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Coal and Petroleum: Discussion about Uncertainty in This Sector

N. Shradha Varma

ASSISTANT PROFESSOR, DELHI UNIVERSITY,
M.A.ECONOMICS, DELHI SCHOOL OF ECONOMICS, UGC-NET-JRF

INTRODUCTION

This paper aims to look at the uncertainty faced by coal suppliers and producers in India and its possible solutions, if any. Also how these uncertainties lead to several economical problems between the parties concerned.

Coal, being the primary fuel for the power sector in India, is the lifeline for most of the power projects in India. Thus, the power scenario of a country like India, whose power requirements are galloping at a very fast pace, is crucially dependent on the "buy-and-sell" relationships between cola suppliers and the power producers.

Thus, considering this importance, the paper looks at existing contractual relationships between coal suppliers and power producers in the Indian market.

Coal market is one such example, where due to asset specific kind of investments required by both coal buyers and suppliers, most of the power producers rely on long term contracts for their coal requirements. Since coal markets involve such investments, in short term market exchanges, the incentives for distorting behavior are created since there are no binding terms and conditions in market transactions as under a long term contract.

COAL PRODUCTION IN INDIA and its related uncertainties with necessary solutions

Coal production in India is highly centralized more than 80 percent of the total coal produced by state-owned Coal India Limited (CIL). Besides CIL, Singareni Collieries Company Limited (SCCL)- also a government company. Apart from these two companies, there are captive producers, who produce coal for captive use. Thus coal supply can be procured either from government or through captive mining.

Since CIL is the producer of the majority of coal for India, it is responsible for its distribution as well. As argued previously, the asset specificity in the coal markets makes the case for existence of long term relations so as to minimize the risks of distorting behavior. However, even long term contracts are not complete and do not mitigate risk completely, reason being all contingencies cannot be written in the agreement. This incompleteness clearly adds to the uncertainty faced by power producers.

In India, the New Coal Distribution Policy (NCDP) was introduced in October 2007 because it was observed by the Ministry of Coal that many of the power projects, which were granted long–term coal linkage, did not come up as planned resulting in preemption of coal linkage. This made way for the NCDP.

Thus, the NCDP introduced the concept of "Letter of Assurance" (LoA), which provides for assured supply of coal to developers and then LoA holders are entitled to enter into Fuel Supply Agreements (FSA) which are long term contracts between coal supplier i.e., CIL and the power producer for an assured supply of coal. CIL's performance in terms of commitment to supplying coal plays a huge role in the sustenance of the power plants. Thus any change in its commitment in terms of supply can have huge implications for the power producers.

As per the report of Central Electricity Authority (CEA) over the last five decades, demand for coal by power stations has always been greater than availability of indigenous coal. Thus CIL's performance in terms of quantity commitments is declining which is creating uncertainty for power producers on account of assured coal supply at the contract price. These shortages have clear implications for the power producers as there had been huge increase in loss in power generation due to coal supply shortages and the implication is also there in terms of decreasing plant load factor (which is a measure of average capacity utilization). The uncertainty faced by power producers has further increased.

This has been on account of a number of reasons:

1. The power producers are now open to all risks associated with foreign markets including price risks.
2. Even the quality of this imported coal is not assured by CIL and also CIL would not be responsible for the transportation of imported coal.

Thus, already due to monopoly position, CIL doesn't have very high incentives to increase efficiency and productivity and hence to increase production. Firstly, due to reduction in commitment to ACQ (Average Contracted Quantity which means quantity of coal to be delivered) and secondly, due to minimal penalties, in fact almost negligible, for shortage in supply.

Another reason for uncertainty is the price at which coal is supplied under FSA which is termed as 'delivered price of coal' and which is the sum total of the base price, other charges and statutory charges at the time of delivery of coal. The prices of coal are deregulated in India. The pithead price is notified by CIL from time to time. Since under FSAs, these prices are revised from time to time, there is substantially the price risk faced by the power producers. Especially since 2000, CIL was allowed to fix up the prices of all types of coal in relation to the market prices. Thus, if these price revisions are quite frequent and moreover, very close to the market prices, then the power producers have to face all the market uncertainties even under these long term contracts.

Also, under the modified FSAs, since a large proportion of coal supplied would now be imported coal, power producers have to buy this coal at higher international prices. Thus the power producers are not happy with the new provisions, because the committed quantity includes a large percentage, i.e., 15 percent of ACQ, from imports

and that too on cost-plus basis, including service charges. This leaves them open to the price and other risks of the international coal markets as CIL passes all these risks to the purchaser.

Thus, on repeated request and recommendations from all over including power producers, power ministry and planning commission, CIL is working on a new model of price pooling that will allow power generators to buy a mix of imported and domestic coal at one price, and hence reducing the price risk with respect to otherwise expensive imported coal. However, if price pooling is implemented, all the power consumers would have to bear the impact, as the cost will be passed on the end users.

