

Cashing in on Mining

The Political Economy of Mining Regulations and Fiscal Policy Practices in India

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Abstract

Against the backdrop of the recent Mines and Minerals Development and Regulation (MMDR) Amendment Bill 2015, this paper examines the political economy of State-business relations in mining sector, in the two newly-formed States in India, Chhattisgarh and Jharkhand. It is important to note that the two States have low income despite being resource-rich. Analyzing the legal fiats (State Reorganisation Acts and Fiscal Responsibility Acts), it was revealed that the formation of new States has not created any distinct fiscal agency in the extractive sector. The States – both parent and the new States – have adjusted their deficits to conform to the fiscal rules (FRBM Act) stipulated by the Centre; and these States have revenue surplus – not deficits - ex-post to the enactment of fiscal rules. The new States have insignificant share of mining proceeds in their State exchequer, around 10 per cent of the revenue receipts. Though nebulous estimates from fresh mining e-auction proceeds are on board, ambiguity remains how the newly-generated fiscal space would resolve resource curse. The use of fiscal proceeds from mining is difficult to map as it is not yet earmarked for redressing socio-economic inequalities of mining districts. However, the new MMDR Bill 2015 stipulates that District Mineral Fund (DMF) would be created in mining districts to link the proceeds to human development. Despite the data paucity, based on our analysis we caution that the road map of forthcoming DMF to plough back a portion of royalty and fresh e-auction mining proceeds exclusively to the mining districts may exacerbate spatial inequalities.

KEYWORDS: Political economy, Regulations, Mining, Industrial Policy, Fiscal Space, Inequality, Human Development

JEL classification: H5, I3, L5, O2, Q3

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1. Introduction

Against the backdrop of the recent MMDR Bill 2015, this paper examines the political economy of State-business relations in mining sector, with special focus on fiscal policy practices in the two newly formed States in India, Chhattisgarh and Jharkhand. The economic rent is the major driver in the State-business relations; and the visible fiscal capture is the mining royalty. The topic of extra-legal rent seeking behaviour in the mining sector is beyond the scope of this paper.

The institutional structures play a major role in the dynamics of State-business relations, especially the legal fiat and the fiscal fiat. We would selectively use the legal fiats, wherever required, to interpret the regulations which led to certain fiscal decisions, particularly, the newly generated fiscal space through recent legal amendments and the use of such fiscal mining space. The broad research question addressed in the paper is whether the formation of new states has created any distinct fiscal agency in extractive sector, and if so what determines mining rents? What is the institutional mechanism in which mining rent – the economic rent paid by the extractive firms to government - is decided? What is the state capacity to collect and use the economic rent from extractive resources, and its contribution to state exchequer? Is there any alternative institutional or regime shifts required in the extractive rent regime? What is the effectiveness of mining enterprise on economic growth, and also whether the public policy on economic rent aggravate spatial inequalities?

The underlying assumption which prevail and would prove positive in the paper is that the formation of new states in India is not ‘federation’ and cannot create any distinct fiscal agency, with the significant role of Centre in the legal and fiscal decisions in India. The data for the analysis is organized from Finance Accounts of the States, PROWESS CMIE firm level data, Indian Bureau of Mines, the Demand for Grants of Ministry of Mines and USGS international database.

2. State Capacity and Mining Regulations: A Policy Background

The drafting of regulations often reflect “state capacity”, which is the power of the state to raise the fiscal capacity (Besley, 2013, Skocpol, 1985, Besley and Persson, 2011). The natural resource reliance is a significant determinant of the state capacities, though the political economy play a major role in the link between the two (McAdam, Tarrow and Tilly 2001, Mann 1984, World Bank, 1992). In order to increase the investment in the mining sector and promote sustainable mining practices to adequately meet the requirements of the industry without sacrificing environmental concerns, the Mines and Minerals (Development and Regulations) (MMDR) Act, 1957 had been amended. The new Act is named as The Mines and Minerals (Development and Regulation) (Amendment) Bill, 2015.

MMDR 2015 has suggested a creation of District Mineral Funds (DMF) for the welfare of the project affected people. The new bill also provides greater decentralisation of power to State Governments for allocation of resources. The amended Act under section 9(B) says that the State

Governments shall establish a non-profit body called District Mineral Foundation (DMF) in all the mining affected districts. The objective of the DMF is to work for the interest and benefits of the persons and the areas affected by the mining operations in accordance with the State Government. The holder of a mining lease has to pay an annual amount to the DMF of the district for which the percentage of royalty to be paid may be prescribed by the Central Government in case of minerals other than minor minerals and prescribed by the State Government in case of minor minerals. In the earlier version of MMDR, it was suggested through profit sharing formula (26 per cent of profits from the coal miners and 100 per cent royalty equivalent money from other miners-, which has become controversial, and dropped in the present Bill). However, the ambiguity remains about the new levies in addition to the existing mining taxes and royalty.

MMDR, 2015 proposed that

9B. (1) In all districts affected by mining related operations, the State Government shall, by notification, establish a trust to be called the District Mineral Foundation, as a non-profit body.

(2) The composition and functioning of the District Mineral Foundation shall be regulated in such manner as may be prescribed by the State Government.

(3) The object of the District Mineral Foundation shall be to work for the interest and benefit of persons, or areas, affected by mining related operations in such manner as may be prescribed by the State Government.

(4) The holder of a mining lease or a prospecting license-cum-mining lease shall pay annually to the District Mineral Foundation of the District in which the mining operations are carried on,—

(a) in case of minerals other than minor minerals, such percentage of the royalty paid during the financial year as may be prescribed by the Central Government; and

(b) in case of minor minerals, such amount as may be prescribed by the State Government;

The new draft says, “for the purpose of granting a mining lease in respect of any notified minerals, the state government shall select, through auction by a method of competitive bidding, including e-auction, an applicant who satisfies the eligibility conditions.” So it cleared the way for the auction of iron ore and other non-coal minerals. Aiming to improve transparency in allocation and to get fair share of the value of minerals for the government, the new bill prescribed competitive bidding by auction for the allocation of mining leases. The proposed method has its roots in the National Mineral Policy 2005 (Hoda Committee), constituted by erstwhile Planning Commission, Government of India. It says that “the scheme envisages that the successful bidder will conduct the exploration and prospecting work at his own risk and cost. In case there is any find, he will have to abide by the bid conditions which could be in the form of a production share, or a payment linked to the royalty payable etc.” To look at the issue of illegal mining, the amended act made the offence of illegal mining a cognizable offence. The bill enabled the State Governments to set special courts for trial of offences under the act. The Act empowered the Central Government to frame rules for prescribing the timelines for the different stages in processing the application for grants of mineral concessions and their renewals.

3. Determining Economic Rents

The economic rent due to the sovereign owner (government) in exchange for the right to extract the mineral substance is referred as the mining royalty. The dynamics of setting the mining royalty is complex, how it is fixed and paid. No type of rent causes as much controversy as mining, as it is unique to the natural resources sector and also that has been fixed and paid in multiple extractive royalty regimes, sometimes on the measures of profitability, but more often based on *ad valorem* (value based) or the unit of the mineral extracted. In the purview of the recent reforms in which mine economy is regulated and taxed in India, there is a growing recognition to reexamine the measurement issues related to mining royalty.

Broadly, the global mining royalty arrangements may be trichotomised into profit-based, *ad-valorem* based or unit-based: profit-based royalty is levied on some measure of the profit of a mining project; *ad valorem* royalty is an output-based royalty that is levied as a percentage of the value of production of a mining project and unit based royalty is an output based royalty that is levied as a set charge per physical unit of production of a mining project (gross royalty). It is also interesting to note that there is a correlation between the royalty rate and the system of royalty. Gross royalty rates (unit-based royalty rates) tend to be in the 2% to 5% range, while *ad valorem* royalty rates tend to be somewhat higher, and the profit-based royalty rates are higher still. The logical reason for it may be as follows. In the case of the profit-based royalty, the government is less certain of collecting a royalty, because the royalty base (profit) is less predictable. The government will seek a higher royalty rate to compensate for this risk. At the other extreme, in the case of a gross royalty, the government is at less risk, because the costs of mining, milling, smelting, and refining do not affect the royalty base (revenues or production). Therefore, the government will seek a reduced royalty rate. *Ad valorem*, particularly Net Smelter Return royalties fall between gross royalties and profit-based royalties on the risk and rate scale.

As ferrous and coal regime are integral to the selected two States under study – Chhattisgarh and Jharkhand, this paper unpacks the regime shifts in these two mineral regimes. The shift to *ad valorem* is driven by revenue augmentation to the State exchequer, as the *ad valorem* regime is market linked and referenced to commodity prices in domestic or international (London Metal Exchange) markets.

The mining royalty regime in India is onerous. India has one of highest royalty rates in the world (Chakraborty, 2014, 2015). In India, “tax terrorism” (this term refers to existence of high tax rates compared to other countries) has been recognized in the Union Budget 2015-16 and policy announcement was undertaken to reduce the corporate tax rates. However, the policy recommendations to rationalize royalty have not been taken yet, though Hoda Committee (National Mineral Policy) recommendations suggested policy reforms to make the mining royalty rates competitive, by benchmarking to Western Australia rates.

Though there has been a regime shift in ferrous mining royalty away from the tonnage regime to *ad valorem*, the rationalization of rates to internationally competitive rates has not yet materialized. Every three years, the royalty rates are revised upwards in India, as per the recommendations of the ‘Study Group on Royalty’ constituted by the Government of India. The Central Government sets the rate of royalty and the State Governments collect the mining revenue. In ferrous royalty regime, though there has been a shift from tonnage to *ad valorem*, the

base estimation suffers from discretion in deciding the grade content ($\lambda_{1,2,3\dots n}$) of the extracted ore in arriving at royalty calculations.

Symbolically, $R_{ROM} = [\lambda_{1,2,3\dots n} ROM] * Y_{ore}$

Where, R_{ROM} = royalty revenue from metal contained in Fe ore,
 $\lambda_{1,2,3\dots n}$ = Grade percent of Metal in the different types of extracted iron ore ,
 ROM = tonnage of run of mine (ROM) ore treated and
 Y_{ore} = prevailing royalty rate on the Fe ore.

