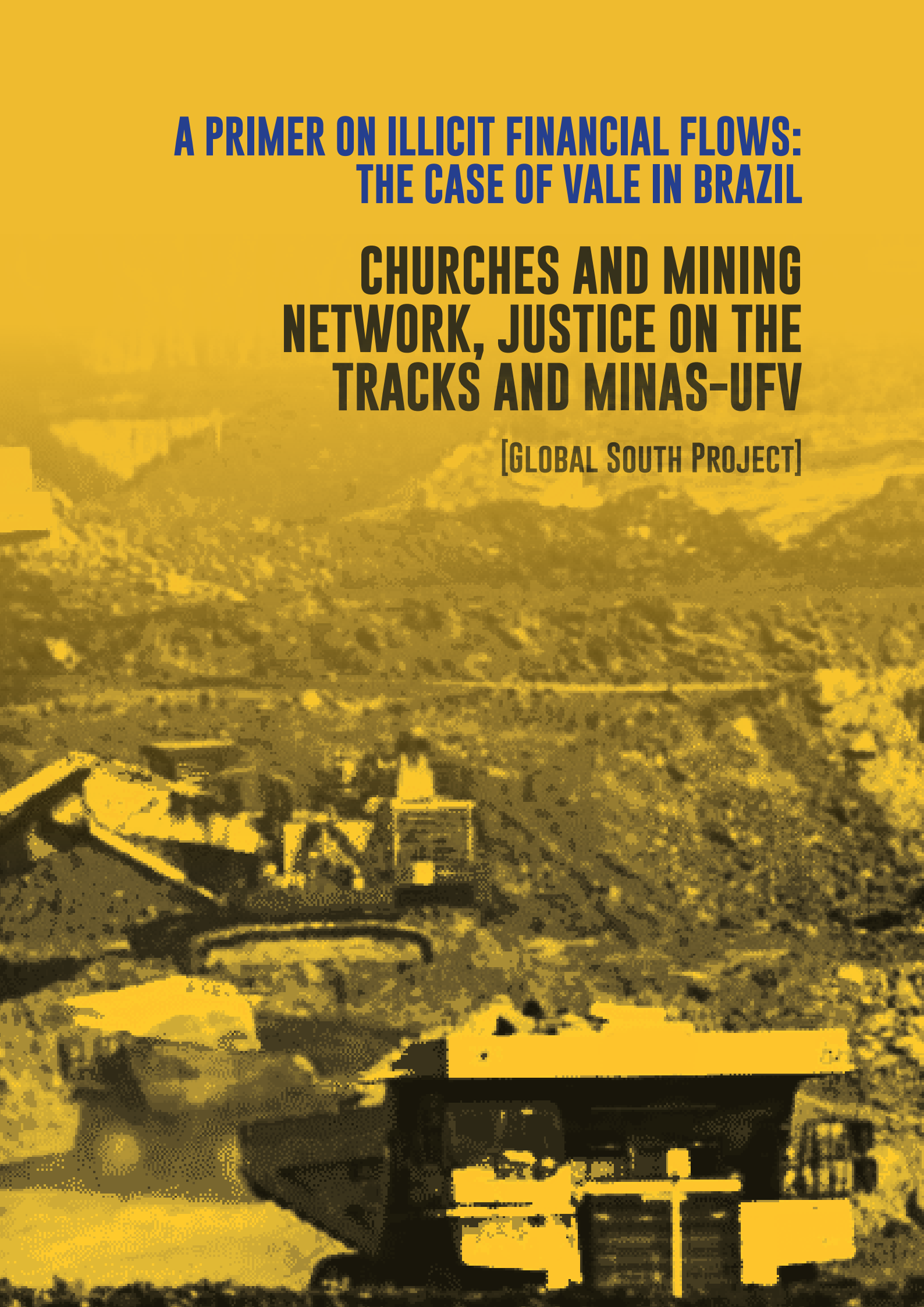


**A PRIMER ON ILLICIT FINANCIAL FLOWS:
THE CASE OF VALE IN BRAZIL**

**CHURCHES AND MINING
NETWORK, JUSTICE ON THE
TRACKS AND MINAS-UFV**

[GLOBAL SOUTH PROJECT]



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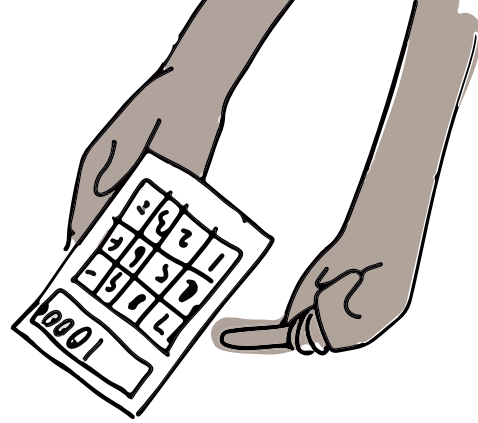
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CONTENTS

1. INTRODUCTION	5
1.1. Recent economic trajectory in Brazil	7
1.2. The Bolsonaro Government and Mining	10
1.3. Mining in Brazil	13
2. ILLICIT FINANCIAL FLOWS	19
2.1. Capital flight	20
2.2. Price Transfer (Trade misinvoicing)	21
2.3. CFEM and IFF	24
2.4. The Brazilian State against the IFFs	27
3. MINING MUNICIPALITIES AND VALE	29
3.1. Vale	29
3.2. Municipalities mined by Vale	32
4. ELEMENTS FOR SOCIAL AND FISCAL JUSTICE IN BRAZILIAN MINING	41
REFERENCES	45



1. INTRODUCTION



This article is a preliminary result of the research partnership between the Alternative Information & Development Centre (AIDC), the Asian People's Movement on Debt and Development (APMDD), the Churches and Mining Network, Justice on The Tracks (Justiça nos Trilhos - JnT) and the Federal University of Viçosa (UFV), within the Global South project, which aims to investigate the illicit financial flows in the mineral sector. The initiative in Brazil focuses specifically on the mining company Vale S.A. In this research, we seek to gather information and data about the situation in Brazil of illicit financial flows in the mineral sector. More specifically, we conducted a survey of studies on the issue of Vale S.A.'s illicit financial flows. In addition, in the final stage of the survey (next stage), we will analyze the payments made through Financial Compensation for the Exploitation of Mineral Resources (CFEM) received by Vale S.A. in its twenty-nine mining exploits in Brazil, in the last ten years, as well as we will evaluate the economic and social situation of these municipalities. Finally, we will estimate the loss of resources in the municipalities due to the use of transfer prices by Vale S.A.

The field of studies about illicit financial flows in the mineral sector in Brazil is incipient. There is a vast space to be filled by research on this topic. This conclusion justifies the work involved in this research, as there are no studies on transfer prices and illicit financial flows in the mineral sector. The research partnership contributes to achieve greater transparency in the mining

Based on the investigation of illicit financial flows and of taxation in mining, we will be able to reproduce the panorama of the situation of payments of taxes and fees made by mining companies to the governments of the countries where mineral extraction is carried out.

sector and to increase the accountability of companies concerning the population and the governments of the countries and regions mined, and those affected by the activity. Based on the investigation of illicit financial flows and of taxation in mining, we will be able to reproduce the panorama of the situation of payments of taxes and fees made by mining companies to the governments of the

countries where mineral extraction is carried out. With that, it will be possible to outline policy suggestions that collaborate to monitor such flows and improve the monitoring system of the National Mining Agency (ANM), as well as to base actions that increase the democratic and popular control of mining activity. We will also collaborate with the formation of a tax justice platform on mining.

In this text, we seek to relate the recent Brazilian economic trajectory with the mining sector, the discussion about illicit financial flows in the country and, finally, present some of the preliminary results about the socioeconomic profile of the municipalities where Vale has had mineral extraction activities. The hypothesis we are working on is that the Brazil's situation of being dependent on the exports of mostly primary products reinforces illicit financial flows out of the country. Neo-extrativist activities and their specialization in producing primary goods for export tend to reinforce the relationship of dependence with the financial market and with mining companies. Native groups and elites who benefit from the appropriation of wealth generated by raw materials for export evade part of these resources towards tax havens abroad. Furthermore, companies, mainly corporations, use different mechanisms to reduce the payment of taxes and tariffs in neo-extractive countries. This condition also applies to the mineral sector, especially when taking advantage of the fragility and scrapping of the state apparatus for monitoring and inspecting mining activities.

To be noted is the fact that this is a project under development and that here we present some of its preliminary results. In the first section, we analyze the recent Brazilian economic trajectory (2000-2020), the re-primarization of the country's exports and the relationship of the Bolsonaro government with mining activity. We also compose an overview of mining in Brazil. In the second section, we introduce the topic of illicit financial flows, capital flight, under-invoicing and over-invoicing of imports and exports, transfer prices and, finally, CFEM (*financial compensation for the*

exploitation of mineral resources) payments. In the third and last section, we analyze the Vale multinational company and some of the municipalities where the company exploits mineral extraction, namely: Barão de Cocais (MG), Brumadinho (MG) and Parauapebas (PA). The analysis of these municipalities is part of the preliminary results of the next stage of the research, regarding the socioeconomic profile of municipalities in which Vale S.A. is active in mining.



