining leases. The Mines and Minerals (Development and Regulation) Amendment Act, 2015 (referred to as MMDR-2015 Act) introduced, amongst other changes, the system of auctions to be used by state governments when granting mining leases and prospecting licence-cum-mining leases (also known as a composite licence).

The purpose of changing the method of allocation of the resources was to remove the discretion that state governments previously had, and move towards a fair, objective, and transparent system.

This Discussion Note seeks to highlight some of the peculiarities that have come out of the 70 mineral blocks that have been auctioned since MMDR-2015 has come into effect.

# 2. Mineral auctions system in India

## 2.1 Mineral auction rules

Section 13 of MMDR-2015 gives the central government the power to make rules for regulating the grant of mining leases (ML), non-exclusive reconnaissance permits (NERP), prospecting licenses (PL), and prospecting license-cum-mining lease/composite licenses (CL). In exercise of this power, the government published the rules for auctions, called the Mineral (Auction) Rules, 2015, which were later amended in 2017 through the Mineral (Auction) Amendment Rules, 2017.

The Mineral (Auctions) Rules lay down the system for granting of both mining leases and composite licences – the Minerals (Evidence of Mineral Contents) Rules, 2015 gives information on whether a ML or CL may be given, which is dependent on the level of exploration of the area under auction. As of October 4, 2019, 70 leases have been auctioned and granted, of which 62 were MLs, and the remaining CLs.

## 2.2 Auction bids

The Rules mandate all auctions to be conducted through an online electronic auction platform. MSTC Limited, a Public Sector Undertaking, has e-auctioned various leases. TAMRA (Transparency, Auction Monitoring, and Resource Augmentation), is an online portal developed by the Ministry of Mines (MoM) which has the data of all the auctions that have taken place.

The state government will specify in the tender document the minimum bid that can be placed, which is the minimum percentage of the value of the mineral despatched. The value of the mineral despatched is the product of the quantity mineral despatched in a month (the minerals sent off from the mines) and the sale price of the mineral (grade-wise and state-wise) published by the Indian Bureau of Mines (IBM) for the month of despatch. The eventual holder of the lease shall pay to the state government, every month, the product of the value of the mineral despatched and their winning percentage bid.

### 2.2.1 Average sale price (ASP)

The method of computation of the average sale price of a mineral is given in the Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016 – Section 13 of MMDR empowers the central government to make rules in respect of minerals.

Section 42 of the Concession Rules states that the ASP is the 'weighted average of the ex-mine prices of the non-captive mines'. The ex-mine price is the sale price of the mineral at the mine head, and the weightage is done on the quantity of minerals despatched. If no sale has occurred from non-captive mines of a particular mineral and grade, then the most recent ASP is used from that state from the last six months. If there is still no ASP available, the latest All India ASP is taken for the specific mineral and grade.

### 2.2.2 Upfront payment and performance security for mining leases

As per Section 11 of MMDR, new mining lease holders will be required to pay 0.50% of the estimated value of resources as an upfront payment upon receiving the ML they won in auctions. This payment made shall be adjusted against the auction payments due by the mining companies within the first five years of the commencement of production of minerals.

As per Section 12 of MMDR, the leaseholder will also be required to provide a performance security of 0.50% of the value of estimated resources, and this shall be adjusted every five years to reflect the reassessed value of estimated resources.

## 2.3 Two-stage auction process

The process of auctioning mineral blocks in India is done through a two-stage process. The first stage has bidders (who meet various technical qualifications to get to this stage) quoting their initial bids for the blocks. The highest offer in this stage is then used as the floor bid for the second stage – the winner of this stage of bidding earns the right to mine (ML or CL).

## 2.4 Reservation of mines for a particular end-use

MMDR allows for the central government to prescribe the end-use of a particular mine, and only allow the companies that can meet this criterion to bid for the mining lease. This is used to stipulate if the mine will be captively run – i.e. the mining company uses the minerals in a downstream process (iron ore to steel, for example). If there is no restriction on end-use, merchant miners (who would sell minerals on the open market) will be able to bid for the mining lease also.

# 3. Statutory payments

## 3.1 Royalty

Section 9 of the MMDR Act stipulates that the leaseholder shall pay a royalty for the removal or consumption of any mineral from the leased area, as determined by the royalty rates specified in the Second Schedule of the MMDR Act. The rates of royalty are set by the central government, and is either charged on an *ad valorem* or tonnage basis.

## 3.2 Dead rent

Dead rent will only be payable by the leaseholder on a yearly basis for year in which the royalty due is lower than the dead rent. The dead rent rates can be found in the Third Schedule of the Act.