There is a regime shift in ferrous royalty since 2012. Prior to 2012, the Fe royalty was estimated on the basis of tonnage method. The grade percent was different for ore lumps and fines, and also within each category. The recent royalty rate for Fe is 15 per cent ad valorem of national benchmark (IBM) price.

The estimation of *ad valorem* regime is as captured in the formula as follows.

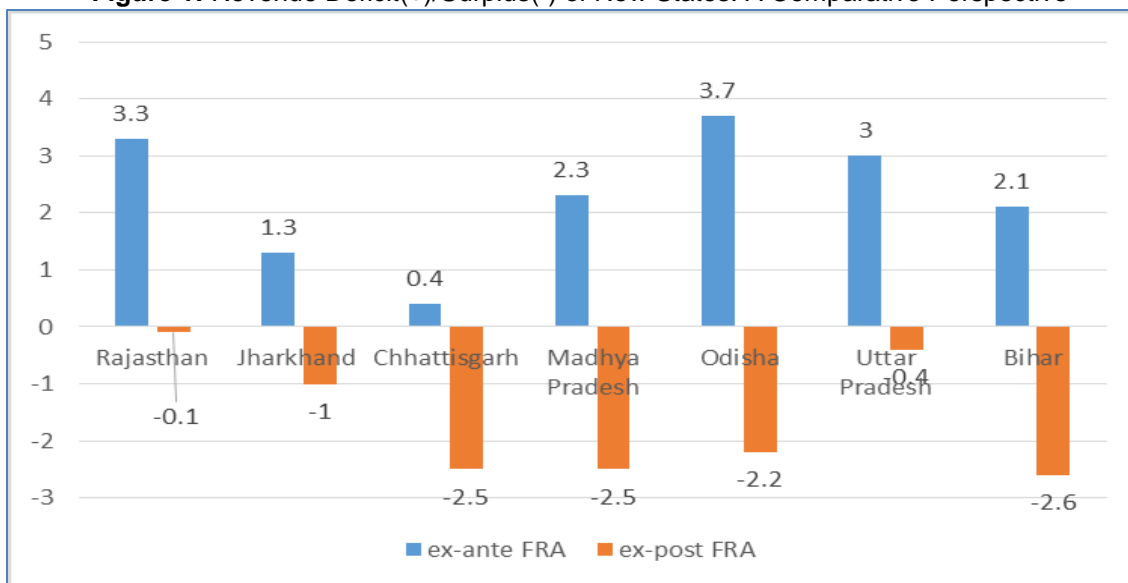
$R_{ROM} = [\lambda * ROM] * [\alpha P_{IBM}] * Y_{ore}$

where, R_{ROM} = royalty revenue from metal contained in the ore,
 λ = Grade percent of Metal in the extracted ore;
 ROM = tonnage of Run of Mine (ROM) Ore Treated,
 P_{IBM} = IBM Fe Prices and
 Y_{ore} = prevailing royalty rate on the Fe ore.

4. Fiscal Space from Mining: Regime Shifts and Royalty Proceeds

Fiscal space of the new States has to be viewed from the perspective of 'fiscal rules' enacted by the Central Government. It is incorrect to argue that the mineral rich new States have significant fiscal space generated through the mining proceeds. In this section, we empirically analyse this, using fiscal legislations and selective fiscal ratios. We need to examine the fiscal space against this backdrop of Centre's fiscal consolidation measures enacted at the subnational government levels. As per the Fiscal Responsibility Act (FRA), each State should confirm fiscal prudence by eliminating the revenue deficit by 2008-09. The revenue deficit of parent and new States, *ex-ante* and *ex-post* FRA, is given in Figure 1. For a comparative perspective, the other low-income States are also included in the graph. It is revealed from the graph that all poor-income States in India have adjusted to fiscal rules and have maintained revenue surplus in the *ex-post* FRA period. The point to be highlighted here is that the question of fiscal legacy with the parent states, and the possibility of creating any distinct fiscal agency by the new States need to be viewed against the fact that the fiscal rules have been designed and enacted upon by the Centre.

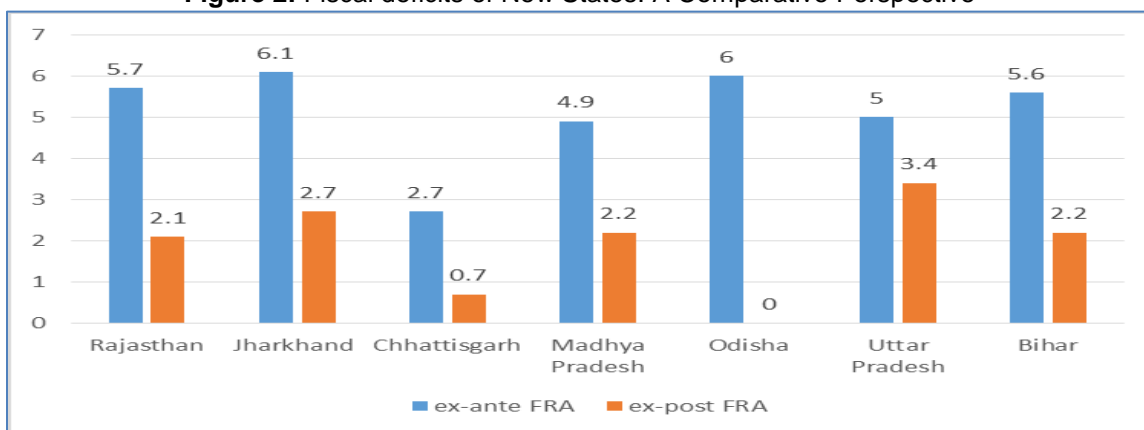
Figure 1: Revenue Deficit(+)/Surplus(-) of New States: A Comparative Perspective



Source: (Basic Data), Reserve Bank of India Study on State Finances 2014-15

Yet another requirement of fiscal rules (Fiscal Responsibility Act) was that all States need to maintain a fiscal deficit below 3 per cent of GSDP. Figure 2 reveals that both parent and the new States have maintained fiscal prudence ex-post to FRA, by keeping fiscal deficit to below 3 per cent. Chhattisgarh over-adjusted to fiscal rules and maintained a fiscal deficit around 0.7 per cent of GSDP in the ex-post FRA period. Jharkhand maintained a knife-edge deficit just below the threshold fiscal deficit requirement, at 2.7 per cent in ex-post FRA period. Both the parent States – Madhya Pradesh and Bihar – maintained a fiscal deficit of 2.2 per cent of GSDP.

Figure 2: Fiscal deficits of New States: A Comparative Perspective



Source: (Basic Data), Reserve Bank of India Study on State Finances 2014-15

4.1: Mining Fiscal Space of Chhattisgarh and Jharkhand

It is note worthy that the resource-rich States in India are income poor; and suffer from large deficits in social and economic development. Why the newly-formed States in India – Chhattisgarh and Jharkhand - have failed to translate their natural resource abundance to economic growth and human development? As per the India Human Development Report 2011, Chhattisgarh was ranked last among all States in India, with an HDI of 0.358, against the national average of 0.467. Jharkhand also remains at bottom level in the human development with an HDI of 0.376. This calls for analyzing the significance of fiscal policy practices in these resource-rich new States, with special reference to the fiscal space created by the mining revenues and in turn what the mining fiscal space is used for.

Theoretically, finding a sustainable fiscal space for human development involves asking what the purpose of fiscal space is, the timeframe for the analytical framework, and the political economy context within which it is implemented (Roy, 2015). Specifically, to what extent do local jurisdictions benefit from mining proceeds? This question of “use of mining fiscal space” has high policy relevance in India against the backdrop of the recent Mining Industrial Policy - Mines and Minerals Development and Regulation (MMDR) Amendment Bill, 2015 - which states a provision for District Mineral Foundation (DMF) for linking mining royalty and auction proceeds to improve the quality of life of the local populace, primarily the tribals, and improving the social infrastructure of these mining districts. We will revisit this point later in this paper.

We have explored two data sources to arrive at the fiscal proceeds from mining sector: Finance Accounts and individual State Budgets. As the Finance Accounts data do not contain the mining proceeds at disaggregated levels, we have explored the State Budget documents to extract the disaggregated budget heads related to mining using a recent methodology of “budget tagging²”. The budget tagging analysis intends to identify the budget codes that are relevant to mining actions; and report such revenue heads related to mining operations. However, the negative inferences from this exercise reinforced that the fiscal space from mining to State exchequer is negligible, less than 10 per cent, in both new States and no relevant budget heads with appropriations are available at disaggregated levels in the State Budgets, other than what is reported in Finance Accounts.

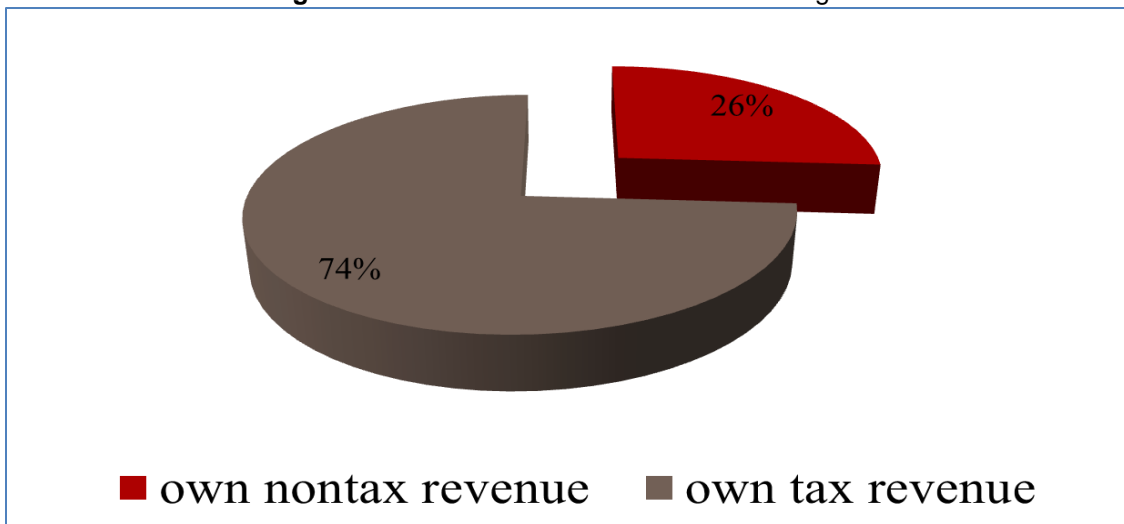
Methodologically, we have used an encompassing criteria for selecting the “mining tags” in the revenue budget of the States, incorporating different phases of mining operations, viz., prospecting (which involves reconnaissance and detailed exploration), development and operation. For instance, this analysis defines mining revenues from different phases of mining, viz., (i) reconnaissance permit fee (ii) prospecting fee (iii) dead rent (iv) royalties and some other levies are imposed at different stages of a mining operation. However, the inference from the budget tagging analysis revealed that the time series data on revenue from tax and non-tax sources other than mining royalty and fees is not available in the budget documents³.