1.1. RECENT ECONOMIC TRAJECTORY IN BRAZIL

In this topic, we discuss the recent Brazilian economic trajectory, in the period 2000-2020. Despite the diversity of possible themes, it is possible to highlight some of its main characteristics. The first one to point out is neoextractivism. Neoextractivism is defined by the intensive exploitation of natural resources for export as raw materials, in a relatively new context guided by the financialization of commodities (GUDYNAS, 2009, p. 193). For Gudynas (2011), what guides neoextractivism is the classic concept of progress, through which the country in question would ascend in the evolutionary line of development through the export of raw materials. Ancient extractivism was based on the extraction of natural resources by foreign multinationals, and the protection of these companies by local economic elites. The discourse of this extractivism was that the creation of jobs carried out by the activity of the multinationals would improve the quality of life of the population and combat poverty (GUDYNAS, p. 386, 2011). These companies generated extractive enclaves and fought possible opponents of their projects, such as union and peasant leaders, indigenous populations, etc.

In neoextractivism, the State occupies a broader role in the economy than in the old extractivism (GUDYNAS, p.

387, 2011). As a result, taxation levels are stricter and state-owned companies are strengthened. Even with the nationalist rhetoric, the State would remain dependent on the articulation with private companies thanks to the limitations of investment and commercialization. Another characteristic of neoextractivism is its link to social programs. According to the governments' discourse of "progressive neoextractivism" (GUDYNAS, p. 388, 2011), the income derived from the export of natural resources would be essential to the expansion of social policies to combat poverty. Both old and new developmentalism deal with the idea of economic growth and appropriation of natural resources *ad eternum*, without considering biophysical limits (GUDYNAS, p. 389, 2011).

One of the main themes regarding the recent trajectory of the Brazilian economy and its external insertion is the thesis of deindustrialization. Deindustrialization is the process in which the industrial sector proportionally loses space, as well as absolute size, in the economy as a whole. In general, deindustrialization is negative because it transfers jobs to other countries, decreases the technological content of the goods produced and increases the country's vulnerability to external pressures and fluctuations in the international market with

regard to raw material prices, reinforcing the dependence on the export of basic products and deepening trade deterioration.

However, deindustrialization can also be seen as positive. This happens when the capital goods sector occupies a relevant breadth in the economy and, after this growth, with the distribution of the surplus and the formation of middle classes, growth and diversification of the service sector increases its demand. At this moment, the demand for services starts to occupy a space previously occupied by the manufacturing industry and agriculture, causing the proportional weight of the industry to fall. Sampaio (2013) separates the deindustrialization of central economies - understood as positive because the productivity gains in industry are greater than those in services - and the process of deindustrialization of African and Latin American countries, which happens due to the competition between the national industry and the imports.

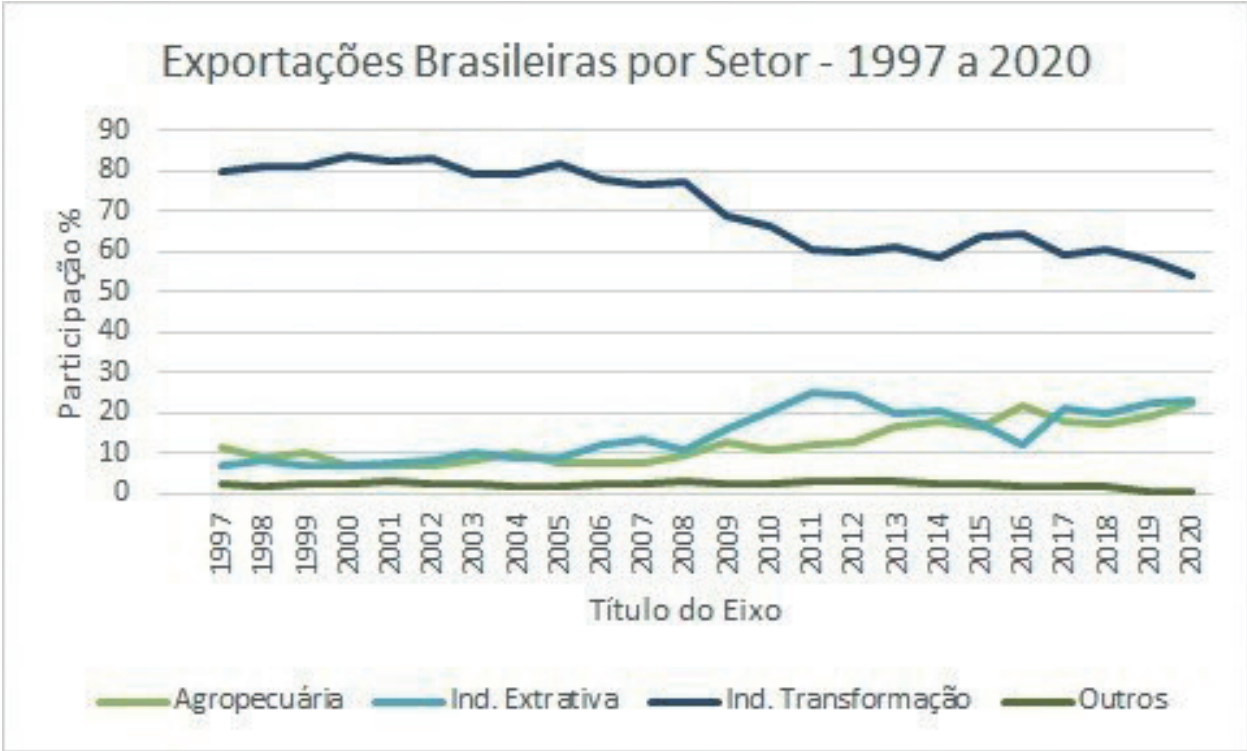
Bonelli and Pessoa (2010) oppose the thesis of the deindustrialization of the Brazilian economy, arguing that the industry would have maintained its growth, even at small rates, and that the relative changes are not significant enough to characterize a deindustrialization, and that the services sector would have grown at a faster pace than industry, as happens in developed countries.

On the other hand, several authors (Cano, 2012; Gonçalves, 2012; Sampaio, 2012) defend the thesis of the negative deindustrialization of the Brazilian economy. The combination of a lack of industrial policies, an overvalued exchange rate, a lack of investment, high interest rates and excessive trade openness have deindustrialized the country's economy since the late 1970s (Cano, 2012). Sampaio (2013) and Gonçalves (2013) show the standard -setting of national production of commodities that are increasingly intensive in natural resources.

The Brazilian export basket tended, with some years of recovery due to manufactured products (transformation industry¹), to be occupied by the basic products, (extractive and agricultural industries), from 1997 to 2020, while the participation of the manufactured products decreased. This characterized the phenomenon known as the re-primarization of Brazilian exports - the increasing prevalence of the primary sector in the economy to the detriment of manufactured goods. The manufacturing industry occupied 84% of the export basket in 2000. This presence continued to decline until 2015. From 2015, with the end of the commodity boom and the fall in mineral prices, mainly iron ore and oil, raw materials lost space in the export basket, resuming the trend of reprimarization in

¹To be noted is that, according to the classification of the Ministry of Economy, products such as orange juice and filleted meats or other frozen fish meats are products of the processing industry, despite their very low technological content.

Graph 1. Brazilian exports by sector



Source: ME (2021).

2016, a movement that has continued until 2020. In 2020, the extractive industry and agriculture combined accounted for 46% of the export basket, while the processing industry took 54%.

To understand the recent Brazilian economic trajectory as neo-extractivist, in the next section we will analyze the

management by the current federal government in the management that begins in 2019, and its relationship with mining activity. In this way, we will be able to understand how and which sub-sectors of mining have been stimulated in recent years through the initiative of the federal government.

1.2. THE BOLSONARO GOVERNMENT AND MINING

The year 2019 sets the beginning of the government of Jair Bolsonaro. A military-reserve man, elected for his first congress-term in 1988, Bolsonaro appears on the Brazilian national scene with the 2018 presidential elections. In a troubled time of crises and political renegotiations, this candidate then gains strength with the convergent support of economic elites (from the industrial groups –the “agro-mining petro business” bloc – and support from expressive religious groups), from politicians (not hegemonically) and large media corporations. Since his campaign, the ex-military man, then a Rio de Janeiro state representative signaled especially to the agribusiness and mining sectors that, if elected, he would act to relax / deregulate rules and laws, to diminish the (already limited) power of the official control bodies, plus the planning and environmental inspection organisms for activities bearing a potential for degrading the environment. Above all, he was openly opposed to the territorial rights of indigenous ethnic groups and quilombola peoples, committing to review existing land titles, and foreshadowing that he would not demarcate a single square centimetre of land for indigenous and quilombola communities.