## 3.3 District Mineral Foundation (DMF)

The District Mineral Foundation was introduced in MMDR-2015, Section 9B, which requires state governments to establish a non-profit trust to collect additional revenues from leaseholders, where the contributions should be used to work for the benefit of the people and areas affected by the mining operations. The state governments are responsible for the management of the respective state's funds.

The Act limits the DMF contribution to one-third of the royalties due for a given month for leases granted post-MMDR-2015, and limits the contribution to the same amount as the royalty paid if the lease was granted before MMDR-2015. The Mines and Minerals (Contribution to District Mineral Foundation) Rules, 2015, specifies the contribution that needs to be made: 10% of royalty paid for leases granted after MMDR-2015, and 30% of royalty paid for leases granted before MMDR-2015.

## 3.4 National Mineral Exploration Trust (NMET)

MMDR-15, Section 9C, enables the Central Government to establish a non-profit trust called the National Mineral Exploration Trust (NMET), with the purpose of conducting detailed exploration. The Act stipulates that a sum of 2% of the royalty paid must be paid to the trust.

The rules for the operations and management of the trust is provided in the National Mineral Exploration Trust Rules, 2015, and the National Mineral Exploration Trust (Amendment) Rules, 2018.

# 4. Government earnings from the auctioning of mineral blocks

## 4.1 Key revenues to the government

The key revenues to the government (primarily the state governments, barring the contribution to NMET) come from the statutory payments (the sum of royalty payments, DMF contribution, and NMET contribution) and the additional contribution through auctions.

As of October 4, 2019, 70 mineral blocks have been auctioned, with an estimated value of resource of Rs 2,52,515.90 crores. This information has been released by the MoM, with an assumption that the estimated quantity of resources in the mineralised area will all be mined. The data for the tables and figures that follow is provided by the Ministry of Mines,[1,2] unless indicated otherwise.

The value of estimated resources for a given mineral block is defined in the Mineral (Auction) Rules as the product of estimated quantity of mineral resources (expressed in metric tonne) and the average price per metric tonne of resources published by the IBM for the relevant state over the twelve months immediately preceding the computation. If the average sale price is not available for a given month, the all India average sale price shall be used for that month.

The estimated contribution through auctions is also published by the MoM, which is calculated as the product of the estimated value of the resource and the winning auction bid percentage. For the 70 blocks, this comes to Rs 1,57,562.36 crores, which is payable as the minerals are mined and despatched on a monthly basis.

An estimate of statutory payments is also given, which is also based on the assumption that the estimated quantity of resource is correct. The DMF and NMET contribution is 12% (10% + 2%) of the royalty payment. The estimated statutory payment is Rs 44,563.62 crores.

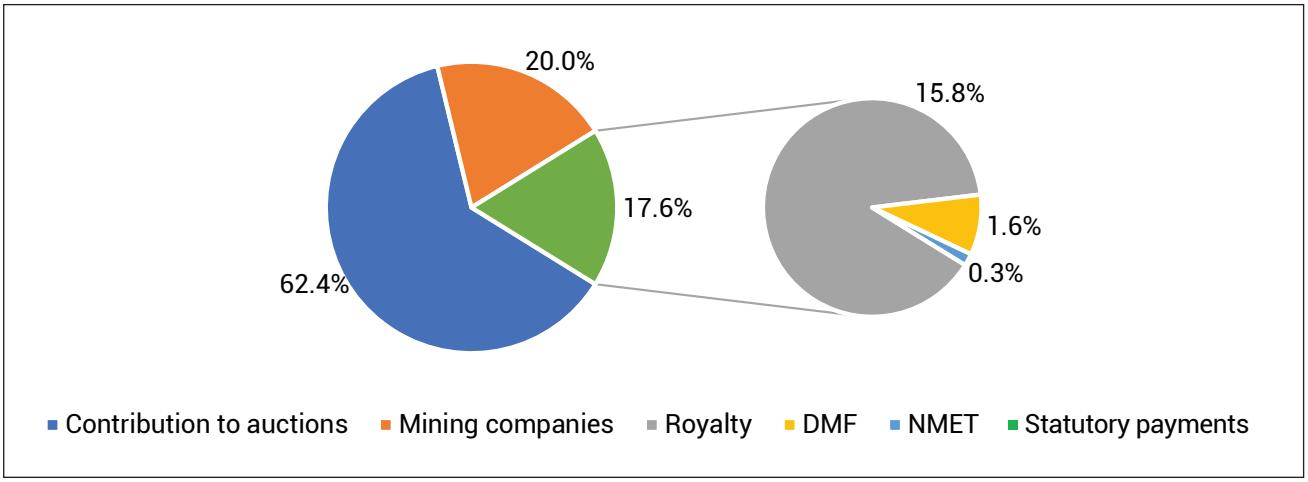
Table 1: Overview of auctions (as on October 4, 2019)