² The budget tagging is a recent methodology used to prepare climate responsive budgeting (CRB). However in CRB, the tagging is confined to expenditure budgets.

³ The taxes (direct and indirect) collected from mining firms are unavailable in budget documents. We have therefore collated the details of direct and indirect taxes paid by the mining companies from the PROWESS CMIE dataset.

We have, therefore, decided to use Finance Accounts data, as the disaggregation exercise using the budget tagging methodology to identify the “mining tags” left us with insignificant additional inferences. This disaggregated exploration is also not helpful to analyse the link between fiscal proceeds from mining and its utilisation on local area development and rehabilitation. There is no proceeds under mining in the State budgets, earmarked so far to redress spatial or human inequalities. This is not to understate the relevance of budget tagging methodology, all we wanted to highlight is the irrelevance of this methodology in identifying mining tags. However, the new policy formulation based on DMF in MMDR Act 2015 is in anvil to link the mining proceeds to the benefit of local populace, and the DMF provisions could be a plausible budget head to study such links in future.

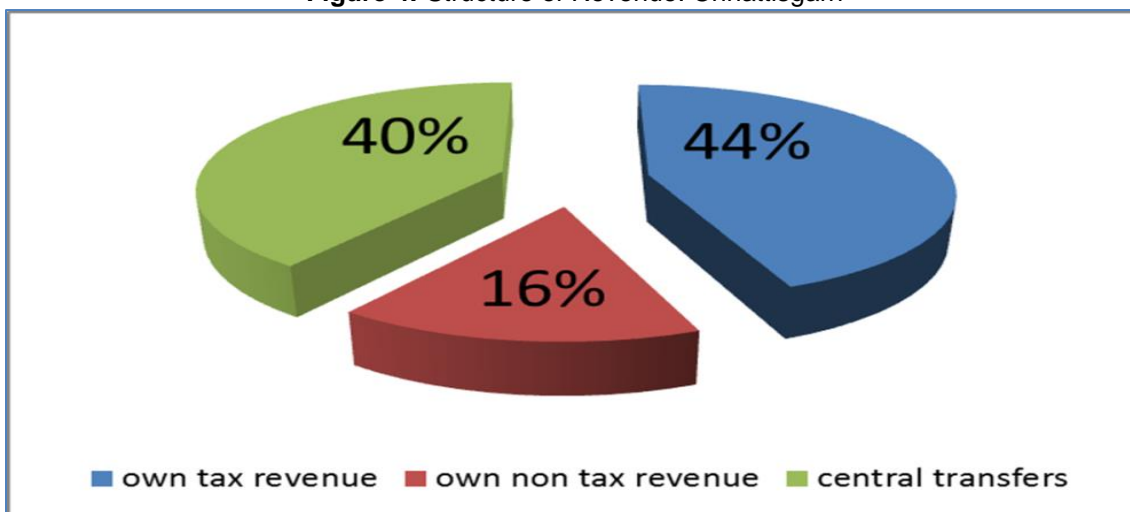
Figure 3: Structure of Own Revenue: Chhattisgarh



Source: Government of India, Finance Accounts, Chhattisgarh (2012-13)

Using the time series data from Finance Accounts, we deciphered that in Chhattisgarh, mining revenue constitute around 18 per cent of state’s own revenue. Within the nontax revenue, mining proceeds form 68 per cent of own non-tax revenue in 2012-13. However, the own non tax forms only 26 per cent of total own revenue (Figure 3). These ratios need interpretation in the context that 40 per cent of State total revenue receipts constitute of central transfers (Figure 4).

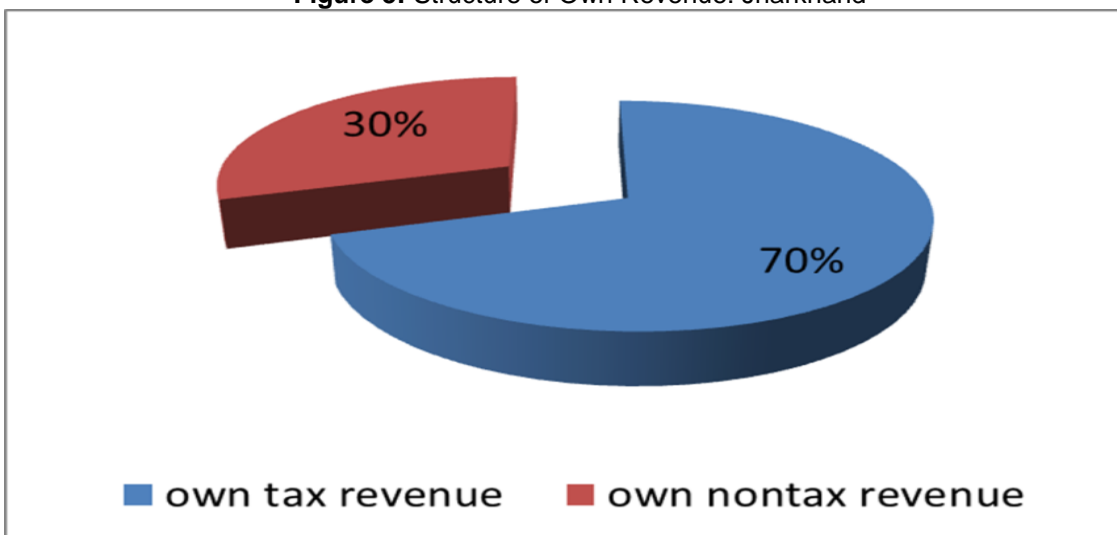
Figure 4: Structure of Revenue: Chhattisgarh



Source: Govt. of India, Finance Accounts, Chhattisgarh (2012-13)

Jharkhand is the country's most mineral-intensive state, with mining and quarrying accounting for around 88 per cent of the own non tax revenue of the State. However, the own non-tax revenue forms only 30 per cent of the own revenue kit (Figure 4). Mining royalty finances only 13.43 % of revenue expenditure in Jharkhand⁴.

Figure 5: Structure of Own Revenue: Jharkhand



Source: Gov.t. of India, Finance Accounts, Jharkhand (2012-13)

⁴ Detailed analysis of fiscal profile of mining sector of the mineral rich states in India can be obtained from Chakraborty (2015).

The fiscal proceeds from mining is insignificant in both States. These States depend on 40-50 per cent of their revenue from intergovernmental fiscal transfers. The analysis using the Finance Accounts data revealed that mining revenue constitutes around 18 per cent of the State's own revenue in Chhattisgarh in 2012-13. Within the nontax revenue, mining proceeds form 68 per cent of own non-tax revenue in 2012-13. However, this ratio needs to seen from the relative size of non-tax pool, as the aggregate own non-tax forms only 26 per cent of total own revenue (Table 1). The "use of fiscal space" of mining proceeds is tough to attain. However, broadly we can suggest that mining royalty finances only 11.55 % of revenue expenditure in Chhattisgarh, in 2012-13.

Table 1: Mining Fiscal Ratios: Chhattisgarh, 2012-13

RATIOS	CHHATTISGARH
ROY/OWN REV	17.66
ROY/OWN NON TAX REV	67.53
NON TAX/TOT OWN REV	26.00
FIS TRANS/ TOT REV	40.00
ROY/REV EXP	11.55

Source: Govt. of India, Finance Accounts, Chhattisgarh (2012-13)

In Jharkhand, the royalty proceeds from mining and quarrying account for around 89 per cent of the own non tax revenue of the State (Table 2). However, the own non tax revenue forms only 30 per cent of the own revenue receipts. Mining royalty finances only 13.43 % of revenue expenditure in Jharkhand. Jharkhand also depend on substantial fiscal transfers, as high as 50 per cent of their total revenue.

Table 2: Mining Fiscal Ratios: Jharkhand, 2012-13

RATIOS	JHARKHAND
ROY/OWN REV	26.72
ROY/OWN NON TAX REV	88.89
NON TAX/TOT OWN REV	30.00
FIS TRANS/ TOT REV	50.00
ROY/REV EXP	13.43

Source: Govt. of India, Finance Accounts, Jharkhand (2012-13)

An important question we try to ask in this paper is how to link the fiscal proceeds to the 'use of proceeds'. It is difficult to map, as the royalty proceeds are not yet earmarked for any specific purpose like local area development or redressing spatial inequalities. However, MMDR 2015 suggests a new policy to link the royalty revenue to development of local populace through creating DMF.