Wanderley; Gonçalves & Milanez (2020) highlight among the main actions

of the new government the incentive to illegal advancement by miners on lands officially dedicated for occupation by traditional communities, thus out of bounds for mining². The indigenous territories presently demarcated in Brazil, according to the Instituto SocioAmbiental (ISA, 2021), are mainly concentrated in the legal Amazon and “there are 424 areas, or 115,344,445 hectares, representing 23% of the Amazonian territory and 98.25% of the extension of all Tis (*Indigenous Territories*) in the country. The remainder, 1.75%, is spread over the Northeast, Southeast and South regions, and the states of Mato Grosso do Sul and Goiás”. These areas represent an enormous mineral wealth that is still unexplored, and they are constantly invaded and plundered by illegal prospecting, gold panning and other prescribed types of mining (also, for other land-use purposes such as the expansion of livestock borders, soy monocultures etc.). These areas are at permanent risk, given the lobbying of groups within the mining industry sector for the granting of mining rights in protected territories, and the deregulation of laws for the protection of peoples and territories is unremitting.

These “marginal” or illegal territorial actions were accompanied, on the other hand, by the discourse that ore and mining would be the economic solution

for unemployment, insufficient income, and for the general wealth for the nation. Concretely, even without presenting a specific plan for the mining sector (except for the promise of favouring the interests of the sector), in the early years of the Bolsonaro government, mining enjoyed a decisive space on the country's export agenda, even more if considered together with other extractive sectors, such as agribusiness.

The Bolsonaro government, regarding its tactic of permissiveness towards the expropriating of territories by various illegal means, commonly using direct violence such as land grabbing or

direct invasion of large groups of miners in protected territories, may be characterized by the deepening of the liberal policies of his predecessor, Michel Temer. Authors define this as an "ultraliberal" period given the intensification of its economic and "marginal" political agenda (WANDERLEY et al., 2020). In addition to connivance by omission, there is a deliberate refusal to comply with the constitutional right to the territory of traditional populations. This model also encompasses the repressive character of the state in convergence with mining corporations when it criminalizes and represses resistance movements. Thus, summarize the authors:

In this way, we understand that the neo-extractive development model in Brazil is maintained, with encouragement to advance the extraction for export of natural resources on a large scale, but with new nuances, different from previous administrations. The peculiarity lies in the intensification of the previous liberal economic agenda, now ultraliberal, which accelerates deregulation and the transfer of public assets to the private sector. In addition, a marginal character is added to the action of the State and its governments, who encourage and are complicit in crimes by proposing unconstitutional measures and high treason; they do not practice a democratic debate and use the subterfuge of fake news. Furthermore, they repeatedly threaten opponents, the other powers of the republic and the rights of workers and minorities.

(WANDERLEY; GONÇALVES & MILANEZ, 2020, p. 556)




²An operation to combat illegal mining on indigenous lands led to the dismissal of the IBAMA director of the agency's for Environmental Protection, Olivaldi Borges Azevedo. The mega-operation, carried out in three indigenous lands in the interior of Pará (Apyterewa, Araweté and Trincheira-Bacajá), was launched to repress illegal mining, deforestation, illegal hunting of wild animals and, by keeping the invaders away, to prevent the arrival of Covid-19 to indigenous villages. Bolsonaro's government reacted to the operation with the dismissal of the director in charge of ordering the operation.

At the beginning of the Covid-19 pandemic, in March 2020, mining was considered an essential activity by an Ordinance of the Ministry of Mines and Energy, which was later reaffirmed by the federal government through Decree 10.329 / 2020. It also defined that “research and mining of mineral resources, as well as related activities; processing and processing of mineral goods and mineral transformation” are essential activities. Through this, the mining sector obtained authorization to maintain its operations, despite the pandemic. With Decree 10.329/2020, the government met the demands of the sector as a whole, mainly from large mining companies. According to a recent study (ZUCARELLI, 2021), “the essentiality of the mineral sector during the pandemic was forged by representative organizations of the mining class, and through pressure on the federal government for its inclusion in a ministerial decree and later in a presidential decree”. Mining is one of the main economic platforms of the Bolsonaro government.

We seek to list the main elements of the Bolsonaro government’s relationship with the mining sector. Below, we point out the general situation of the mining sector in Brazil, describing the production of different types of minerals, the sector revenue, mineral exports and the collection of taxes and fees.

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1.3. MINING IN BRAZIL

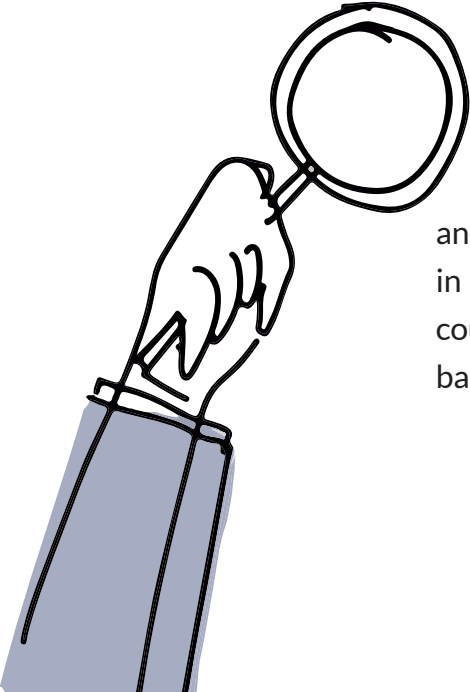
In this section, we build an overview of mining in Brazil. In terms of mineral production, Brazil occupies the top positions in the global market. It is the largest producer of niobium, the second

largest producer of iron in the world and the third largest in manganese and magnesite. It is also among the top ten countries producing several other minerals (table 1).

Table 1. Mineral production in Brazil (2019).

Production in 2019		
Product	World Production Position	Tons
Bauxite	5th	30 million
Copper	9th	384 thousand
Niobium	1st	90 thousand
Iron	2nd	410 million
Manganese	3rd	2,7 millio
Gold	9th	100
Nickel	4th	243 thousand
Zinc	10th	270 thousand
Magnesite	3rd	1,7 million
Lead	10th	9 thousand
Phosphate	6th	7 million
Potassium	8th	200 thousand

Source: IBRAM (2021).



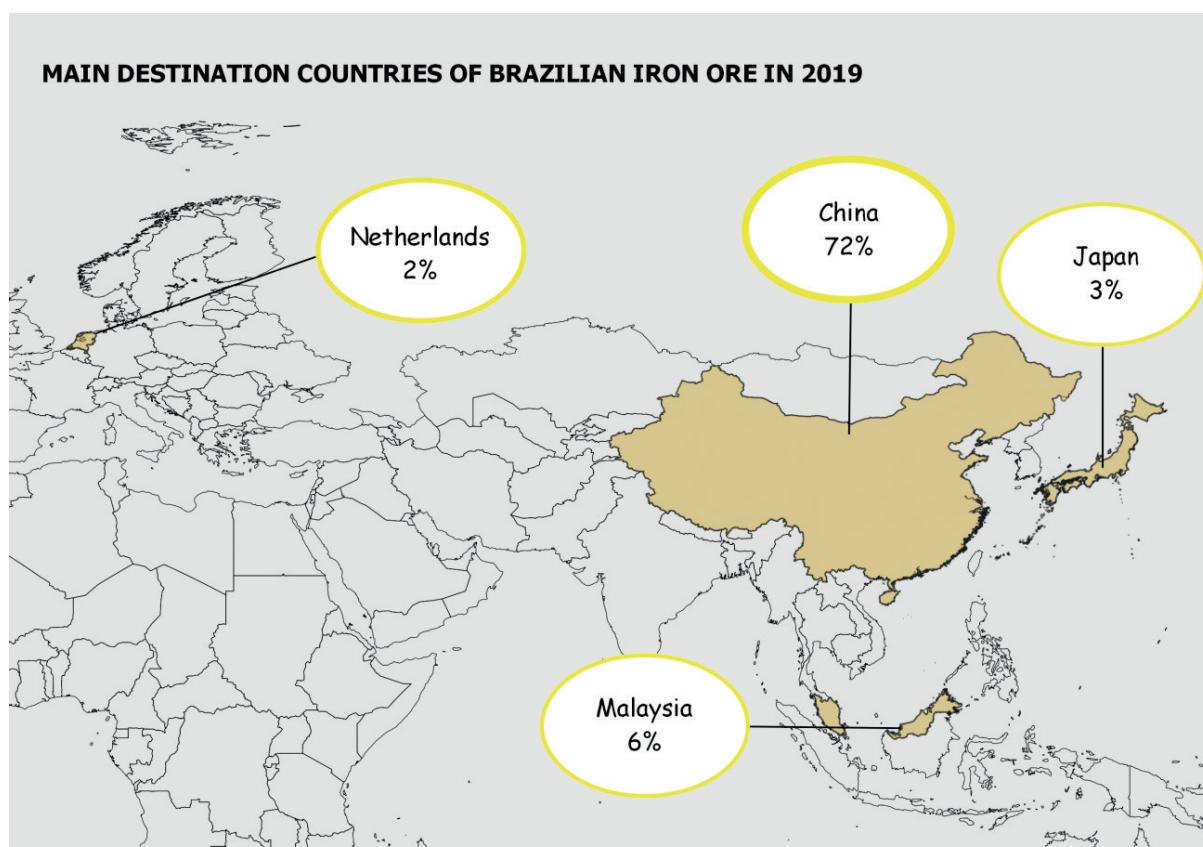
China is the general largest importer of minerals extracted in Brazil, and is also the main destination for iron ore, niobium and manganese, in addition to being the second country destination for copper. Other countries worth noting are Canada (the largest importer of gold and bauxite) and Germany (the largest importer of copper).