| | Value (in Rs crores) | Percentage of resource value (%) |
|---|---|---|
| (A) Value of resource | 2,52,515.90 | 100.0 |
| (B) Contribution from auctions | 1,57,562.36 | 62.4 |
| (C) Statutory payments | 44,563.62 | 17.6 |
| (D) = (B) + (C) total revenue to govt. | 2,02,125.99 | 80.0 |
| (E) Remaining with mining companies | 50,390.91 | 20.0 |

Table 1 shows that 80% of the estimated value of resources (A) auctioned will go to the state governments (with the NMET contribution going to the central government), while 20% will remain with the mining companies. The average winning bid (not the arithmetic mean of the 70 winning bid percentages, but the ratio of total contribution from auctions to the value of resources) comes to 62.4%, and 17.6% of the value of the resource, on average, will need to be paid as statutory payments. Figure 1 is a pie-chart representation of Table 1.

[1] https://www.mines.gov.in/writereaddata/Content/Successfulauction04102019.pdf
[2] https://www.mines.gov.in/writereaddata/Content/yearwiseauction04102019.pdf

Figure 1: Breakdown of value of resources auctioned post-MMDR-2015 till October 2019




## 4.2 Limitation of methodology

There are limitations to the above analysis of the 70 auctioned mineral blocks. While the central government may claim that the state governments' expected earnings will be approximately Rs 2 lakh crore due to the new auction scheme (of which the auctions proportion is 78%), there is no guarantee that the miner will be able to extract all of the originally estimated quantity of minerals in a given area. The price of the minerals will also fluctuate over the lifetime of the mine, which would affect the amount owed by the mining companies due to their auction bid, and also the royalty if it is on an *ad valorem* basis for the mineral.

Out of the 70 total auctions, there have been 8 Composite Licences (CLs) awarded, which allows the winning bidder to prospect and later mine. There is a chance that the prospecting does not lead to a viable mining operation, which adds another point of uncertainty in the government's expected earnings from auctions.

## 4.3 Other taxes payable by mining companies

Besides the royalty, DMF, and NMET contributions, mining companies are also liable to pay direct corporate taxes, forest-related taxes (such as levies on deforestation), and water taxes.

The Federation of Indian Mineral Industries estimates the overall effective tax rate (ETR) for an iron ore mine to be 60%, compared to 38% in Chile and Canada.[3] The 60% ETR in India includes royalties, DMF, NMET, corporate tax (34%), and dividend distribution tax (16.5%). However, this value excludes the auction premium the mining company agrees to pay.

## 4.4 Observations

Despite the limitations discussed in sub-section 4.2, it is still evident that a large portion of the theoretical value of the minerals being auctioned will go back to the state governments' exchequers, leaving only 20% with the mining companies. Furthermore, mining companies will also have to pay various other taxes and cesses for mining operations, including corporate tax and contributions for the preservation of the environment and forestry.

A key question arises on the financial viability of many of the newly auctioned minerals blocks. How are mining companies willing to bid (and eventually pay), on average, 62.4% of the value of minerals and remain profitable?

However, averaging the bid of all 70 auctions masks some of the incredulously high bids for individual mines: 275% was bid for the Pratappura Iron Ore block in Madhya Pradesh and a series of iron ore blocks in Karnataka saw bids well over 100%, touching 130% in one case.

[3] https://www.financialexpress.com/economy/high-taxes-and-levies-impede-investments-in-mining-sector/1627831/

The MoM gives details on the companies which win the bids, and it is evident that many are captive operations, which means that the same company also has a processing facility, to process and add value to the ores and minerals. For example, many cement manufacturers have won auctions for mining leases for limestone mines (limestone is a key component of cement). Any losses that may occur in the limestone mining business may get absorbed into the cement manufacturing business. Captive miners are able to bid higher than their merchant-counterparts, as well as guarantee a supply of the minerals needed for their other value-adding businesses. These facts are indicative of distortions in the markets for minerals.