5. Mining Regime ON Economic Growth

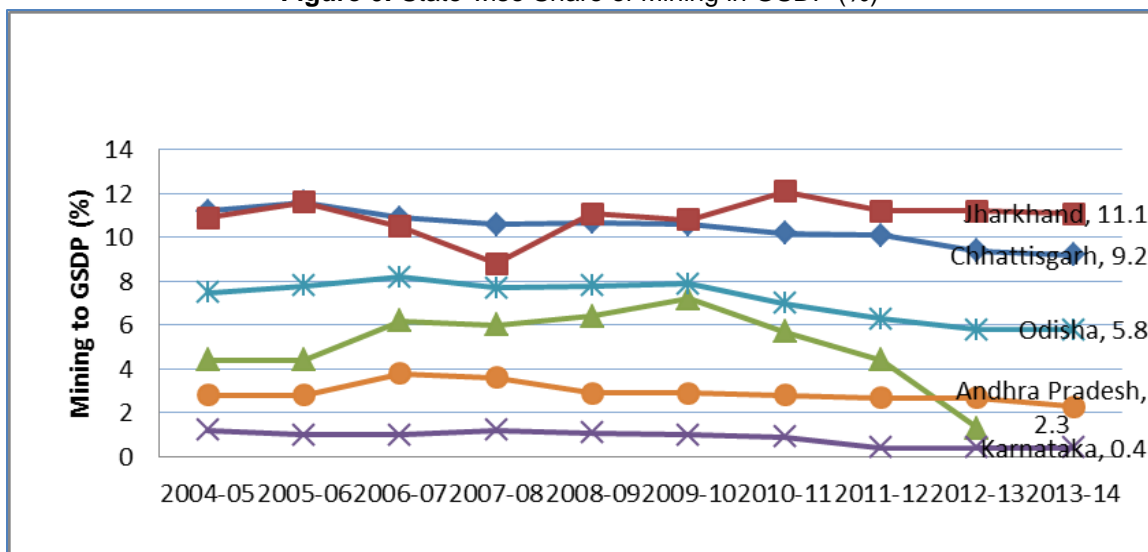
In section III, we have carried out the ratios of mining within the fiscal exchequer. This section deals with the contribution of mining to State's overall income (captured in GSDP). The onerous mining regime has severe repercussions on economic growth. The share of mining sector to Gross Domestic Product (GDP) has been on the decline in India. During the year 2013-14, the share of the industry sector in GDP was about 26.1 per cent and the 'mining and quarrying' sub-sector had a contribution of 1.9 per cent (Table 3). The contribution of mining sector has declined from 3 per cent in 1999-2000 to 2 per cent in 2012-13 and further down to 1.9 by 2013-14. The State-wise analysis also have shown the same declining trends.

Table 3: Contribution of Mining Sector to Economic Growth (per cent)

Sector	1999-2000	2007-08	2012-13	2013-14(P)
Agriculture & allied	23.2	16.8	13.9	13.9
Industry	26.8	28.7	27.3	26.1
1. Mining and quarrying	3	2.5	2	1.9
2. Manufacturing	15	16.1	15.8	14.9
3. Registered Manufacturing	9.2	10.7	11.2	NA
4. Unregistered Manufacturing	5.8	5.4	4.5	NA
Services	50	54.4	58.8	59.9
1. Trade, hotels, transport, and communication	21.2	25.9	26.9	26.4
2. Financing, insurance, real estate, and business services	14.5	16.1	19.1	20.6
3. Community, social, and personal services	14.4	12.4	12.8	12.9

Source: Economic Survey 2013-14.

The State-wise analysis showed that Jharkhand and Chhattisgarh are consistent performers since 2004-05 with an average contribution of around 10% between 2004-05 and 2013-14 (figure 5). Goa is on a declining trend since 2009-10, despite having significant contribution from the sector between 2004-05 and 2008-09. Odisha is also on a declining trend since 2010-11, despite having significant contribution from the sector between 2004-05 and 2009-10.

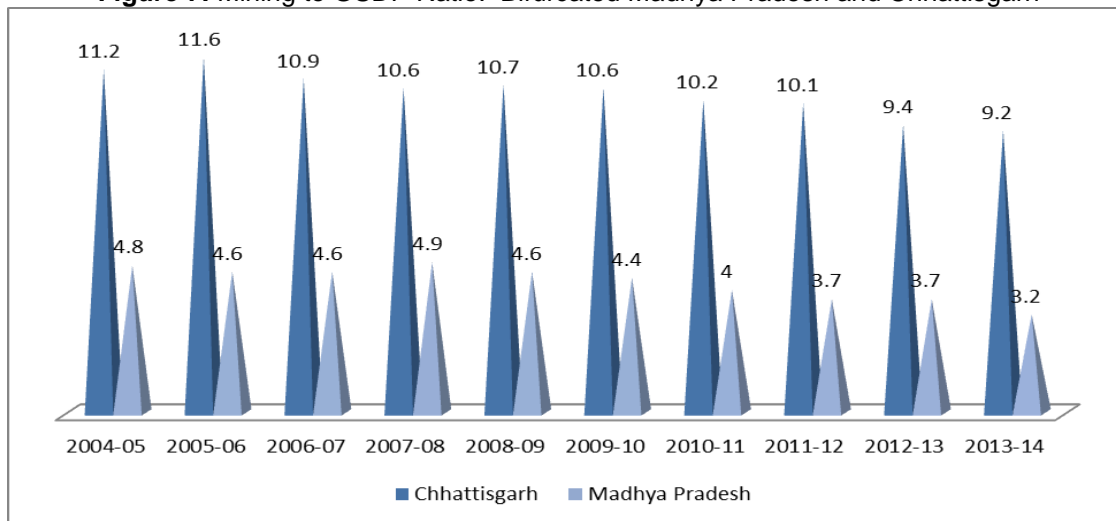
Figure 6: State-wise Share of Mining in GSDP (%)


Source: CSO, Govt.. of India (various years)

After the bifurcation of States, the new States gained in terms of mining than the parental States in case of both Bihar-Jharkhand and Madhya Pradesh-Chhattisgarh. However, empirical evidences do not suggest that creation of new States led to any distinctive fiscal agency, in terms of enhancing the fiscal autonomy from mining proceeds as both States rely around half of their revenue from intergovernmental fiscal transfers. The State Reorganisation Acts⁵ of the respective States explicitly mentioned that the territorial divisions are on the basis of the administrative jurisdictions. Tillion (2015) provides a cogent narration to the plausible arguments on the origins of State reorganisation of these two States. The Acts state that the distribution of revenue would be determined under the article 280 of the Constitution, on the recommendation of Finance Commission. Figure 7 revealed that Bihar has not seen a change in share since 2004-05, i.e. 0.1% of GSDP, while Figure 6 revealed that Madhya Pradesh is on a declining trend since 2010-11, despite having significant contribution from the sector between 2004-05 and 2009-10. Both Jharkhand and Chhattisgarh – the new States – gained in terms of mining compared to the parent States.

⁵ The Public Debt of the existing State outstanding immediately before the appointed day had been apportioned in the ratio of population of the successor States. For details, see THE MADHYA PRADESH REORGANISATION ACT, 2000, ACT NO. 28 OF 2000 and THE BIHAR REORGANISATION ACT, 2000, ACT NO. 30 OF 2000.

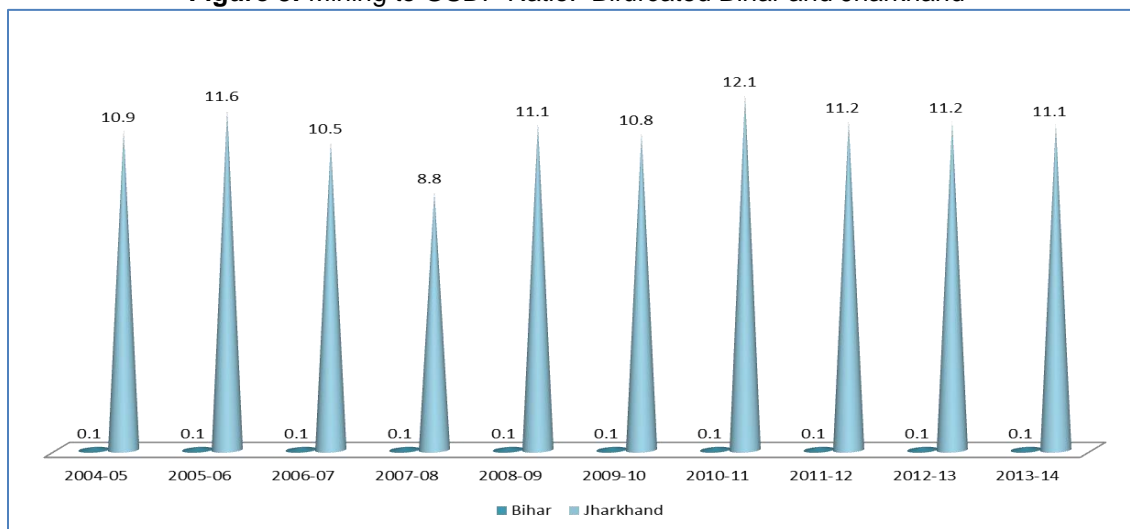
Figure 7: Mining to GSDP Ratio: Bifurcated Madhya Pradesh and Chhattisgarh



Source: CSO, Govt. of India (various years)

The point to be noted here is that creation of new States per se is not federation, the Central government has significant role in contributing to the State exchequer through intergovernmental fiscal transfers. The new States have not created any fiscal agency through mining, rather the role of Central Government in determining the mining industrial policy is reinforced.