Table 2. Main destinations of Brazilian mineral exports

MAIN DESTINATIONS OF BRAZILIAN MINERAL EXPORTS	
MAIN DESTINATIONS - 2020	
Iron	China (2%), Malaysia (6.6%), Japan (3.5%), Netherlands (2.2%), Oman (2.4%)
Gold	Canada (38.2%), Switzerland (21%), United Kingdom (13%), United Arab Emirates (7.8%), Italy (6.1%), Belgium (3.9%), India (4.8%)
Copper	Germany (26.3%), China (13.5%), Spain (13%), Poland (10%), Finland (6.6%), Taiwan (6.6%), Sweden (6%)
Niobium	China (39.3%), Netherlands (22.6%), USA (8.9%), Singapore (7.9%), Japan (6%), South Korea (5.8%)
Mangaese	China (79.4%), Uruguay (9.3%), France (1.3%), India (1.5%)
Bauxite	Canada (34.1%), Ireland (27.8%), Saudi Arabia (9.3%), Greece (8.8%), Ukraine (8.5%)

Source: IBRAM (2021).

Map 1. Main destinations of Brazilian iron ore (2019)

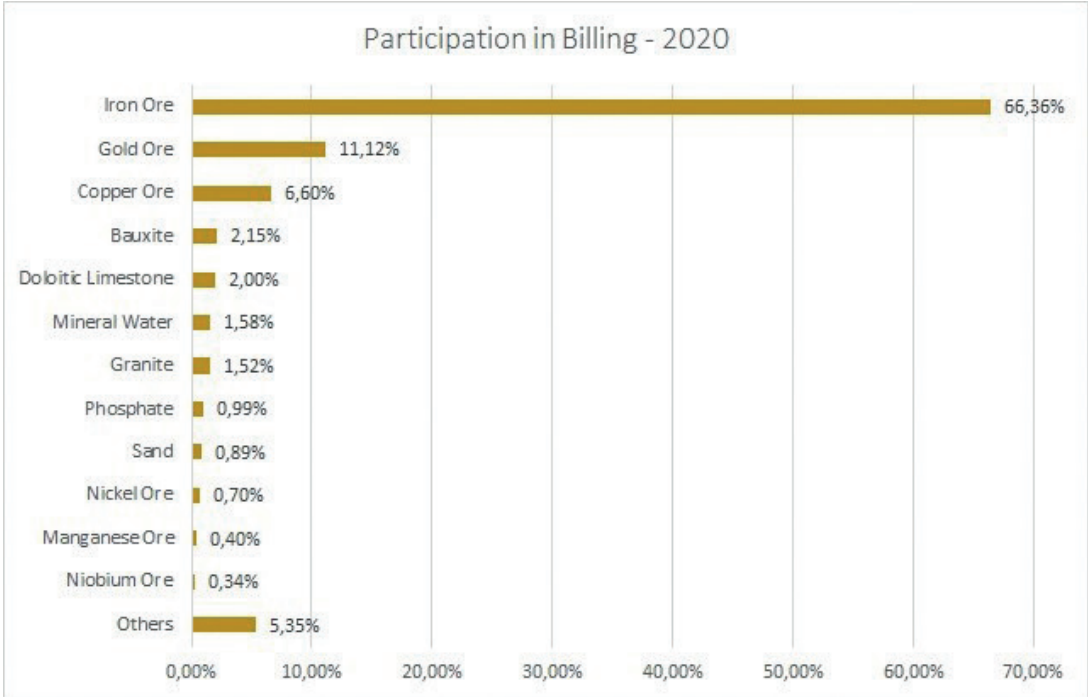


In 2018, despite its ample space in the export agenda, mining alone represented only 0.68% of GDP in Brazil (MME, 2020), separated from the oil industry. In 2020, the revenue of the mineral sector was 208.9 billion reais (a 36.2% increase from 2019). In addition to the measures of the federal government certifying the maintenance of the activities of the sector, the exchange variation (devaluation of the real against the dollar), the re-heating in the Chinese demand and the increase in value of ore prices in international markets, all contributed to this growth in revenue.

The upward trend in mineral production in Brazil continued through 2021 and grew 15% in the first quarter of 2021, reaching 227 million tons. As a result, mining companies had a turnover of 70 billion reais from January to March, a 95% increase as compared to the same period in 2020 (IBRAM, 2021).

Iron ore was the main mineral in terms of revenue (66.36%) in 2020, followed by gold (11.12%), copper (6.6%) and bauxite (2.15%). With these data, it is possible to see the concentration of the sector's strongest revenues on iron mining, even if such revenues are produced by only few mining titles.

Graph 2. Participation in the revenues of the mineral sector in Brazil



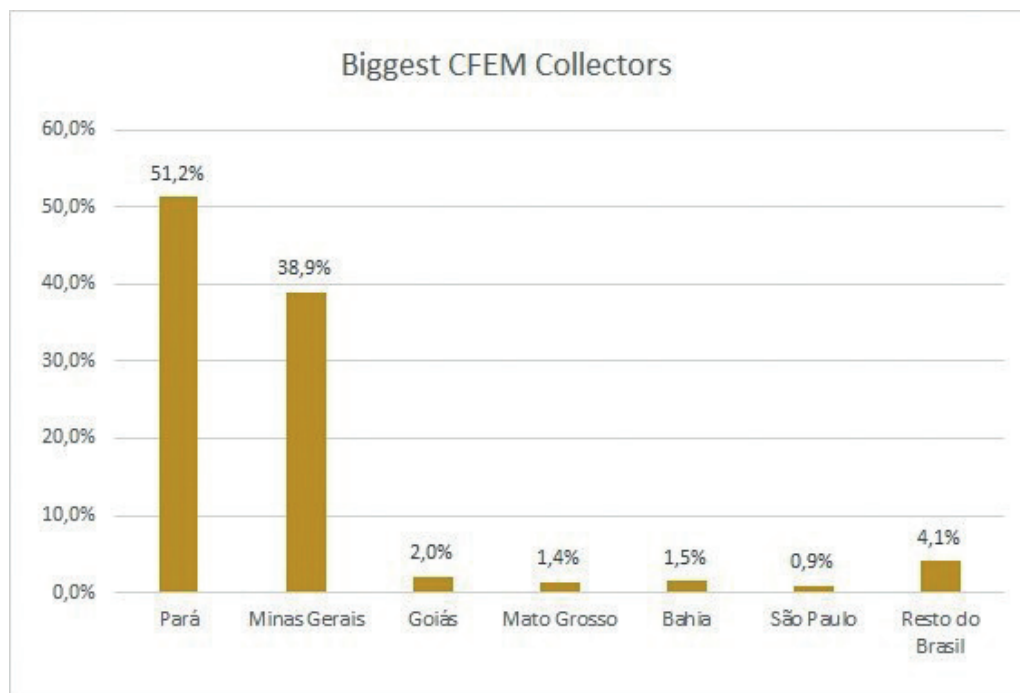
Source: IBRAM (2021).

Vale company is prominent in mining in Brazil, with a net profit of 26.713 billion reais in 2020, a jump from a loss of 6.672 billion reais in 2019 (VALE, 2021). Vale's performance in the period was driven by a 17% increase in iron ore prices and a 26% increase in sales volume.

The main source of government revenue in Brazilian mining is CFEM, also known as mining royalties. CFEM is a consideration paid to the Federal Government for the economic use of non-renewable mineral resources exploited under the public concession regime, and will

be analyzed in more detail in the next sections of the article. CFEM is a good representative indicator of mineral activity because its calculation is based on the value of mining operations, that is, the gross revenue from the sale of ores. In 2020, the collection of CFEM (6.08 billion reais) was 35% higher than in 2019 (4.5 billion reais) (ANM, 2021). Pará represented the majority of this value (51.2%), followed by Minas Gerais (38.9%). None of the other states exceeded 2% of the total value of CFEM, which exemplifies the concentration of Brazilian mines in the states of Pará and Minas Gerais.

Graph 3. Largest CFEM-collecting states (2020)



Source: ANM (2021).

Table 3. Companies by value of operations (2020)

Collector	Titles	Operation Value (In R\$)	CFEM collection (Mining Royalties)	% Collection
Vale S.A.	23	R\$ 95.496.222.062,24	R\$ 329.888.747.883,00	3,45
Minerações Brasileiras Reunidas S.A.	5	R\$ 11.342.940.985,48	R\$ 398.745.311,68	3,51
Anglo American Minério de Ferro Brasil S/A	2	R\$ 10.254.046.362,21	R\$ 358.891.622,67	3,49
CSN Mineração S.A.	2	R\$ 9.204.933.114,54	R\$ 313.742.408,75	3,40
Salobo Metais S.A.	1	R\$ 7.788.301.445,85	R\$ 156.702.768,22	2,01
Kinross Brasil Mineração S/A	1	R\$ 4.606.485.580,33	R\$ 69.170.778,95	1,50
Anglogold Ashanti Córrego do Sítio Mineração S.A.	6	R\$ 2.761.036.329,05	R\$ 41.636.171,12	1,50
Mineração Usiminas S.A.	2	R\$ 2.457.950.640,07	R\$ 84.391.881,34	3,43
F. D'Gold - Distribuidora de Títulos e Valores Mobiliários LTDA	296	R\$ 2.401.289.179,79	R\$ 36.103.110,87	1,50
Mineração Maracá Indústria e Comercio S.A	3	R\$ 1.956.799.559,46	R\$ 39.135.991,16	1,99

Source: ANM (2021).