# 5. Detailed analysis of auctions

## 5.1 Summary of all auctions

Of the 70 auctions that have taken place, a majority have been the auctions of Notified Minerals (Fourth Schedule of MMDR-15): 27 limestone blocks; 24 iron ore blocks; 6 bauxite blocks; and 3 manganese blocks. The remaining 10 blocks include: 4 gold; 3 graphite; 2 copper; and 1 diamond.

Table 2: Overview of auctions by mineral

| Percentage of resource value going to (%): | Iron ore | Limestone | Other minerals |
|---|---|---|---|
| (B) Contribution from auctions | 86.9 | 46.5 | 33.7 |
| (C) Statutory payments | 16.8 | 19.7 | 5.6 |
| (D) = (B) + (C) total revenue to govt. | 103.7 | 66.2 | 39.3 |
| (E) Remaining with mining companies | -3.7 | 33.8 | 60.7 |

Figure 2: Where the value of the mineral goes

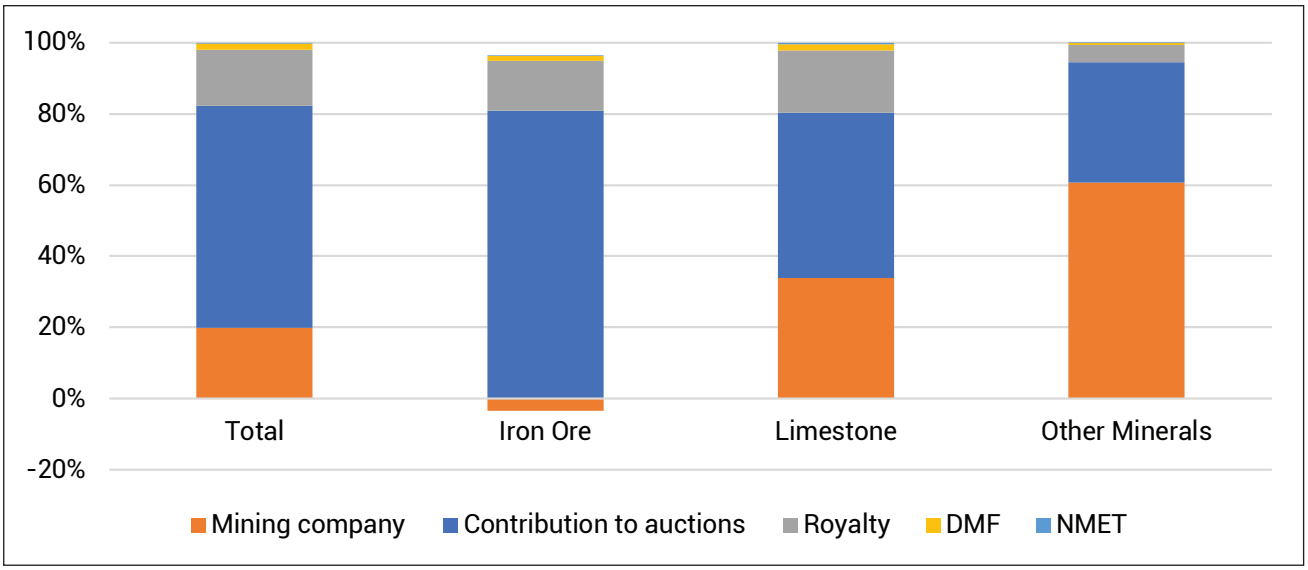



Figure 2 above is a continuation of Figure 1, and has a breakdown of the flow of the value of the mineral. Iron ore mining companies, on average, will have to pay the government to mine. Of the total value of iron ore mined, 86.9% will be paid to the government as the auction premium, and 16.8% will be statutory payments (royalties, DMF, and NMET), for a total of 103.7%. Thus, mining companies will have to pay 3.7% of the value of iron ore mined to the government.

## 5.2 Captive vs merchant miners

The government provides information on the name of the winning bidder, which can be used to determine if the mining operation would be captive (i.e. the extracted ore is used by the same company for downstream processing, such as limestone to cement or iron ore to steel) or merchant (the ore is sold on the open market).

For the limestone blocks, only one bidder claims to sell limestone on the open market, and the winning bid was 25.6%. The remaining 26 bids ranged from 5.2%-138.25%, with a weighted average of 47% bid for what will become captive mines.

For the iron ore blocks, only one bidder claims to sell iron ore on the open market, and their winning bid was 39.1%. The remaining 23 bids ranged from 36.7%-275%, with a weighted average of approximately 87% bid for what will become captive mines.