Since the FSA allows CIL to pass on all the additional costs of imported coal. CIL has least incentives to increase its own production. This has then obvious implications for power producers, in terms of uncertainty faced on account of price and quality of imported fuel, as well as other foreign risks associated with the foreign country's economic and political status.

Thus due to the increased imported component under the modified FSAs, uncertainties of foreign markets are passed on domestic power producers.

The hitherto existing FSAs regime requires the new power producers, both private and public, to have already signed the Power Purchase Agreements (PPAs), which are long term agreements with the power distribution companies, for sale of their electricity produced. Although under the new modified FSAs, CIL has been directed to sign FSAs with power companies even in the absence of Power Purchase Agreements (PPAs), based on conformation from the Power Ministry that it is benefitting consumers.

Linking the signing of PPAs with the FSAs adds further uncertainty faced by the power producers. The implication of signing these PPAs beforehand and other affects will be discussed further.

Moreover, since more than 50% of the coal is transported through railways, timely and safe delivery coal depends crucially on the importance of this sector, and hence uncertainty arises even related to the transportation of the coal.

As stated in the report of coal and lignite by Planning Commission, "there is uncertainty faced by power producers due to inefficiencies of the Indian Railways to transport coal efficiently".

Apart from all the factors discussed above, there are few other factors which impose uncertainty on the power producers.

Under the new FSAs, the force majeure (which include those contingencies under which no party is allowed to pay penalties) clause, by including additional circumstances to cover the risks arising from third parties, specially with respect to the import of coal, CIL has done away with sharing this risk too. The additional activities included in this clause include the global shortage of imported coal, lack of response to enquiries, the breakdown of equipment, delays by contractors, power shortages, and obstruction in the transportation of coal, from pithead to sidings, by agitation /mob violence/riots.

Thus all risks covered under this area passed on to the power producers and hence increase the uncertainty faced by them.

Furthermore, since most of the production of coal for India comes from its eastern parts, the coal production also faces internal disturbance in those areas like in Orissa, Jharkhand which are volatile regions.

Given the significant increase in demand of coal as well as CIL's inefficiency in implementing the FSAs, to tide over the uncertainty, different short term and medium term policy solutions need to be carried out side by side, as coal mining projects typically tend to be of long gestation.

In short, in the entire lot of activities and procedure relating to the supply of coal through FSA, there are multiple interfaces starting from Parent Ministry for approval of project to Ministry of Coal's recommendation of LoA and coal companies for converting LoA to FSA for supply of coal and finally railways for movement of coal from collieries to consumption centers.

Thus, the exposure of risk for the power producers starts from the process of getting linkage and entering into FSA through the mechanism of LoA and continues till the supply is materialized in terms of quality as well as quantity.

Thus the way ahead is for the coal ministry to put out a model FSA that is transparent and improves efficiency in evacuation and supply of coal. Since coal is the primary fuel for power generation, raising productivity in mining and supply is of key significance.

In opening up the market for coal, it would make sense gradually to make FSAs transferable, so as to incentivize efficiency in mining and usage. Further we need designated coal traders akin to power traders, to better match demand with supply.

Also, Coal India can use the power sector as an agency to mine coal and then buy it at agreed prices to boost production as a temporary measure.

Furthermore, as suggested by Planning Commission, indigenous availability of coal and time bound fast-track implementation of coal projects should be given the highest priority.

Planning commission has suggested the following issues to be resolved:

- Rationalization of coal sources for optimization of transport capacity- both for indigenous and imported coal.
- Investment by coal companies in creating logistics infrastructure in the field of railway track, rolling stock, port capacity.
- Developing and augmenting alternate mode of transport like inland waterways, coastal shipment for easing out burden on railway system.
- Promoting logistics companies by major stakeholders in upcoming coalfields for creating track network and transfer points with Indian Railway system.
- Investment in creating facilities and core competence for movement of both indigenous and imported coal would also be a priority area.

For better quality, the process of implementing all the identified new washeries needs to be expedited and new washing technology has to be identified. Also, the process of environment and other regulatory approvals needs to be fastened, so as to avoid delays in implementation of coal and power projects.

This paper basically aims at looking all kinds of uncertainty faced up by power producers from the coal supplier, CIL, the most important coal supplier of India. This paper, though not giving much space to captive mining, briefly talks about the kind of uncertainties existing there and the necessary solutions, if any.

Only when the power producers get coal can they produce power and can supply the agreed quantity of power to the procurer. As we have already discussed in sections on FSA that there is high uncertainty regarding the quantity of coal produced from the

mines (due to cumbersome regulatory clearances which take a lot of time). In this uncertain scenario, supplying the agreed quantity of power (since PPAs are signed beforehand) with less quantity (where the quantity supplied by the miner falls short of what was promised to the power producer) or absolutely no supply of coal (in case blocks get de-allocated) adds to the uncertainty to the power producer. Moreover, since there is only a small leverage of 10 percent that the power producer has in case of supplying power, which adds to the uncertainty, if coal is supplied in very less or no amount.