Figure 8: Mining to GSDP Ratio: Bifurcated Bihar and Jharkhand

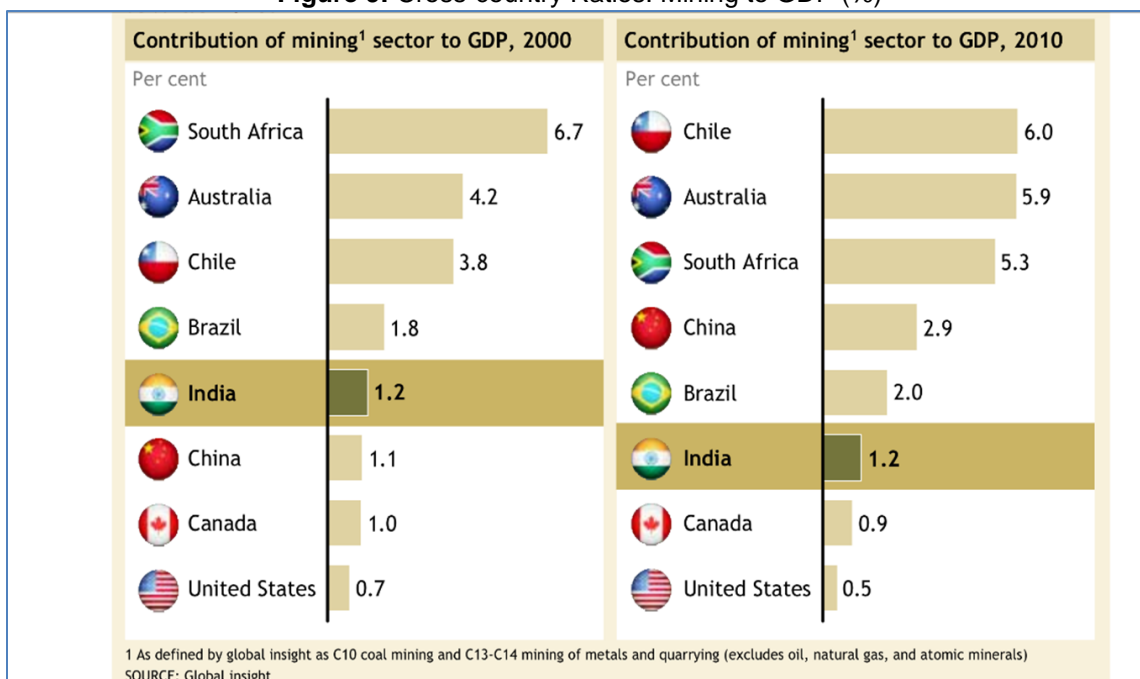


Source: CSO, Govt. of India (various years)

The contribution of mining to GSDP at 10 per cent is comparatively higher, in terms of intra-national (with other mineral rich States in India) and international comparison. The cross

country evidence revealed that resource-rich contributes only below 10 per cent of GSDP with Chile (6 %), Australia (5.9%) and South Africa (5.3 %) in 2010 (Figure 8).

Figure 9: Cross-country Ratios: Mining to GDP (%)



Source: Strategy Paper, Ministry of Mines, Govt of India, 2011

The strategy paper of Ministry of Mines (2011) noted that the proceeds from mining in the two new States – Chhattisgarh and Jharkhand would be comparatively more than other mineral rich States and forecasted that contribution from this sector could go up to 20.0 and 14.1 per cent respectively by 2025.

6. Are Mining Taxes Dynamic?

Tax buoyancy measures the responsiveness of the tax revenue to the GSDP. If buoyancy of tax is one percent, it implies that one percent change in GSDP would lead to an equal change in the tax revenue, resulting into no change in tax to GSDP ratio. However, if the buoyancy is above unity, tax revenue will increase more than the increase in GSDP resulting into the decline in the deficits. Tax buoyancy is the effect of increase in GSDP on the tax revenue and estimated by regressing the log of tax collected on the log of gross state domestic product. The coefficient of buoyancy, thus, has been estimated by a double log regression function, as follows.

$$\ln T_t = \gamma + \delta \ln Y_t + \varepsilon_t$$

where, T is any given Tax; Y is income or GSDP; and δ is the buoyancy estimate.

The estimates suggest that the short run buoyancy of own revenue is above unity for all the States except Goa. The tax buoyancy for Jharkhand (1.37) is better than its parent State Bihar (1.16) in the period 2000-2012. However, the buoyancy of taxes in Madhya Pradesh and Chhattisgarh are closer⁶ (Table 4).

Table 4: Buoyancy Estimates: 2000-2012

State	Own Tax revenue	Mining Revenue (illustrative)
Bihar	1.169*** (0.033)	2.109*** (0.335)
Chhattisgarh	1.299*** (0.114)	0.758 (2.454)
Madhya Pradesh	1.23*** (0.050)	-
Jharkhand	1.371*** (0.121)	3.548*** (0.901)
Karnataka	1.128*** (0.034)	1.588*** (0.057)
Goa	0.934*** (0.033)	2.301*** (0.333)
Orissa	1.108*** (0.028)	2.149*** (0.611)

Source: Finance Account of States (Various Years)

In case of mining revenues, the buoyancy estimates have to read with caution as the data was noisy. Within the data limitations, we interpret that in Chhattisgarh, the buoyancy of mining revenue was below unity.

7. Mining on Socio-Economic Outcomes

The empirical analysis of impact of mining activity on the socioeconomic development of the region is an elusive area of research. While several studies analyzed the resource curse problem from national economy's perspective, a few studies have attempted to look for the problem of resource-curse at the disaggregated level of district. A Policy Research Working Paper of the World Bank (Loayza et al, 2013) shows that mining activity in Peru has had a positive impact on local communities in terms of higher economic growth and a better performance on human development indicators. The analysis tries to compare the performance of a mining district with a non-mining district in the same mineral producing province and non-mining in the non-mineral producing province. The analysis reveals higher inequalities across districts stemming from the relatively better performance of the producing district, which counteracts the benefits and becomes a potential source of societal tensions. The alleviated poverty levels persist despite the redistributive programmes to uplift the local communities.

⁶ We acknowledge Sahil Ravgotra for providing buoyancy estimates.

Another study is in the Indian context that attempts to do a district-level analysis of the Maoist conflict in India (Hoelscher et al, 2012). The major finding of their study is that the districts with the highest percentage of SC/ST population are the most affected by Maoist operations. Most socio-economic and government capacity factors only marginally explain the conflict issue. The relationship between mining and violence is observed to be positive, but is weak. The findings also revealed that it is not a lack of development per se that triggers conflict, but the development that disregards the interests of the most vulnerable inhabitants of land and provides no safeguard against corruption or other illegal and unjust practices. The extensive literature on civil conflict cites strong illustrations of civil conflicts originating from appropriation of rents from natural resources that impedes economic growth and severely impairs the economic and socio-political environment of the country in the long-run (Ross, 2004a, 2004b; de Soysa and Binningsbø, 2009)⁷.

We carry out our preliminary analysis of the socio-economic impacts of mining in the two newly-formed resource-rich States of Chhattisgarh and Jharkhand. Mineral profile for the States of Chhattisgarh and Jharkhand as on April 1, 2014 for coal and as on April 1, 2010 for other minerals are given in Table 5. Analyzing the datasets on mineral wealth along with Table 6 on growth and human development indicators of the two States shows slower growth and development. Presently, both the States have an HDI value lower than the national average on all three dimensions- education, income and health and they suffer an average loss of 35% and 33% in HDI due to inequality, respectively.

⁷ Mapping the incidence of mineral resource holding and the six World Governance Indicators - voice and accountability, political stability and absence of violence, government ineffectiveness, regulatory quality, control of corruption and rule of law - across the regions of the globe, one is bound to see striking overlaps. A significant number of resource-abundant Sub-Saharan African, certain Latin American and Middle Eastern nations are placed in the lowest percentile on all six indicators. Empirical evidences across the globe suggest that it is a case where the availability of natural wealth has become the main source of economic and political instability; of foreign private and public competitiveness; and of rent-seeking behaviour in vulnerable states, with all its accompanying features of attempts at illegal extraction, leading to soaring poverty levels.

Table 5: Mineral Profile, Chhattisgarh & Jharkhand

CHHATTISGARH		
Mineral	Total resources in Chhattisgarh ('000 tn)	Share of the state as a % of all India reserves
Coal	52533*	17.42
Iron ore	3291824	18.40
Limestone	8959446	5.15
Dolomite	846682	10.95
Tin ore	29800703*	35.59
Tin metal	15486.63*	15.14
JHARKHAND		
Coal	80716*	26.76
Iron ore	4596620	25.71
Copper ore	288126	18.49
Bauxite	146323	4.21
Graphite	12910869*	7.48
Kyanite	5708533*	5.53

Note: (as on April 1, 2014 for coal and as on April 1, 2010 for other minerals).

*Coal in million tn; tin, graphite and kyanite are expressed in tn.

Source: Indian Minerals Yearbook 2013 and Coal Directory of India 2013-14

Despite being endowed with rich reserves of minerals, the States have not been able to utilize its resource wealth to set the trajectory of growth and development. In fact, a closer look at the indicators reveals that the two States are among the poorest performing States in India on the human development front. But we need to study the data at a district-disaggregated level in order to find the impact of mining on socio-economic outcomes.

Table 6: Development Indicators: Chhattisgarh and Jharkhand

	Indicators	Chhattisgarh	Jharkhand	India
1.	Total Population (In Millions)	26	33	1210
2.	Net domestic Product (at factor cost) (Rs crores) [For state) Gross Domestic Product (at factor cost) (Rs crores) (For India)]	70309	63297	44937 43
3.	Sex ratio (females per 1000 males)	991	947	940
4.	Literacy rate (%)	71.04	67.63	74.04
5.	Human Development Index (HDI)	0.358	0.376	0.467
6.	Gender Related Development Index (GDI)	0.542	0.558	0.590
7.	Gender Empowerment Measure (GEM)	0.464	0.435	0.495
8.	Inequality Adjusted Human Development Index Value (IHDI)	0.291	0.308	0.343
9.	Poverty Headcount Ratio (%)	48.7	39.1	29.8
10.	Multidimensional Poverty Index (MPI)	0.367	0.441	0.283
11.	Prevalence of Underweight Children under 5 years of age (%)	47.6	57.1	42.5

Source: 1, 3-4 - Census of India 2011;

2- RBI Handbook of Statistics on Indian Economy and Economic Survey of India 2010-11;

5- India Human Development Report 2011, IAMR and Planning Commission;

6-7-Gendering Human Development Indices: Gendering Human Development Indices: Recasting the Gender Development Index and Gender Empowerment Measure for India, Ministry of Women and Child Development, GOI;

8- Inequality Adjusted Human Development Index for India's States 2011, UNDP;

9- Tendulkar Committee Report 2009, Planning Commission;

10- MPI data and updates for 2011, OPHI;

11- India State Hunger Index 2009, IFPRI

The district-level data on four indicators, namely, effective literacy rate, infant mortality rate, total fertility rate, and institutional deliveries, are listed below in Table 7 and 8, for the 16 districts of Chhattisgarh and 18 districts of Jharkhand respectively. So, for the purpose of finding the worst pockets, those districts have been selected that perform worse than the respective State figures. Not only does this reflect the intra-State spatial inequalities but also brings to the table the dire need of policy measures to alleviate the existing gaps on the development in order to achieve inclusive growth. Those figures are highlighted under each indicator where the performance is worse than the respective State average. We observed that more than half of the districts in each state lag far behind on development where the infrastructure for the provision of basic health and education facilities seems to be in shambles. Extending the analysis further, the districts with the highest share of Scheduled Tribe (ST) population (highlighted figures under last columns of Table 7 and 8) are also seen to be the districts which are among the worst performers on the above mentioned four indicators, with an exception of the district of Bastar and Korba in Chhattisgarh, and the districts of Ranchi and Purbi (East) Singhbhum in Jharkhand.