In 2020, the company with the highest gross revenue in the sale of ores in Brazil, was Vale S.A, with 45.7% (95.4 billion reals) of the total (208, 9 billion reals), without considering the revenue of subsidiaries and controlled companies. Thus, it is clear that, mining in Brazil is highly concentrated in Vale, in terms of revenue. The second company in terms of operating value is a Vale subsidiary - Minerações Brasileiras Reunidas (MBR) (11.3 billion reals), followed by Anglo American (10.2 billion reals). Attention is drawn to the presence of companies who distribute bonds and securities, and which are dedicated to the purchase and

sale of gold in the Brazilian primary and secondary gold markets. They who buy gold in the producing regions, since they do not have mining licenses. In 2020, F. D'Gold, one of these distributors, had the 9th highest value of operations and Ourominas, Parmetal DTVM Ltda. and Carol DTVM Ltda. are among the 30 largest. The presence of these companies, who are among the main enterprises in terms of the value of operations, demonstrates the importance of gold mining in Brazil.

After viewing this panorama of mining in Brazil, it is important to understand the discussion about illicit financial flows and the mineral sector in the country.



2. ILLICIT FINANCIAL FLOWS

Illicit Financial Flows (IFFs) are defined by APMDD (2021) as follows:

Illicit financial flows broadly refer to movements or transfers of finance across geographical borders and / or varying financial jurisdictions (eg, a special economic zone), whose profits include those obtained from tax avoidance, tax evasion, regulatory abuses, bribery, money laundering and other activities.

This definition of IFFs includes purely illegal financial flows generated by drug

trafficking, bribes and kickbacks related to corruption and the smuggling of arms or people. However, in this research, we focused on the illicit financial flows arising from corporations in the mineral sector in Brazil. Such flows are the result of different mechanisms, such as the transfer of prices and misestimating of tariffs in the payment of taxes and fees.

For better understanding, it is important to define the different types of IFFs, starting with the capital flight.

Illicit financial flows broadly refer to movements or transfers of finance across geographical borders and / or varying financial jurisdictions (eg, a special economic zone), whose profits include those obtained from tax avoidance, tax evasion, regulatory abuses, bribery, money laundering and other activities.



2.1. CAPITAL FLIGHT



Brazil is one of the countries hardest hit by capital flight (KAR; LEBLANC, 2013; KAR; 2014). Capital flight is a widespread phenomenon that has several mechanisms. One is the capital flight out of peripheral economies, considered more fragile, towards central economies that have investments considered more stable and secure. Such a mechanism occurs mainly in times of economic crisis, when speculative capital owners withdraw their resources from peripheral economies fearing a breach of contract, an exchange rate instability or a loss. Another mechanism that can be mentioned, and is part of this broad phenomenon of capital flight, is that resulting from illicit capital transfer methods. They are cross-border flows of illegally accumulated moneys that are illegally used and illegally transferred to another country (LATINDADD, 2017).

In a study by Red Latindadd, in partnership with the Institute of Tax Justice (IJF) (LATINDADD, 2017), capital flight is defined “as a broader phenomenon, encompassing a set of financial flows that go from the simplest speculative movements to international transfers of profits and wealth from residents, mostly for the purpose of avoiding or evading taxes”.

According to Kar (2014), illicit capital outflows from Brazil totalled US \$ 401.6 billion from 1960 to 2012. Most illicit outflows occurred due to the intentional

under-invoicing of exports. However, considering the flight of licit and illicit capital, for the same period, the country lost 590.2 billion dollars. A survey of Global Financial Integrity data (2021) shows that in terms of undue commercial revenue from international trade - one of the elements that make up illicit financial flows - during 2017, Brazil lost 20.8 billion dollars, or 17, 3% of its international trade. Fraudulent billing occurs when importers or exporters adulterate the billing prices of the goods they trade as a means of illegally transferring values abroad.

A fundamental aspect of the global economy that is basic to understanding capital flight is the existence of so-called tax havens. Tax havens are countries that have tax legislation that offers ample advantages for the entry of capital into their financial system. It is estimated that 21 trillion to 30 trillion dollars are in these places (DOWBOR, 2017). Switzerland is considered the most relevant tax haven, but other countries also stand out, such as Singapore, Hong Kong, Bahamas, Cayman Islands and Luxembourg (Latindadd, 2017). The existence of tax havens and the transfer of foreign exchange to these systems are essential to understand, for example, the mechanism of export under-invoicing.

2.2. PRICE TRANSFER (TRADE MISINVOICING)

Undue commercial billing means “price manipulation in international trade between vinculated companies that are headquartered in two different countries” (LATINDADD, 2017). Such a mechanism allows for the improper international transfer of financial resources by circumventing taxes, taxes and inspection. Therefore, it is used as a form of money laundering, repatriation of resources and channels for illegal activities.

Under-invoicing of exports and over-invoicing of imports can use companies as intermediaries in commercial transactions. Linked to the phenomenon of capital flight, these companies are installed in tax havens, which makes it possible for them to be used

in the re-pricing of exports. Such a mechanism allows the under-invoicing of exports in the country of origin and the over-invoicing of imports at the destination country. Thus, countries, such as Switzerland, that would not even be able to export certain products, have the highest export volumes of these goods. Under-invoicing for exports and over-invoicing for imports is also called transfer mispricing.

In Brazil, trade misinvoicing, in the 2006-2012 period, was responsible for an outflow of 180.3 billion dollars, representing 95.4% of illicit financial flows and 71% of general capital flight (KAR, 2014). In the same period, export under-invoicing totaled US \$ 122.29 billion, which meant 67.8% of the funds sent abroad through misinvoicing.

The survey by the Tax Justice Institute, in partnership with Red Latinddad (2017), pointed out that the mechanism known as transfer pricing is one of the main ways used by mining companies in Brazil to reduce the payment of taxes. As defined above, price transfer works by selling goods or services at prices below those practiced in the market to affiliates located in tax havens, who then resell them to the final consumer at normal prices, in a triangulation of exports. In the case of Brazilian mining, such a mechanism decreases, for example, the amount paid for CFEM, considering that it is calculated based on gross revenue, which is reduced, with the transfer prices.

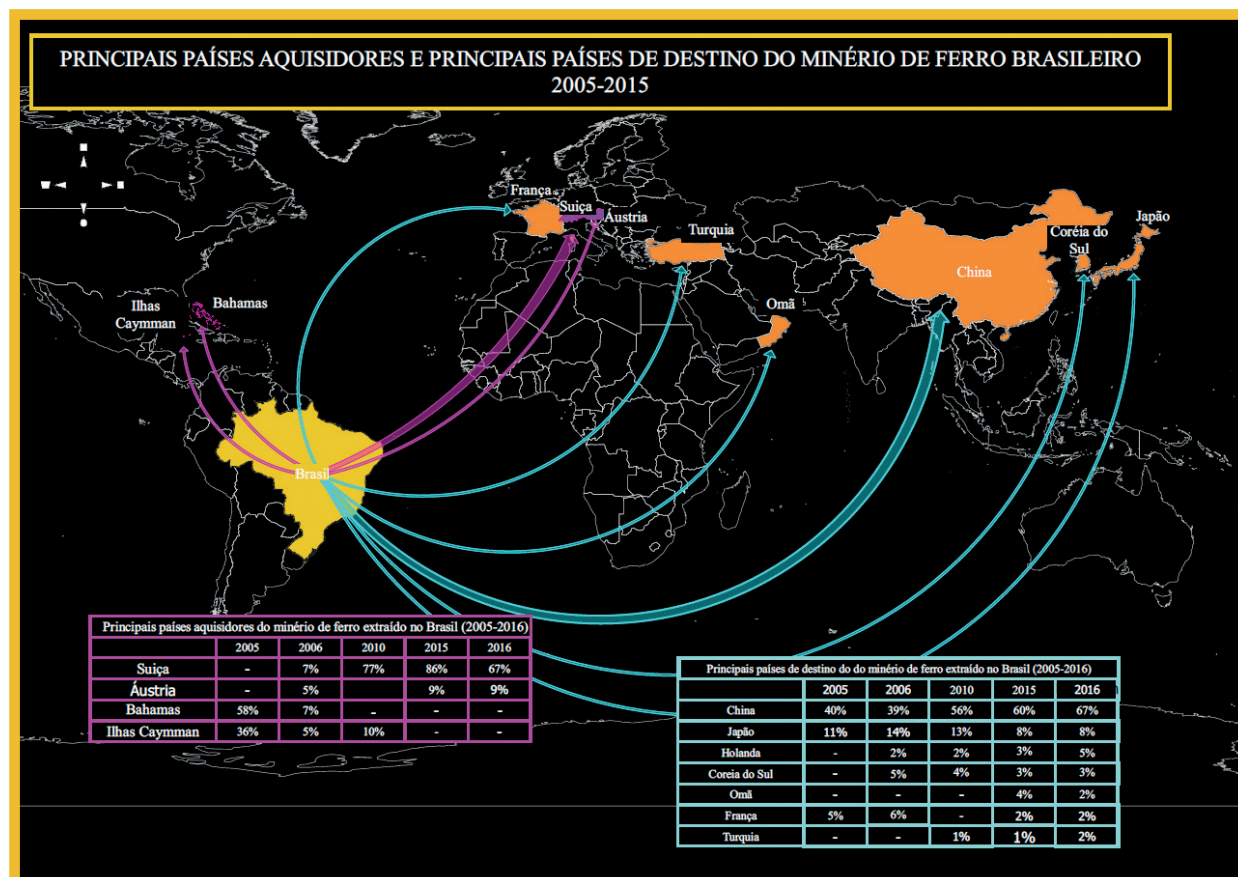
price
manipulation
in international
trade between
vinculated
companies
that are
headquartered
in two different
countries.