It is clear from both the limestone and iron ore auctions that not many merchant miners are winning auctions, and if at all they are, their winning bid is much lower than what is bid for other blocks. Merchant miners will not be able to compete with captive miners as they do not have the flexibility of transferring losses to other verticals of their business.

## 5.3 Limestone auctions

### 5.3.1 Variation of bids

Figure 3: Winning bids for auctions of limestone blocks (post-2016)

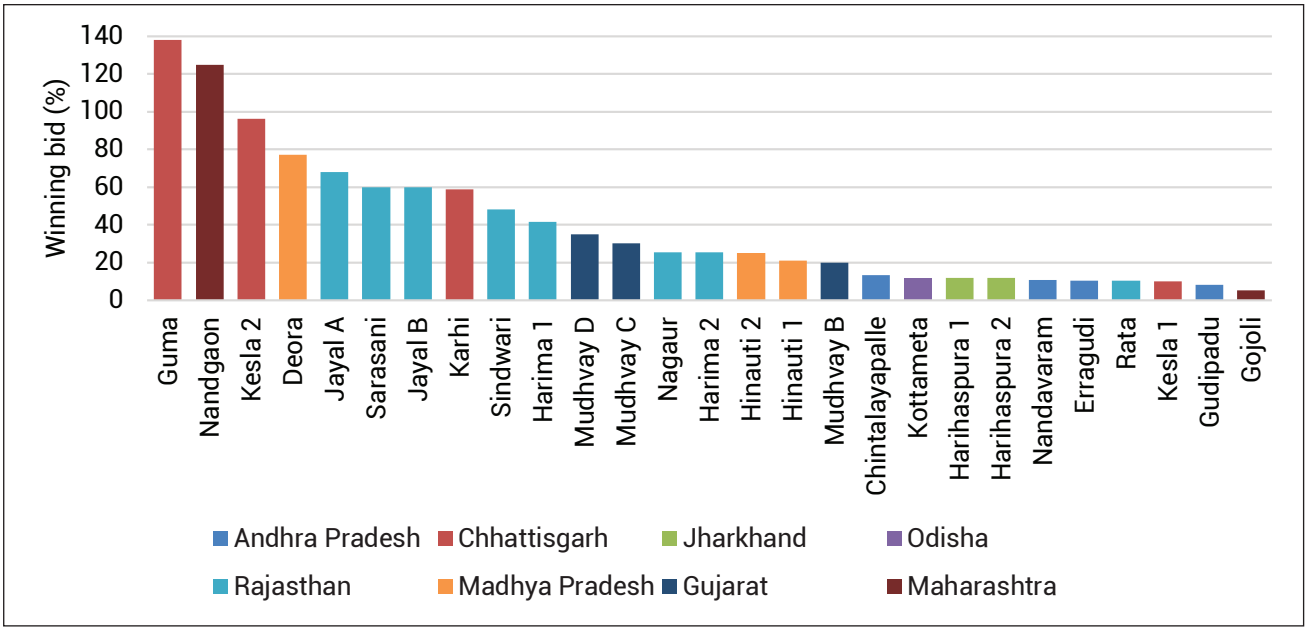



Figure 3 above shows the various winning bids of the 27 limestone blocks auctioned. The reserve price (minimum bid percentage set by the state department) was typically set at 5%. The lowest winning bid was 5.2% for Gojoli mine in Maharashtra, and the highest winning bid was 138.25% for Guma mine in Chhattisgarh.

Interestingly, two adjacent blocks, Kesla 1 and Kesla 2, both in Chhattisgarh were auctioned for very different bids – Kesla 1 went for 10.15% in February 2016, and Kesla 2 went for 96.15% in May 2017. Kesla 2 is estimated to have 3.3 times the quantity of limestone as Kesla 1, but this does not necessarily explain the hugely different bids. Both blocks were won by captive miners (Kesla 1 by Century Cement and Kesla 2 by Dalmia Cement). This appears to be an anomalous situation which could be further investigated.

