



Abhinav Sengupta
 Manager, PwC India

How to decide between owning and leasing of equipment in mines

Mining investments are highly capital intensive in nature and equipment cost forms a very significant part of it. Over the last two decades due to allowance of FDI in Indian mining sector there has been a steady growth in mining and related industries which has also led to a subsequent evolution of original equipment manufacturers & suppliers (OEMs) industry. On the other hand, with influx of capital investment

there has been a mushrooming of innovative financial products availability in the market. This has led to the evolution of synergy between the OEMs and financiers. The decision behind procurement of equipment for mining activity has always been very strategic due to dichotomy of choices between hire and purchase of equipment and leasing of equipment.

DRIVERS WHICH INFLUENCE THE CHOICE BETWEEN OWNING AND LEASING OF EQUIPMENT

No.	Drivers	Reasons
1#	Impact of advent of contract mining	<p>With prevalence of contract mining there has been a surge in equipment leasing primarily due smaller contract duration i.e. <5 years, smaller excavation area i.e. working patch, narrow working margins, and subdivision of works like</p> <ul style="list-style-type: none"> · only overburden removal in patches · only coal/mineral extraction · limited drilling requirement · limited requirement of pumping · ad-hoc transportation and material re-handling requirement on need basis
2#	Managing nonproducing mining activities	<p>Mining operations entail some non-producing but essential activities like drilling, dozing, grading, water sprinkling, etc. the equipment for which are usually rented to save on capital cost. For ex. drilling activity is usually sublet to the local contractor who deploys drilling rig on a fixed hourly rate based on the requirement</p>
3#	Managing geotechnical and production constraints	<p>The choice of equipment renting can sometimes depend upon the working patch area and required targeted production. With equipment phasing if there is any additional requirement of equipment during the last year of contract due to production shortfall or limited working area patch; then the general practice is to lease the equipment rather than to purchase it. It saves on the owning cost of the equipment.</p>
4#	Forcing the use of rented equipment which are presently non-working	<p>The equipment those having their economic life remaining and presently not in use are generally preferred of the deployment in any working mining project in order to pay off their EMIs. In such cases the equipment is leased from the supplier to get the finances rolling to setoff the equipment loans. With proper due diligence of equipment, the renting options can be chosen at a discount to the prevailing market rates</p>
5#	Economics of operations between owned and leased equipment	<p>The ultimate decision towards the selection between owned or rented equipment is the cost benefit analysis. In case of owning of equipment the total cost of ownership (TCO) is evaluated which includes the total equipment operating cost (i.e. fuel cost, repair and maintenance cost, operator salary cost, interest component of equipment loan, depreciation cost, GST input credit). On the other hand, equipment leasing has a monthly fixed rent that needs to be paid while equipment mobilization, diesel fueling, overhauling charges etc. is on the part of service provider</p>

Comparative economics of operations between owned and leased equipment

Here is a comparative analysis of TCO between owned & leased loading equipment i.e. 3.1 cum excavator used to remove an earthwork or overburden of 1 MBCM per annum.

Calculation Assumption: 330 no. of working days, 20 hours per day in total 3 shifts, equipment productivity of 190 BCM per hour, only 1 no. of excavator is required, also suitable cost assumption has been taken as per prevailing

industry rates.

The rental equipment market for construction and mining industry is steadily growing. The choice between hire & purchase vis-a-vie leasing of equipment depends on both qualitative as well as quantitative assessment of the project. Therefore, mine owners/mining contractors are evaluating their competitive advantage amidst shrinking EBIDTA margins by making a judicious choice between these two options.

No	Particulars	Units	Hire and purchase	Equipment leasing
1	Owning cost of Equipment			
	Total no. of equipment	Nos	1	
	Base value	Rs. Crore	1.65	-
	Discount @10%	Rs. Crore	0.17	-
	GST @28%	Rs. Crore	0.42	-
	TCS @1%	Rs. Crore	0.01	-
	Total equipment owning cost	Rs. Crore	1.92	-
2	Operating cost of equipment			
	Fuel cost (at Rs.80/liter with fuel consumption of 33 Lit/hr)	Rs. Crore	1.79	-
	R&M cost @ Av. of Rs.791/hr	Rs. Crore	0.54	-
	Manpower cost (operator salary Rs.15000/month and helper salary Rs.9000/month) and (No of operators-3 and No of helpers-2)	Rs. Crore	0.08	-
	Debt servicing cost @ 8.5% interest for 5 years period on 90% of amount	Rs. Crore	0.42	-
	Equity cost component on 10% of total cost	Rs. Crore	0.19	-
	GST input credit for rendering service @18% on R&M	Rs. Crore	0.40	-
	Total annual operating cost	Rs. Crore	3.43	-
3	Rental cost of equipment			
	Total no. of equipment	Nos	-	1
	Contract duration	Year	-	1
	Monthly rental charges including mobilization	Rs.	-	500,000
	Profit margin @10%	Rs.	-	50,000
	Total annual rental charges	Rs. Crore	-	0.66

SELECTION MATRIX FOR CHOOSING BETWEEN OWNING AND LEASING OF EQUIPMENT OF AN OPENCAST MINE

Selection matrix	Duration of the mining contract			
	<6 months	1 to 3 years	3 to 5 years	>5 years
Drilling equipment	Leasing option is preferred	Leasing option is preferred	Leasing option is preferred	Assessment is required
Operation - loading, hauling and dumping	Leasing option is preferred	Assessment is required	Owning option is preferred	Owning option is preferred
Other operations – Dozing, grading, etc.	Leasing option is preferred	Assessment is Required	Assessment is required	Owning option is preferred
Light motor vehicles (LMVs)	Leasing option is preferred	Leasing option is preferred	Leasing option is preferred	Assessment is required
Only transportation activity (by trucks)	Leasing option is preferred	Leasing option is preferred	Assessment is required	Owning option is preferred

The specific values are given/assumed by the author. Discretion of use is required.