The same study was aimed to measure losses in Brazilian iron-ore exports due to transfer prices. For this purpose, the study compared, in the 2009-2015 period, the export price declared in Brazil by the companies to the current price in the international market and to the price declared by the destination country of the iron ore. Furthermore, it considered which countries were the buyers of the commodities and which were the countries the goods were finally destined to.

The study estimated that under-invoicing for iron ore exports led to an undue outflow of \$ 39.1 billion between 2009 and 2015, an average loss of more than \$5.6 billion

per year. For the same period, 12.4 billion dollars was associated to a tax collection loss, which meant an average loss of 1.9 billion dollars, and an embezzlement in CFEM of 3 billion reais. Furthermore, it estimated that, since 2011, companies based in Switzerland, a country known to be a tax haven, acquired more than 80% of Brazilian iron-ore exports. However, the final destination of these exports were in other countries, mainly China. According to the study, between 2009 and 2015, the under-invoicing of exports acquired by Switzerland totaled US \$ 28.7 billion. According to research by IJF and Latinidad (2017), in 2016, Switzerland bought 83% of Brazilian iron ore, and 66% of

Map 2. Main destinations for Brazilian iron ore (2005-2015)



Brazilian iron ore was destined for China.

Vale used the permissionary provisions of Law 9,430 / 1996, enacted to encourage exports, and formed Vale International and Vale Overseas, based on tax havens, such as Switzerland and the Cayman Islands. Then, it started to export iron ore to the two companies abroad, which resold the ore to the final buyer, usually China, with a price difference that reached, on average, 32% (TCU, 2018).

According to ANM, the taxable event of CFEM would occur in the ore trading operation

of the subsidiaries Vale Internacional S.A. and CVRD Overseas Ltda. for overseas buyers. For Vale, the taxable event of CFEM would occur in the operation of marketing the ore to the subsidiaries, that is, the calculation basis would be the billing observed in the sale of the mineral product of Vale S.A. to Vale Internacional S.A. and CVRD Overseas Ltda.

On four occasions, the Superintendency of the State of Pará carried out an external price audit at Vale S.A. (TCU, 2018):

- I. in 2009, for the period from January 2004 to July 2009, with a debt notification of R\$440,949,93.87, considering the sales figures included in Vale's Financial Statements;
- II. in 2011, with a debt notification of R\$169,076,575.21, referring to the period from January to December 2010. It was demonstrated that the price of iron ore sold to subsidiaries (Vale International and CVRD Overseas Limited) as practiced in 2010, was an average of R\$151.34/t; while the price of iron ore sold to final customers was, on average in 2010, R\$200.58/t, resulting in a difference of approximately R\$49.24/t (32.54%);
- III. in 2016 at the Superintendence of DNPM/PA (*National Department of Mineral Production / State of Pará*), for the period from January 2011 to December 2015, with a debt notification of R\$809,909,155.15;
- IV. in October 2017 at Vale S.A.'s office in Carajás, in the municipality of Parauapebas, covering the period from January 2016 to June 2017, with a debt notification of R\$436,653,533.49.

In summary, the alleged evasion assessed by the Superintendency of the State of Pará, generated debt collection processes in the order of R\$440 million, R\$169 million,

R\$809 million and R\$436 million.

In the next topic, we address the issue of CFEM and the possible under-invoicing in the payment of CFEM.

2.3. CFEM AND IFF

Currently, mining activity in Brazil is regulated by Decree law n° 227/1967. However, in 2017, three Presidential Provisional Measures significantly changed the mining regulatory framework. Among them, Provisional Measure No. 789/2017, converted into Law No. 13,540, of 12/19/2017, changed the basis for calculating CFEM (the “mining royalties”

paid to the government). CFEM was previously calculated based on net revenue that is, after discounting the taxes levied on marketing, transportation expenses and insurance. With this law, it started to be levied on the revenue from the sale, less the taxes levied on its marketing. Table 4 shows the way in which CFEM resources are distributed, with the 2017 law;

Table 4. Distribution of CFEM

I - 7% (seven percent) for the regulatory authority of the mining sector;
II - 1% (one percent) for the National Fund for Scientific and Technological Development (FNDCT), instituted by Decree-Law No. 719, of July 31, 1969, and reinstated by Law No. 8,172, of January 18, 1991, aimed at the scientific and technological development of the mineral sector;
III - 1.8% (one and eight tenths of a percent) for the Mineral Technology Center (Cetem), linked to the Ministry of Science, Technology, Innovations and Communications, created by Law No. 7,677, of October 21, 1988, for carrying out research, studies and projects for the treatment, processing and industrialization of mineral goods;
IV - 0.2% (two tenths percent) for the Brazilian Institute for the Environment and Renewable Natural Resources (Ibama), for environmental protection activities in regions impacted by mining;
V - 15% (fifteen percent) for the Federal District and the States where production occurs;
VI - 60% (sixty percent) for the Federal District and the Municipalities where production occurs;
VII - 15% (fifteen percent) for the Federal District and the Municipalities, when affected by the mining activity and production does not occur in their territories, in the following situations: <ol style="list-style-type: none"> Crossed by the infrastructures used for the railway or pipeline transportation of mineral substances; Affected by port operations and the loading and unloading of mineral substances; Where the waste piles, tailings dams and mineral processing facilities are located, as well as the other facilities provided for in the economic recovery plan.

Source: own elaboration.

Therefore, 60% of CFEM belongs to the producing municipality. The percentage of CFEM on the billing (discounting sales taxes) will depend on the mineral extracted, reaching a maximum of 3.5%. The aliquots for mineral substances are as follows:

CFEM is collected based on data informed by miners about the value of their operations in each mining title. The value

of operations corresponds to the volume of minerals sold multiplied by the price of each unit of weight. It is to be noted that that Law No. 87, of 1996, known as Lei Kandir, due to the name of its author, Antônio Kandir, exempts from the Tax on Circulation of Goods and Services (ICMS) services and goods destined for export, regardless of their content technological.

Table 5. Aliquots for mineral substances

ALIQUOT	MINERAL SUBSTANCE
1% (one percent)	Rocks, sand, gravel, gravel and other mineral substances when intended for immediate use in civil construction; ornamental rocks; mineral and thermal waters
1.5% (One integer and five tenths percent)	Gold
2% (two percent)	Diamond and other mineral substances
3% (three percent)	Bauxite, manganese, niobium and rock salt
3.5% (three integers and five tenths percent) up to 2% (two percent)	Iron

Source: own elaboration.

The body responsible for supervising and monitoring CFEM payments is the National Mining Agency (ANM). According to the TCU report (2018), ANM lacks the structure to oversee the collection of CFEM, both in terms of their work processes and in their provision of human, financial and computational resources. Staff shortages are one of the main problems faced by ANM, as well as operational difficulties for