Figure 4: Minimum and maximum bids for limestone blocks by year of auction (post-2016)

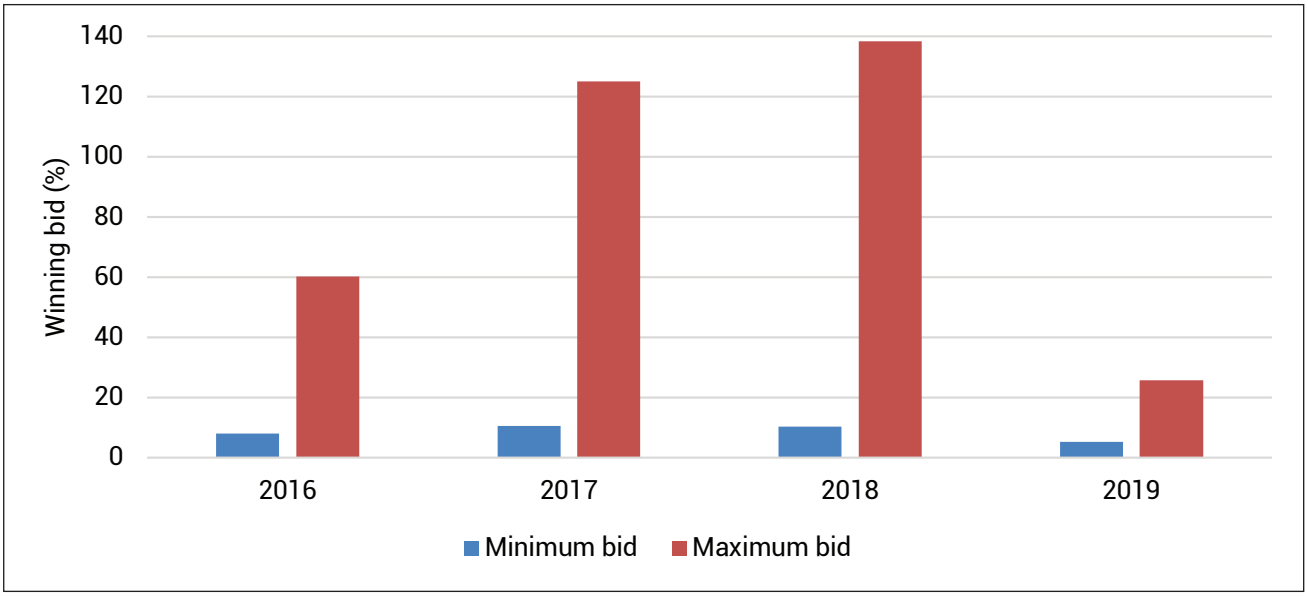



Figure 4 shows the variation of auction bids by the year of auction. The number of auction bids by year for limestone blocks were: 7 in 2016, 10 in 2017, 7 in 2018, and 3 in 2019.

Figure 5: Estimated resource vs winning bid for limestone auctions (post-2016)