Table 7: District-wise Human Development Indicators, Chhattisgarh

Districts	Infant Mortality Rate (IMR)	Total Fertility Rate (TFR)	Effective Literacy Rate (%)	Institutional Delivery (%)	% of ST Population
Bastar	40	2.5	66.3	67.1	11.9
Bilaspur	38	2.9	78.8	28.2	6.4
Dantewada	44	2.7	52.3	49.7	5.2
Dhamtari	47	2.5	84.3	52.2	2.7
Durg	35	2.3	83.5	39.9	5.1
Janjgir-Champa	46	2.6	77.1	27.1	2.4
Jashpur	56	2.8	71.3	37.8	6.8
Kanker	46	2.3	81.4	68.4	5.3
Kawardha	57	3.6	72.3	23.8	2.1
Korba	48	2.5	79.7	42.6	6.3
Koriya	52	2.3	74.8	40.1	3.9
Mahasamund	57	2.8	76	49.5	3.6
Raigarh	55	2.5	75.8	42.2	6.5
Raipur	45	2.9	78.6	34.5	6.1
Rajnandgaon	49	2.8	81.7	43.5	5.2
Surguja	50	3.2	68.7	32.0	16.6
Chhattisgarh	46	2.7	76.4	39.5	100.0

Source: Annual Health Survey 2012-13 Factsheet, Chhattisgarh, and State Primary Census Abstract 2011

Table 8: District-wise Human Development Indicators, Jharkhand

Districts	Infant Mortality Ratio (IMR)	Total Fertility Rate (TFR)	Effective Literacy Rate (%)	Institutional Delivery (%)	% of ST Population
Bokaro	28	2.6	79.0	54.8	5.90
Chatra	42	3.0	69.9	35.6	1.05
Deoghar	31	2.5	72.0	39.0	4.18
Dhanbad	26	2.7	79.4	52.0	5.38
Dumka	45	3.0	66.7	28.8	13.19
Garhwa	33	3.0	67.4	39.2	2.34
Giridih	28	2.5	69.2	35.1	5.50
Godda	54	3.0	63.3	31.2	6.45
Gumla	45	3.5	70.9	45.7	16.32
Hazaribagh	29	2.3	76.5	54.2	2.81
Kodarma	27	2.7	73.9	54.9	0.16
Lohardaga	53	3.7	74.0	54.7	6.07
Pakaur	52	3.7	59.3	27.7	8.75
Palamu	40	2.9	69.4	39.3	4.19
Pashchimi Singhbhum	53	3.1	67.6	38.5	23.36
Purbi Singhbhum	25	2.2	78.7	70.0	15.10
Ranchi	30	2.7	82.3	64.2	24.07
Sahibganj	52	3.0	63.5	29.5	7.12
Jharkhand	36	2.7	73.3	46.2	100.00

Source: Annual Health Survey 2012-13 Factsheet, Jharkhand, and State Primary Census Abstract 2011

The ST population, mostly rural dwellers, lives in relatively isolated and inaccessible areas and is highly deprived and marginalized. In fact, eight of the tribal groups of the state of Jharkhand namely; Asur, Birhor, Birajia, Korwa, Savar, Pahariya (Baiga), Mal Pahariya and Souriya Pahariya have been declared as particularly vulnerable tribal groups (PTGs). They live in small, dispersed and inaccessible habitations (Economic Survey of Jharkhand 2013-14). The districts identified are mineral-abundant and the Table 9 shows their mineral wealth profile.

Table 9: Mineral Wealth Profile for a Few Select Districts of the Two States

	Highest ST Population	Mineral wealth		Highest ST Population	Mineral wealth
Chhattisgarh	Surguja	bauxite, coal, dolomite	Jharkhand	Pashchimi Singhbhum	bauxite, china clay, fire clay, iron ore, quartz, limestone, manganese ore, kyanite
	Bastar	bauxite, iron ore, dolomite, limestone, granite, tin, garnet, marble		Gumla	bauxite, iron ore, granite
	Jashpur	bauxite, quartz		Dumka	bauxite, china clay, fire clay, quartz, graphite, felspar
	Raigarh	bauxite, coal, dolomite, limestone, quartz, china clay, fire clay		Pakaur	coal, bentonite
	Bilaspur	bauxite, dolomite, limestone, fire clay		Sahibganj	china clay, quartz, bentonite
	Korba	bauxite, coal		Godda	coal, fire clay, quartz, granite

Source: Indian Minerals Yearbook 2013

This reveals a preliminary evidence that the extensive mining activities carried out in the districts have not yielded socio-economic gains to the districts and the finding is contrary from the results given in literature that supports higher economic performance for the mining districts (Loayza et al, 2013) and the reason for the same can be the complex interplay of economic, social and political factors operational in the Indian context.

8. Conflict and Mining

The logic of accumulation by dispossession is one of the plausible reasons for the problem of “conflict” in the newly created states of Jharkhand and Chhattisgarh. The roots of the problem can be traced to the displacement of local inhabitants of land endowed with rich mineral resources, without due compensation and provision of decent livelihood opportunities.

There is a growing recognition in policy circles of the fact that mining-induced displacement and resettlement (MIDR) poses major risks to societal sustainability. To cite World Bank (2001), “involuntary resettlement under development projects, if unmitigated, often gives rise to severe economic, social and environmental risks: productive systems are dismantled; people face impoverishment when their productive assets or income sources are lost; people are

relocated to environments where their productive skills may be less applicable and the competition for resources greater; community institutions and social networks are weakened; kin groups are dispersed; and cultural identity, traditional authority, and the potential for mutual help are diminished or lost". Table 10 presents a State-wise snapshot of the fatalities reported from Naxal conflict in the period 2008 to 2012.

Table 10: Conflict: State-wise Data, 2008- 2012

States	2008		2009		2010		2011		2012	
	I	M	I	M	I	M	I	M	I	M
Chhattisgarh	620	242	529	432	625	426	465	238	370	147
Jharkhand	484	207	742	239	501	172	517	198	480	170
Bihar	164	73	232	72	307	97	316	63	166	44
Odisha	103	101	266	67	218	79	192	53	171	45
Andhra Pradesh	92	46	66	18	100	24	54	9	67	13
Maharashtra	68	22	154	93	94	49	109	54	134	41
West Bengal	35	26	255	158	350	258	92	45	6	0
Madhya Pradesh	7	0	1	0	7	1	8	0	11	0
Uttar Pradesh	4	0	8	2	6	1	1	0	1	0
Others	14	4	5	0	5	0	6	1	8	0
Total	1591	721	2258	1081	2213	1107	1760	661	1408	460

Note: (I: Incidents, M: Mortality)

Source: Government of India (2009-2013), Ministry of Home Affairs.

Though the incidences and deaths in absolute numbers have been on a decline over the years (increased deployment of police personnel, willful surrender of Maoists in the recent times, etc.), the numbers deserve seriousness from all quarters. In the four years from 2008-12, over 8000 incidents with more than 4000 deaths have transpired as a result of this armed insurgency. The states of Chhattisgarh and Jharkhand are the most affected by Maoist activities as they are also the states with the highest share of mineral wealth. Table 11 present the findings for Maoist conflict in the States of Chhattisgarh and Jharkhand that are adversely inflicted with Naxalism.

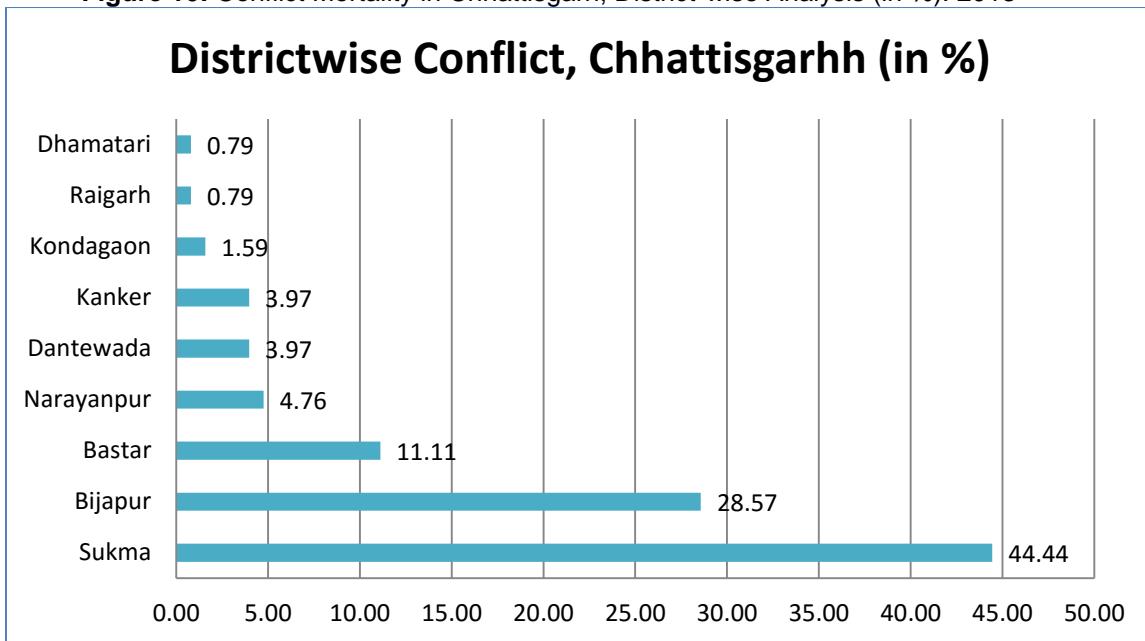
Table 11: Conflict in Chhattisgarh & Jharkhand, Incidents and Mortality: 2009-2013

CHHATTISGARH					
Years	Incidents	Civilians	Security Force personnel	Left Wing Extremists	Total Mortality
2009	529	163	127	142	432
2010	625	171	172	83	426
2011	465	124	80	34	238
2012	370	63	46	38	147
2013	353	66	44	38	148
JHARKHAND					
2009	742	140	68	31	239
2010	501	132	25	15	172
2011	517	149	33	16	198
2012	480	134	29	7	170
2013	383	120	30	12	162

Source: Government of India (2009-2013), Ministry of Home Affairs.