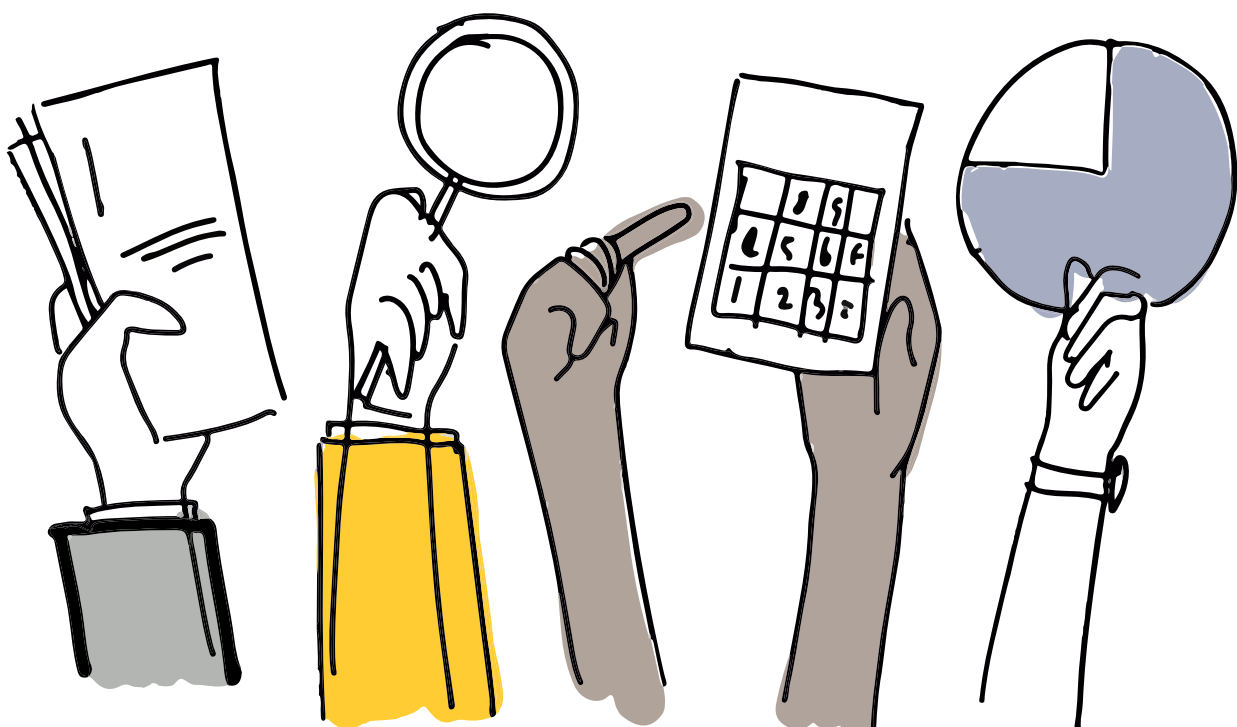
on-site inspection (lack of vehicles and field equipment). ANM has approximately 250 technicians to monitor 35,000 regulated mines in the country (GRANDELLE, 2021). Without verifying the self-reporting information of mining companies, the tendency to maximize deductions and / or minimize billing prevails, reducing the amount of CFEM to be paid. In short, in the absence of inspection capacity by the ANM,

the collection of CFEM occurs according to the production information filled in by the company itself. In the absence of verification of these data, the risk of companies declaring data that lead to a lower collection of CFEM prevails.

Informal estimates of DNPM technicians assesses that the total amount to be collected by Vale would be around R \$ 5 billion and that the average tax evasion of the mineral sector as a whole would be approximately 50%, with emphasis on precious stones and metals (TCU, 2018). In 2019, the municipality of Itabira expressed concern for this fact and sought training for

its employees to monitor the payment of CFEM (DEFATO, 2019).

In the next sections, we present the preliminary results on the municipalities where Vale S.A. maintains mineral extraction activities. First, we introduce Vale S.A., and then investigate the socioeconomic dimensions of mineral extraction in four municipalities: Itabira, Barão de Cocais, Brumadinho and Parauapebas. Through the analysis of indicators, in the first place, it is important to understand how mining affects municipal revenue, through the payment of CFEM, and jobs.



2.4. THE BRAZILIAN STATE AGAINST THE IFFS

To end this section, we point out some of the Brazilian State's initiatives in the fight against Illegal Financial Flows). Despite the size of the IFFs in the country, Brazil is a member of the Financial Action Task Force (FATF) and the Acción Financiera de Sudamérica Group (GAFISUD). The country was also submitted to a Mutual Assessment in 2010, through which it was found that the laws of Brazil are generally compatible with most of the recommendations (KAR, 2014). However, there are still significant gaps, as “information on beneficiary ownership is not available to all legal entities; legal entities cannot be held responsible for money laundering” (KAR, 2014). Furthermore, the country is not part of the EITI (Extractive Industries Transparency

Initiative), an initiative that oversaw the fiscal transparency of extractive sectors.

The situation worsens with the Bolsonaro government and the preceding government of Michel Temer. The economic policy of these governments is centered on the notion of fiscal austerity, i.e. the reduction of public investments as a supposed means of balancing public accounts. For example, this notion is featured in the Constitutional Amendment Proposal No. 55, approved in December 2016, which limits the growth of public investments for twenty years, which is now calculated based on the primary expenditure paid in 2016, corrected only by the inflation (IPCA) of the period. Such an institutional policy decisively limits any effort to combat the IFFs.

The economic policy of these governments is centered on the notion of fiscal austerity as a supposed means of balancing public accounts.



3. MINING MUNICIPALITIES AND VALE

3.1. VALE

Companhia do Vale do Rio Doce (CVRD) was founded in 1942, as a result of the Washington Agreements between the governments of Brazil, under Brazilian president Getúlio Vargas, Franklin Roosevelt, president of the USA and England's prime minister Winston Churchill, with the aim of supplying iron to the industry of the latter two, who were burdened by the Second World War in their ore needs. In order to create a state-owned company specializing in the export of iron ore, the Vargas government created CVRD, adding to its equity all iron deposits owned by Itabira Iron Ore Company, successor to the Brazilian Hematite Syndicate. Among these deposits, we can mention Pico do Cauê, located in Itabira, which held one of the largest reserves in the world. The Vitória-Minas Railway (EFVM) also became property of CVRD.

In 1976, Vale was already the main exporter in Brazil. Asian demand for minerals exported by Vale became crucial from the 1960s thanks to Japanese steel mills, as well as exports to Germany and the USA. China entered this scenario in the 1970s and has been at the center of demand

Vale is a multinational company based in Brazil, which has operations, offices and joint ventures in about 30 countries.

since the late 1990s.

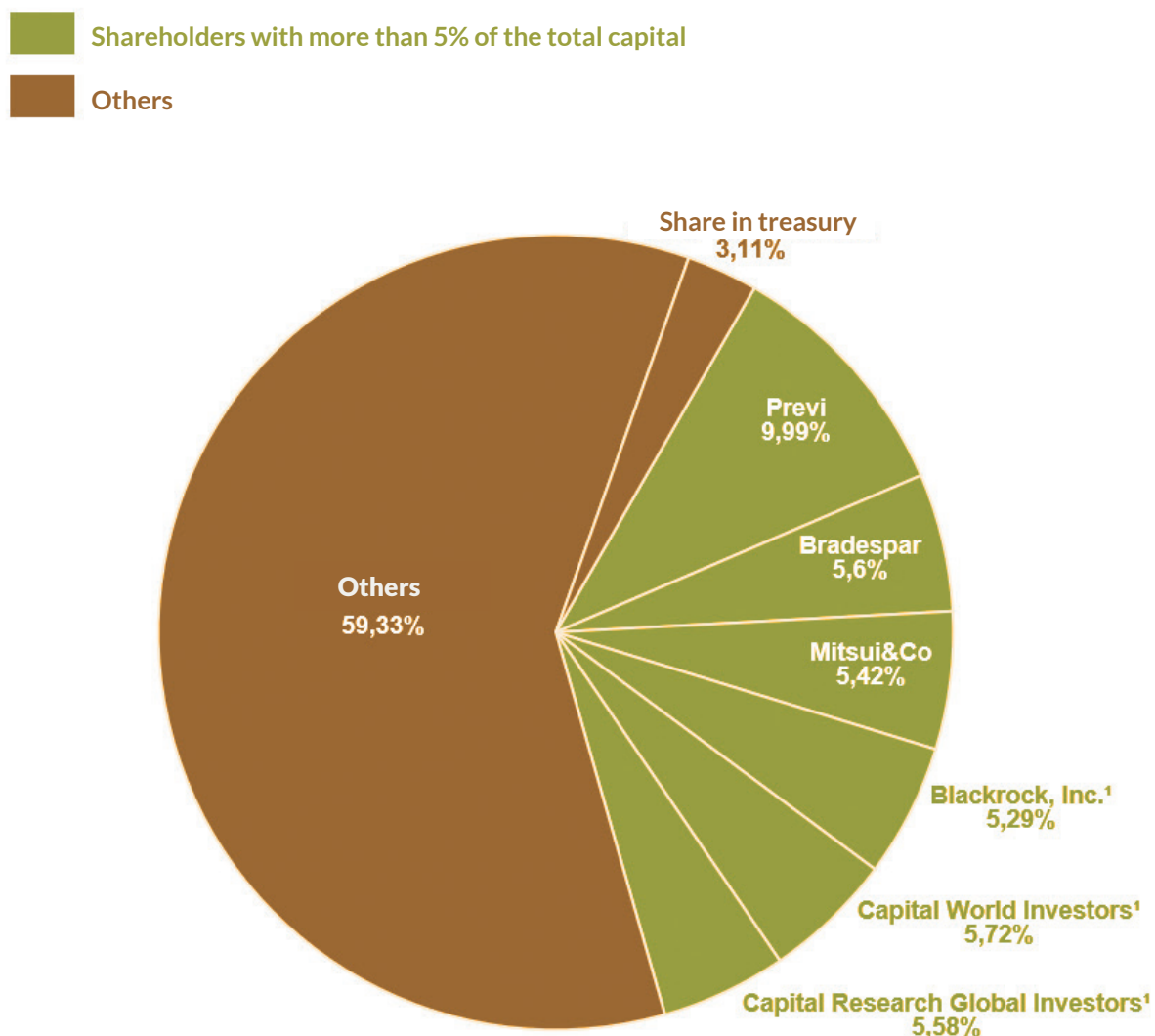
The peak of Vale's open pit mega-mining occurred through the exploitation of the world's largest iron ore province, discovered in 1967 – iron ore, gold, bauxite, manganese and copper – in Carajás, southeastern state of Pará. In 1970, CVRD joins US Steel in the exploitation of Carajás, under the name of Amazônia Mineração SA (AMZA). The association lasts until 1977, with US Steel withdrawing from agreement, receiving an indemnization of 50 million

dollars, and AMZA being terminated in 1980. In 1984, the Grande Carajás Project is inaugurated as part of the effort composing the great projects of the civil-military dictatorship. These efforts could be defined as a set of public policies and investments aimed at the building of infrastructure including hydroelectric plants, ports and

railways for the production and export of raw materials. Hence the implementation of the Carajás Railway (EFC), which takes the minerals from Parauapebas (PA) to the Ponta da Madeira port, in São Luís (MA).