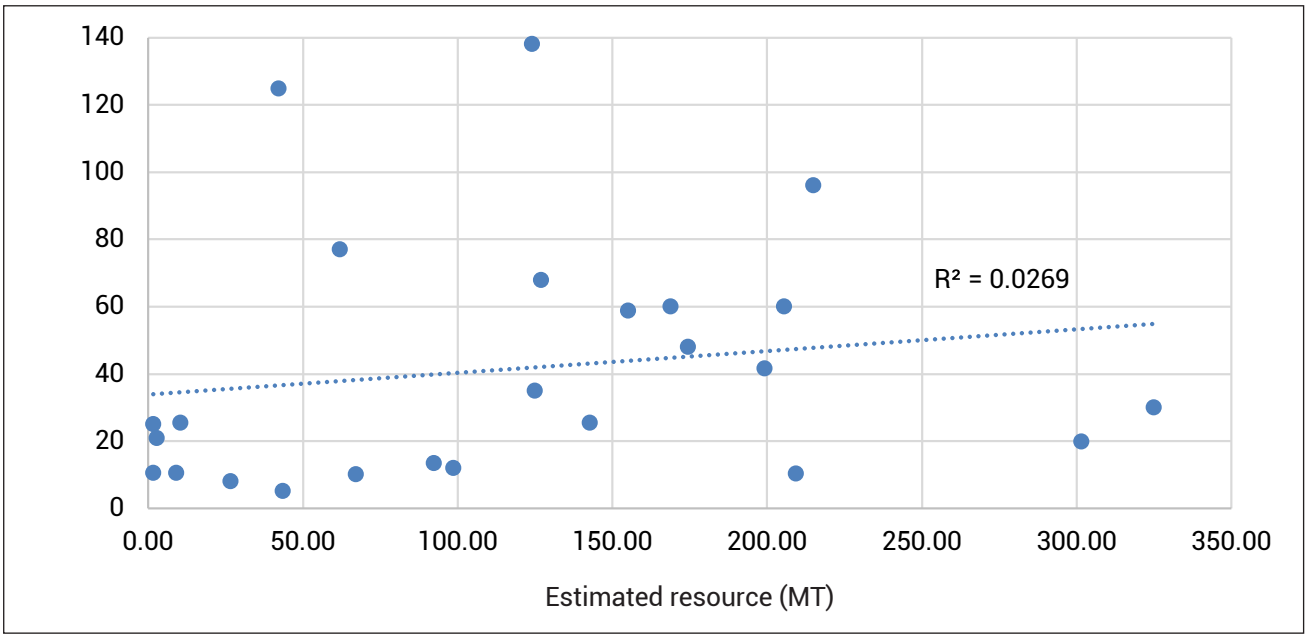



Figure 5 shows 25 auctions for MLs of limestone blocks with the estimated resource on the x-axis versus the winning bid on the y-axis. The graph shows that a higher quantity of limestone does not necessarily mean the bids will be higher for the block, and other factors would be at play. These could include: access to infrastructure, proximity to limestone processing plant / cement manufacturing plant (especially for captive miners), existing mining infrastructure, mining attractiveness of the state (state labour laws, governance, etc.), and ease of mining (in terms of geology).

## 5.4 Iron ore auctions

### 5.4.1 Variation of bids

Figure 6: Winning bids for auctions of iron ore blocks (post-2016)

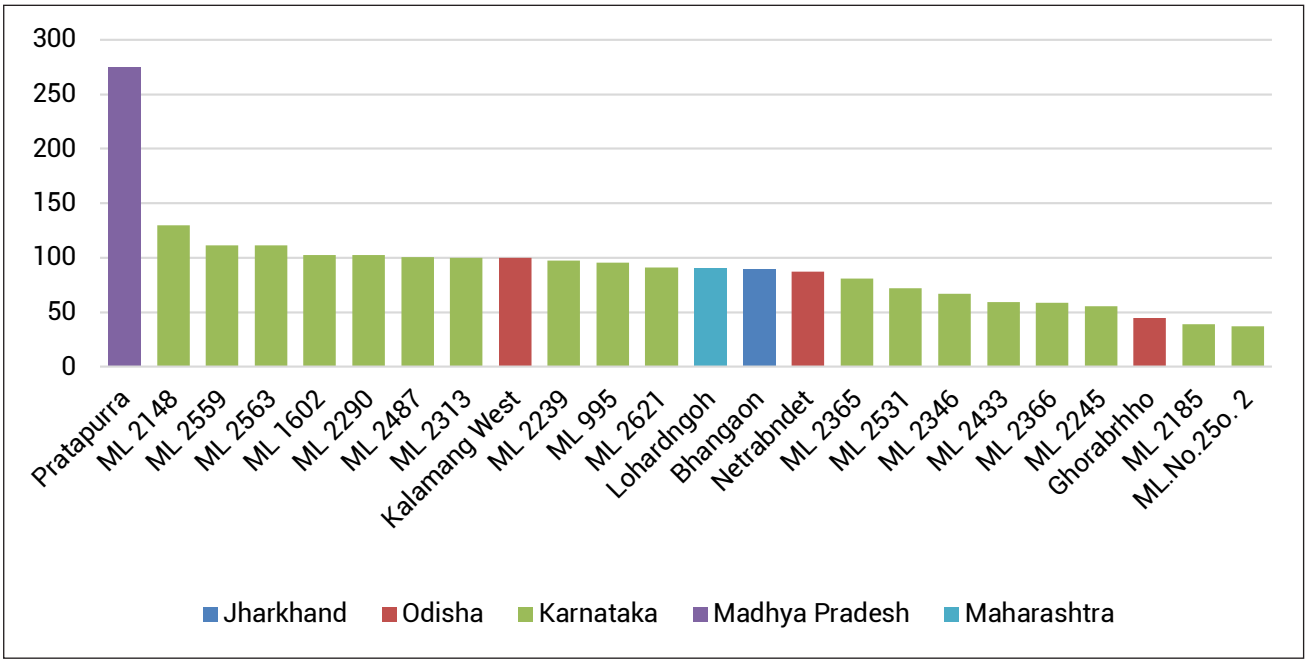



Figure 6 shows the variation of the winning bids for iron ore blocks. Many of the blocks auctioned in Karnataka were won with bids over 100%. The weighted arithmetic mean (weighted based on estimated tonnage of iron ore) of the bids is 94%, with the lowest bid being 36.7% and the highest 275%.