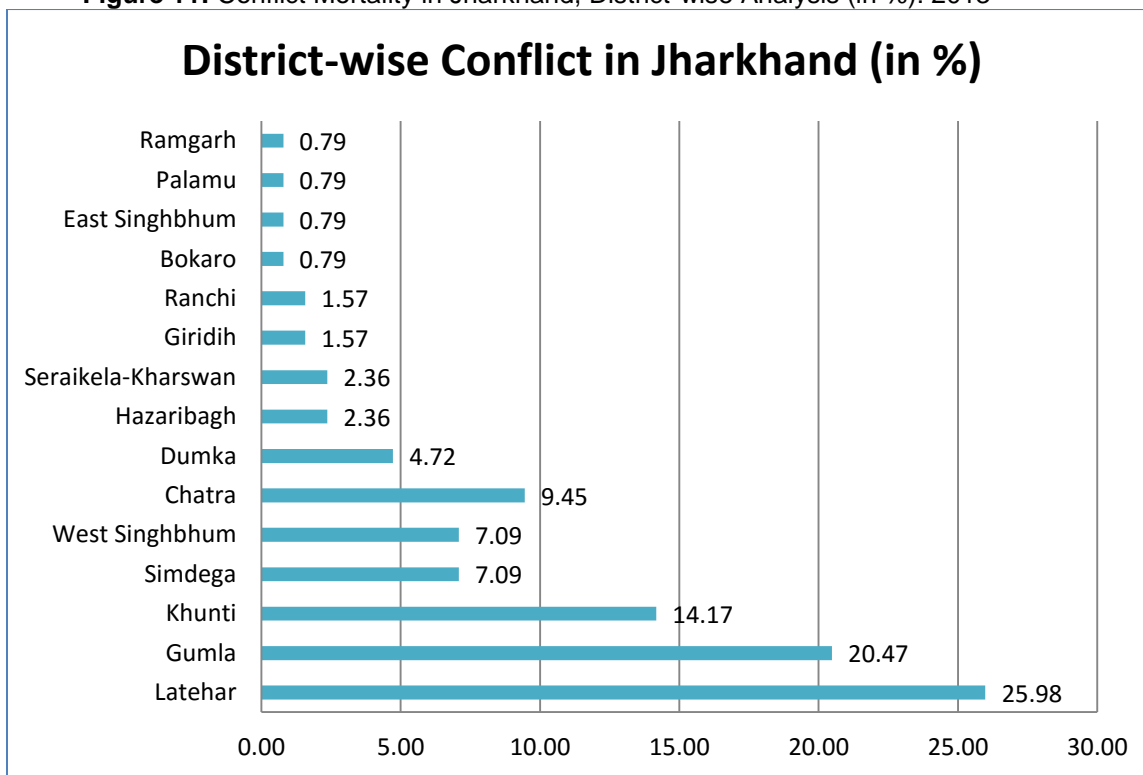
A district-level analysis of the conflict (over ground and massive underground operations) are given in Figure 9 and 10. A lot of the districts with the highest fatalities are in fact the ones identified in the preceding section which were among the poorest performers on most human development indicators and also had a relatively higher share of the ST population. Of the total conflicts in Chhattisgarh, 44.44 per cent occurred in district Sukma (in South Bastar region) in 2013 (Figure 5). Similarly, in Jharkhand, out of total conflicts in 2013, 21 per cent occurred in Gumla and 26 per cent occurred in Latehar. The findings on conflict from figures 9 and 10 are consistent with the finding in literature the strongest correlates of Maoist violence are those districts where ST populations form the highest percentages of population (Hoelscher *et al.*, 2012).

Figure 10: Conflict Mortality in Chhattisgarh, District-wise Analysis (in %): 2013



Source: Government of India (2013), Ministry of Home Affairs.

Figure 11: Conflict Mortality in Jharkhand, District-wise Analysis (in %): 2013



Source: Government of India (2013), Ministry of Home Affairs.

It also validates our argument that in the absence of a judicious public policy, the resource abundance becomes a cause of distress and manifests into incidences of civil conflicts. Increased mining operations fuel further conflicts by aggravating the existing problems.

9. Recent Mining Policy TO Resolve ‘Resource Curse’

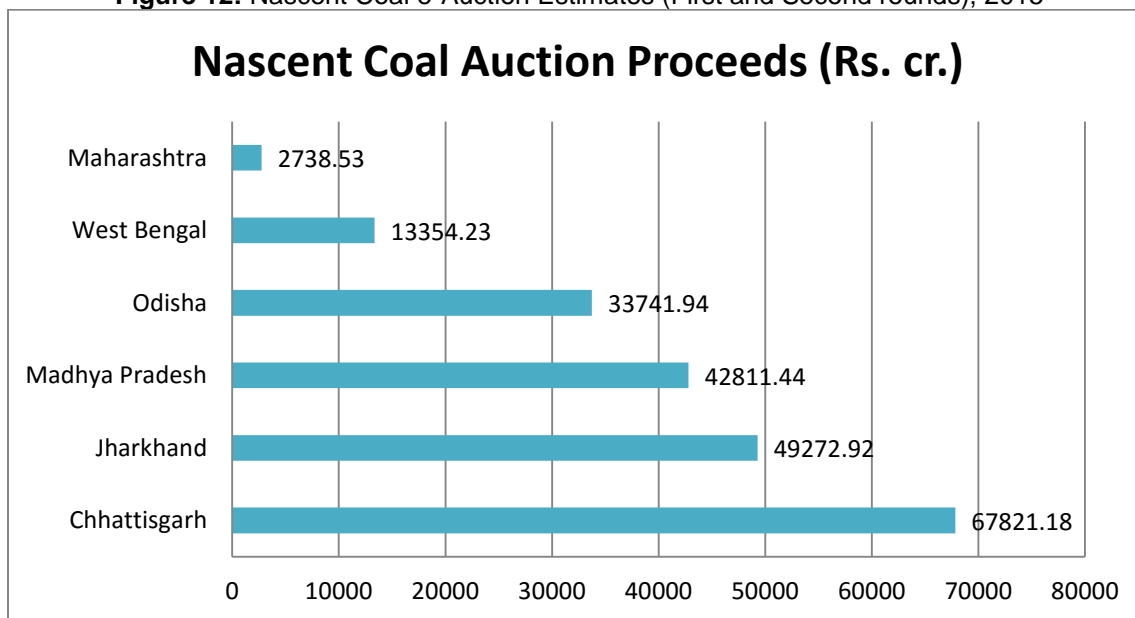
The Mines and Minerals (Development and Regulation) Amendment Act, 2015 stipulates creation of fiscal space to resolve the resource curse. As mentioned above, specifically, Section 9(B) of the Act states that, in any district affected by mining related operations, the State Government shall, establish District Mineral Foundation (DMF) with the objective of working for benefit of persons, and areas affected by mining operations. MMDR 2015 also stipulates that the proceeds from coal e-auctioning should also be linked to DMF. There are ambiguities regarding the process of linking the fiscal space generated from coal auctions to redress spatial inequalities. However, the MMDR 2015 policy announcements call for creating fiscal space and utilizing it to solve the problem of resource curse⁸.

⁸ Pursuant to the judgments, guidelines were laid down for e-auction of Schedule II and Schedule III coal mines. Schedule II coal mines are 42 of the 204 cancelled blocks (redefined as Schedule I coal blocks/mines) that are ‘Producing’ and ‘Ready to produce’ coal mines. Schedule III coal mines are the other

9.1: Nascent Estimates of Coal Auction Proceeds

The Coal Mines (Special Provisions) Act, 2015 has been implemented and aims at creating more fiscal space for the mining sector. Three rounds of coal auctions have been completed in India recently and significant revenue has been generated from the new e-auction process of coal. The nascent estimates from coal auctioning are on board, though nebulous estimates (Figure 11).

Figure 12: Nascent Coal e-Auction Estimates (First and Second rounds), 2015



Source: Coal Ministry, Government of India (2015)

There is considerable ambiguity of how these proceeds would appear in the State Government budgets next year, and therefore, further analysis based on these new coal mining proceeds would be carried out ex-post to the next budget cycle. However, a preliminary estimate of the state-wise share in coal auctions from the first two rounds of e-auctions are presented in Table 12, collated from the documents published by Ministry of Coal, Government of India⁹.

32 substantially developed of the Schedule I coal mines, meant for specified end-use, and the Central Government may add any other Schedule I coal mine for the purposes of specified end-use in this category, in public interest (for details, see The Coal Mines (Special provisions) Act, 2015). **The Coal Auction Methodology** for coal blocks is followed for the two sectors namely, Regulated Sectors and Non-Regulated Sectors (for details, see Approach paper, Auctions, Government of India, 2015; and Standard Tender Document, Ministry of Coal, Government of India, 2015).