In case of shortfall in production, the power producer has to face penalties on both account; one where less coal is mined from the block and the other is the penalty it has to pay to the procurer if it supplies less than the agreed quantity of power.

If we consider the power producers alone, then their upstream transactions (i.e., transactions for procuring fuel-coal-source) are not competitive, rather there is monopoly that while their downstream transactions (i.e., to supply power) are competitive as they are based on 'competitive bidding process'; this might create problems for them.

Since even under longer term contracts, the entire supply of coal is not assured, thus they cannot minimize their production costs, which is very important to place competitive bids for selling power.

Although the tariff structure (on the basis of which bids are evaluated) include escalable components also to account for market changes and other short contingencies through price indices; still it doesn't include any component to account for the uncertainties faced by power producers in terms of uncertain fuel supply.

Furthermore, these tariffs, especially the escalable components can help to reduce uncertainty only as long as these rates are set at realistic levels. If these rates are unrealistic, then power producers are faced with uncertainty over these rates as well.

Also, in situations of hold-up problems, i.e., procure failing to dispatch power from the seller, these tariffs might not be fully abide with, for third party sales; and thus, the power producers may have to sell power at lower prices.

We clearly note that many of the regulatory clearances to be met by sellers of power like execution of FSA, necessary permission for transmission system, environmental clearance for the power system, forest clearance, land acquisition etc are same as the regulatory clearances that power producers have to meet when they are applying for either the FSA or LoA in case of long term contract. This creates the duplication of regulatory clearances which by its nature are already complex and difficult to obtain. This adds to the additional uncertainty for the power producers since they have to comply with almost the same conditions again and again. Also, they suffer from the high opportunity costs in terms of time and effort which has to put in because of duplications of regulatory procedures.

The agreement allows the power producers to sell only the excess capacity to the third party. Also, if the contracted capacity has not been dispatched by the procurer, then not only does the procurer need to pay a penalty, but even the power producer is allowed to sell this power to any third party. This clause is very important in removing the uncertainty faced by sellers, which might arise due to opportunism by the procurer. This is so because power, unlike other commodities, cannot be stored.

Hence, in situations of procurer failing to dispatch power from the seller, monetary penalties are not sufficient to compensate the seller for the loss on that account.

But there still remains a certain degree of uncertainty for the seller because if the situation of hold-up arises, they might have to sell power to the third party at a lower price.

From the analysis of the PPA, we can conclude that uncertainty faced by power producers is rather aggravated with this agreement, especially when their FSAs are signed only on the pre-requirement that the PPA has been signed already.

This is because, if the power producer is unable to get the committed fuel source or there are delays in regulatory approvals, then consequently the commission of the power plant is delayed. This leads to the delay in the supply of power for which the seller has to pay heavy penalties.

Thus, necessitating the existence of a PPA for signing FSA creates additional uncertainty. Hence as an efficient way forward, this link between PPA and FSA should be done away with. Even if they are linked, the duplication of obtaining regularity approvals should be removed, by removing this requirement from one of the agreements.

BRIEF NOTE ON CAPTIVE MINING

On account of the perceived limitations of the CIL to increase production to meet the growing demands for coal and power, private sector participation has been encouraged in coal mining by introducing the captive coal mining. It's expected that captive coal mining shall be able to fill in the supply gaps with assured supply of coal to the core infrastructure areas like power, steel and cement.

Some of the private companies who were offered captive coal blocks expressed their difficulties to do coal mining in the country on the ground of lack of experience in coal mining.

Amongst the selected companies, one or more companies (leader companies) could be allowed to do mining of coal in one or more captive blocks and the other companies (to be called associate companies) would receive coal from the captive blocks on proportion to their assessed requirements.

Since mines are also allocated on the joint basis to more than one party, the challenge this poses is the differences in the schedules in the end projects. Time bound development of these mines becomes a challenge.

Also, because of varied levels of challenges for mines which are allocated on the joint basis, it attracts less favor with financers/lenders in the market since there is a fear of coordination problems cropping up. All this adds to uncertainty on part of the mine developer which in turn feeds into uncertainty regarding the quantity of coal supplied from these mines.

These captive mining coal blocks were expected to bridge gap between the demand and supply of coal. But these blocks did not performed as expected.

CONCLUSION

For Indian coal markets, CIL's performance in bridging the demand and supply gap in coal has not been satisfactory. CIL has not met standards with respect to coal quality and has failed to honor its commitments to quantity through indigenous production.

Necessary stimuli also needs to be imparted to the system to ensure production from captive coal blocks within the specified time period from the date of allocation.