Figure 7: Minimum and maximum bids for iron ore blocks by year of auction (post-2016)

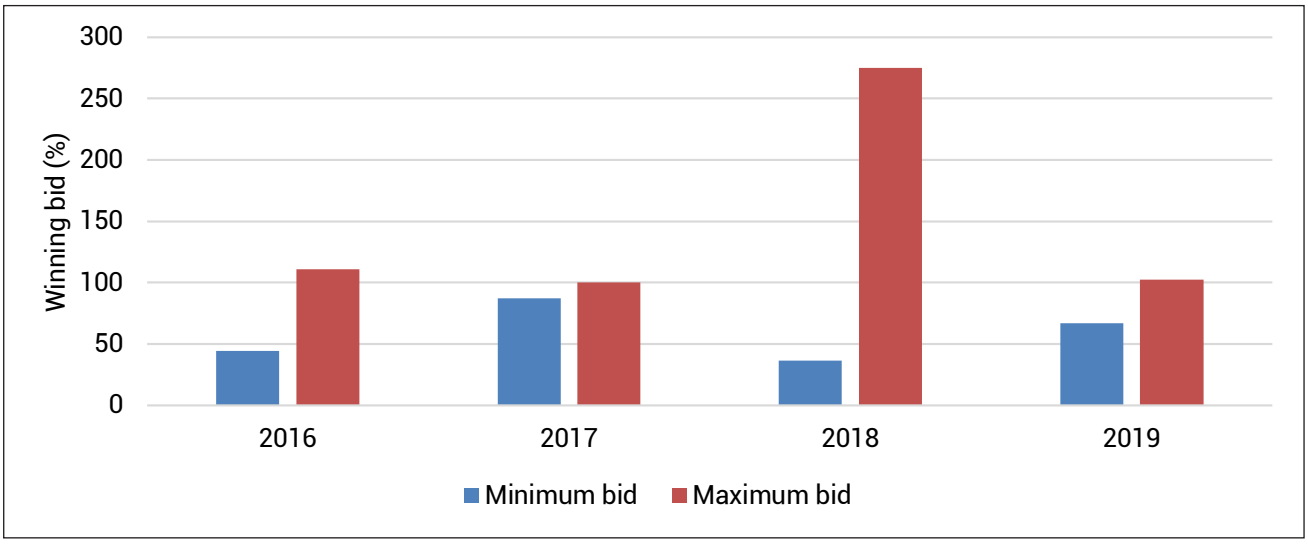



Figure 7 shows the variation of winning bids by year. The number of auction bids by year for iron ore blocks were: 8 in 2016, 2 in 2017, 9 in 2018, and 5 in 2019. Barring the outlier of the bid for the Pratapurra mine in Madhya Pradesh which was won at a bid of 275%, the winning bids remained approximately the same over the four years.

### 5.4.2 Recent Odisha auctions[4]

Between January 31, 2020 and February 17, 2020, seventeen auctions of iron ore blocks were held in Odisha (some iron ore blocks were also known to have manganese ore). The weighted average of the 17 bids came to 106%. Only 5 of the winning bids were below 100% (and all above 90%).

# 6. Issues with the auction system

An analysis of the 70+ auctions that have taken place over the past five years shows that there are some fundamental issues with the process.

Firstly, high winning bids (100%+) results in states earning greatly, but the mining companies are left with very little of the value of the minerals. Only captive miners will be able to sustain these high bids, as they have the flexibility of incurring losses in their mining business to ensure supply of minerals for their downstream plants (e.g. cement and steel manufacturing).

The lack of level-playing field between captive and merchant miners results in fewer mining companies operating, increasing the barriers for entry for new companies and raising the prices of ores in the open market. The implication of this will be felt in further downstream sectors where steel and cement will be used, such as building houses and roads.

The system of stipulating the end-use of mines is currently not practiced globally, and is unique to India. It is likely a remnant of the times before merchant mining became popular, and steel manufacturers would need to guarantee their supply of iron ore to keep the factories running.

The first step towards levelling the playing field between captive and merchant miners would be to stop the practice of reserving the end-use of blocks and allow any miner to bid. The practice of a two-stage auction needs to also be rethought, as the system has resulted in exorbitant bids which push merchant miners out of the competition, and distort the economies of mining and the related downstream manufacturing.

[4] Data for the recent Odisha auctions is taken from SteelMint, but has not yet been published by the Ministry of Mines, hence has been excluded from previous discussions.

QUALITY. INDEPENDENCE. IMPACT.

**Brookings Institution India Center**

No. 6, Second Floor, Dr. Jose P Rizal Marg, Chanakyapuri, New Delhi - 110021

@BrookingsIndia Brookings.India Brookings India www.brookings.in