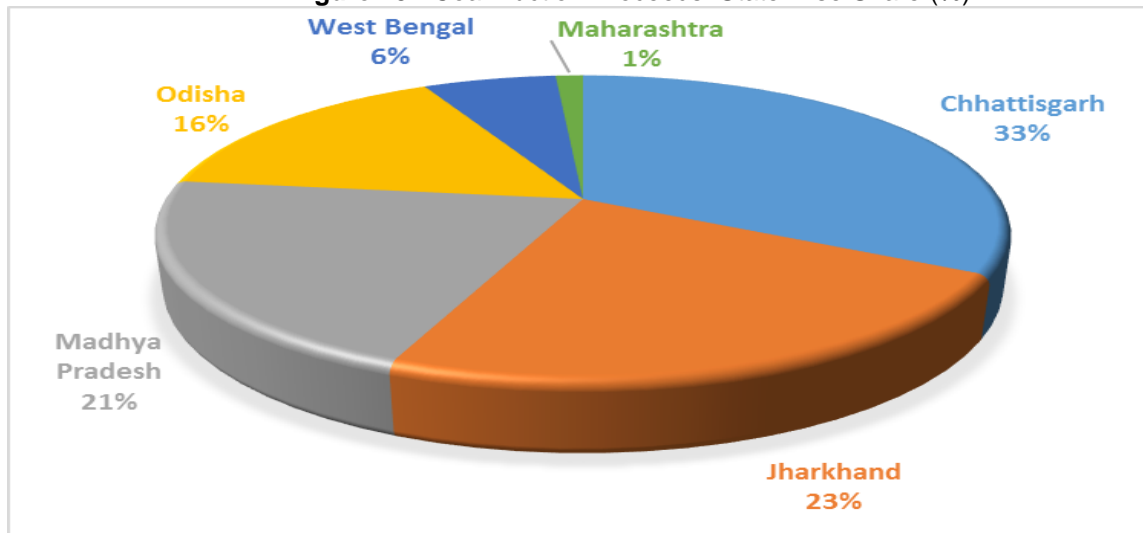
⁹ It is reported that from the third round where only 3 out of the 10 planned mines were e-auctioned, a total of Rs. 4364 Crores is expected to have been added to government's revenue (The Hindu, August 14, 2015).

Table 12: Nascent Estimates: State-wise Distribution (%) of Coal Mining Auction Proceeds, 2015

States	E-auction proceeds to host state	Royalty proceeds to host state	Upfront payment (10% of intrinsic value)
Chhattisgarh	32.77	29.57	23.30
Jharkhand	23.48	23.43	27.10
Madhya Pradesh	20.73	18.49	11.01
Odisha	15.67	18.79	24.67
West Bengal	6.10	8.02	12.92
Maharashtra	1.25	1.69	1.00
Total	100	100	100

Source: Coal Ministry, Government of India (2015)

As per Table 12, the six coal-rich states, especially Chhattisgarh¹⁰ and Jharkhand, are expected to benefit significantly from the proceeds of coal auctions. Figure 12 gives the aggregate auction proceeds across States. This expanded fiscal space from coal auction proceeds can contribute in reducing the social infrastructure deficit of the states. While the e-auction procedure has so far been transparent and fetched a fair amount of revenue to the government, there have been complaints regarding “cartelization” in bidding.

Figure 13: Coal Auction Proceeds: State-wise Share (%)


Source: (Basic data), Ministry of Coal, Government of India (2015)

¹⁰ Of the three blocks successfully auctioned, Chhattisgarh’s Bhaskarpara mine is expected to fetch Rs.712 Crores to the State.

India has adopted the e-auction route that is practiced in other countries including USA and Indonesia. However, as India has onerous royalty regime and one of the highest royalty rates in the world, linking the auction procedure to royalty can be detrimental to the competitiveness of the sector and in turn revenue argumentation to the State exchequer in the long run. The policy initiative to link the fiscal space from mining proceeds to the spatial and human development is a positive step to redress the inequalities, and for inclusive development process. This is theoretically comparable to the “oil-to-cash policy” initiative implemented in Uganda (Moss and Majerowicz, 2013). In Uganda, a certain proportion of the government receipts from oil revenues are transferred instantly to the bank accounts of families via mobile network, after deducting a small tax share. The aim is to create a participatory approach whereby oil becomes a common property and an active constituency of citizens is created. International cross-country studies have strong evidence that such revenue proceeds linked to redress capability deprivation are usually spent on healthcare, education and opening of small enterprises.

The e-auctioning proceeds are in addition to the coal royalty proceeds. The legal and fiscal policy measures to determine the coal royalty regime have been exclusively set by the Central government through the Ministry of Mines¹¹. Intertemporally, the coal royalty regime in India can be trichotomised into tonnage regime, hybrid regime and *ad valorem* (Table 13). It was only since 2012, the coal royalty regime has become purely *ad valorem*, and market-linked. However, there has been an exorbitant rise in rate revisions to 14 per cent *ad valorem* by 2012. The excessive upward revisions in royalty of ferrous and coal regime may affect the competitiveness of the mining sector and in turn their contribution to economic growth (Chakraborty, 2015, Chakraborty and Ravgotra, 2015a, 2015b and 2015c).

¹¹ The rates of all minerals except coal is decided by the Study Group of Royalty constituted by Government of India. The royalty rates for coal is exclusively set by the Ministry of Coal, Government of India.

Table 13: Coal Royalty Regime in India

Year	Regime	Rate
2002-2007	Tonnage	INR 90 to INR 250
2007-2012	Hybrid (Tonnage & Ad valorem)	INR 55 + 5%(P) to INR 130+5 %(P)
2012 to present	Ad valorem	14 % ad valorem

Note: The 5% represents the surcharge and P being the sale price per tonne of coal at mine mouth.

Source: PwC (2012) and Ministry of Coal, Government of India (various years).

The effectiveness of royalty and auction regime of coal in new States of India is all the more interesting when we co-read the fiscal space with the macro scenario that despite having the highest coal reserves in the world, India is also one of the top importers of coal in the world. India has coal resources of a little over 301 billion tonnes (Ministry of Coal, 2013). Of the total coal reserves, 26.8 per cent have been found in Jharkhand followed by Odisha (24.9 per cent) and Chhattisgarh (17.4 per cent). These three States constitute around 70 per cent of the entire coal reserves in India (Table 14).

Table 14: Coal Reserves in India (%), 2014

State	%
West Bengal	10.4
Jharkhand	26.8
Bihar	0.1
Madhya Pradesh	8.5
Chhattisgarh	17.4
Uttar Pradesh	0.4
Maharashtra	3.6
Odisha	24.9
Andhra Pradesh	7.5
Assam	0.2
Sikkim	0.0
Arunachal Pradesh	0.0
Meghalaya	0.2
Nagaland	0.1
Total	100.0

Source: (Basic data), Annual Report 2013-2014, Ministry of Coal

Note: Resources as on 1.4. 2014

Globally, India holds fifth position in global coal reserves. USA has top rank; it constitutes 27.6 per cent of the total. Russia (18.2%), China (13.3%), and Australia (8.9%) are the other three countries that have higher reserves than India (7 %) (Table 15).

Table 15: Global Coal Reserves, 2012-13.

Country	Percentage of Total Reserves	Rank
USA	27.6	1
Russia	18.2	2
China	13.3	3
Australia	8.9	4
India	7.0	5

Source: Indian Minerals Year Book, 2013

Despite having huge coal reserves in India, as mentioned above, the irony is that India is among the top five countries in importing coal (Table 16). Coal was imported mainly from Indonesia (54%), Australia (27%) and South Africa (12%), whereas coke was imported mainly from China (30%), Japan (18%), Ukraine & Russia (13% each), Australia (8%) and Colombia (5%). Imports of lignite were negligible while imports of briquettes of coke/semi-coke were mainly from South Africa.

Table 16: Top Coal Importers (Qty in Mt)

Countries	Rank (2013)	2013	2012	2011	2008	2007
PR China	1	327	289	190	46	48
Japan	2	196	184	175	186	182
India	3	180	160	105	60	54
South Korea	4	126	125	129	100	88
Chinese Taipei	5	68	64	66	66	69
Germany	6	51	45	41	46	46
UK	7	50	45	33	44	50

Source: World Coal Association (2013).

The nascent estimates of coal auction proceeds though released by Ministry of Coal, there is considerable ambiguity regarding how the new coal proceeds appear in the budget documents of the States next year. Further analysis of auction proceeds is constrained till the release of authentic data in subsequent State Budgets. The further analysis on the use of fiscal space generated through the fresh e-auction proceeds through DMF and how it would be linked to human development and to redressing spatial inequalities are beyond the scope of this paper.

10. Conclusion

The analysis of State Reorganisation Acts reinforced that the territorial division was based on administrative units, and the Central Government has significant role in deciding the revenue sharing according to Article 280 of the Constitution. The new States have not created any distinct fiscal agency as they depend on intergovernmental fiscal transfers to the extent of 50 per cent of their revenue receipts.

The Central Government designs the mining policy resolutions and fixes mining tax rates in India. The legacy of parent states on the fiscal decisions of the new states need to be viewed from the perspective of Fiscal Responsibility Acts. The States – both parent and the new states – have adjusted their deficits to conform to the fiscal rules (FRBM Act) stipulated by the Centre; and these States have revenue surplus – not deficits - ex-post to the enactment of fiscal rules. The new states have insignificant share of mining proceeds in their State exchequer, around 10 per cent of the revenue receipts.

The use of fiscal proceeds from mining is difficult to map as it is not earmarked for redressing inequalities so far. However, the new MMDR Bill 2015 stipulates that District Mineral Fund would be created in mining districts to link the proceeds to human development. We have examined the political economy context of this newly generated fiscal space from e-auction mining proceeds in India and its intended use to redress the resource curse problem. Such policy imperatives are comparable to the global initiatives like recent “oil-to-cash policy” and Black Economic Empowerment (BEE) policy in Africa. Within the constraints of data paucity, our analysis cautions that the existing roadmap of DMF (MMDR Bill, 2015) to plough back a portion of royalty and fresh e-auction mining proceeds exclusively to the mining districts may exacerbate spatial inequalities.

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