The 1990s, in Latin America, were marked by policies with neoliberal content. As part of this trend, CVRD was one of the

Graph 4. Ownership Breakdown of Vale S.A. (April 30, 2021)



Source: Vale (2021).

main targets in Brazil for privatizations. The privatization took place on May 6, 1997. The winner of the auction was Consórcio Brasil, with a subsidy from BNDES (National Development Bank) and led by CSN, which included Previ (pension fund for Banco do Brasil employees), Petros (pension fund for Petrobras employees) and Funcef (pension fund for Caixa Econômica Federal employees). Because of the privatization of CVRD, on April 10, 1997, CVRD's controlling fund, Valepar, was created. In addition to the mentioned public servants' pension funds, BNDES Participações S.A. (BNDESPAR) – a wholly owned subsidiary of BNDES –, Mitsui & Co. Ltda, Bradespar S.A. – administrator of Bradesco's shareholdings – and Eletron S.A. were also part of Valepar.

Vale was listed on the Rio de Janeiro Stock Exchange in October 1943 and on the São Paulo Stock Exchange (Bovespa) in April 1968. In February 2000, it became part of Latibex, a stock exchange for trading securities Latin America, headquartered in Madrid, and in June of the same year, on the New York Stock Exchange (NYSE).

An initiative that decisively alters Vale's shareholding control and corporate governance was the new agreement between shareholders, established in 2017. It foresees the extinction of Valepar S.A. by 2020, selling the shares owned by Valepar and spreading the company's shareholding control. One of the objectives of the agreement was for the company to be accepted on the Novo Mercado listing segment of BM&F BOVESPA. Therefore, with the change in the corporate governance of the company, the large foreign investment funds and minority shareholders of Vale S.A. were strengthened. And the pension funds of public servants lost importance. On April 30, 2021, Previ held only 9.99% of the mining company's shares.

Nowadays, Vale is a multinational company based in Brazil, which has operations, offices and joint ventures in about 30 countries.

In the next sections, we present the socioeconomic profile of municipalities with a mineral economic base, where Vale maintains mineral extraction activities.

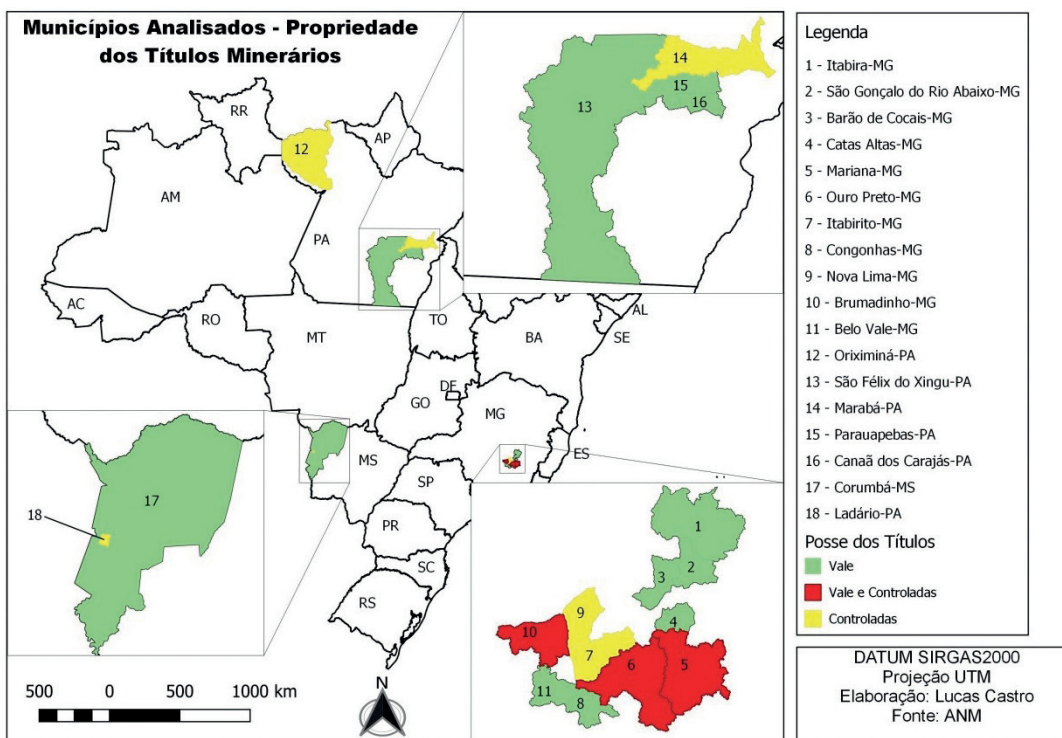
3.2. MUNICIPALITIES MINED BY VALE

Vale has twenty-nine mining titles divided into twelve municipalities, in addition to another ten titles of subsidiaries and joint ventures³ in seven municipalities

The mines that generated the highest revenue in 2020 are those located

in the municipalities of Parauapebas (43.8 billion reais) and Canaã dos Carajás (35.1 billion reais), followed by the mines located in Marabá (7.7 billion reais) – the mining title belonging to Salobo Metais), Itabira (6, billion reais) and Itabirito (5.9 billion reais).

Map 3. Brazilian municipalities with Vale S.A. mineral extraction (2020)



³Mineração Corumbaense Reunida, MBR, Salobo Metais, Samarco, Mineração Rio do Norte.

BARÃO DE COCAIS

One of the municipalities of the Quadrilátero Ferrífero in Minas Gerais, Barão de Cocais is yet another city that emerged from mining in the gold cycle and is still inserted in a context of dependence on mineral extraction and undergoes the negative economic, social and environmental impacts of this sector.

In mid 2010s, the mining town suffered with the abrupt drop in the collection of CFEM due to the closure of the Gongo Soco Mine that belonged to Vale. While in 2013 CFEM accounted for more than 15% of municipal revenue, in 2017, a year after the end of Vale's activities at the mine, it went down to less than 1% (graph), a loss of more than R \$ 15 million to the municipality of Barão de Cocais. After Vale ended its activities (at least at the Gongo Soco Mine), the city began to face the problems of a lack of an economic diversification plan for mined municipalities, going through a collection crisis that worsened, with the national general context of the period.

Graph 5. Municipal revenue and CFEM in Barão de Cocais



Source: Siconfi (2021).

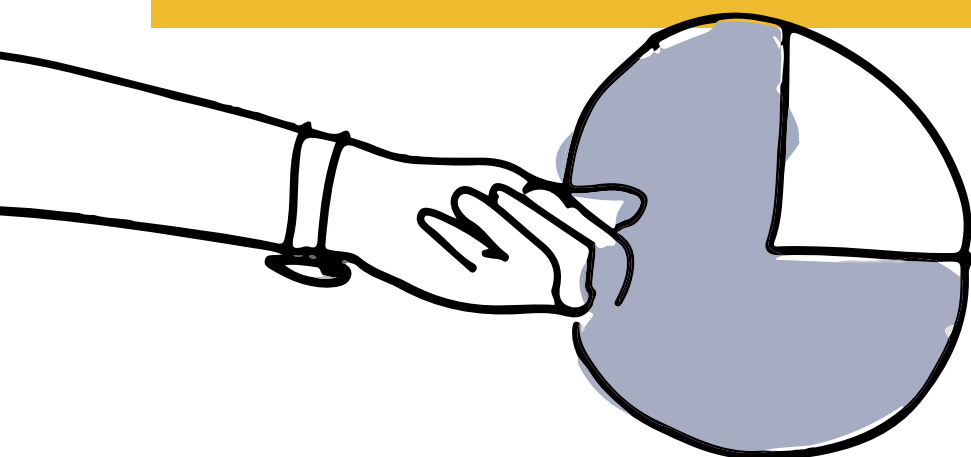
On February 8, 2019 (a few weeks after the burst of dam I of the Córrego do Feijão mine in Brumadinho), the Gongo Soco mine again caused disturbances in the city. The south upper dam went to level 2 risk of rupture, which caused the removal of about five hundred people from four communities downstream of the dam, causing personal, emotional and historical losses for the people who were directly affected.

In 2020, an active mine that is located in the neighboring municipality of São Gonçalo do Rio abaixo (Brucutu Mine) again terrorized the citizens of Barão de Cocais by the rise in risk of rupture up to level 2 on the 18th of November. Members of the São José do Brumadinho community had to flee their homes.

The above mentioned mine is currently in the process of expanding towards Barão de Cocais. The project for digging at the municipal border pit aims to expand the Brucutu Mine and explore the Barão de Cocais side. Vale currently has 2 mining titles in the city due to this return to exploration in the municipality.

Currently, despite the fact that there are no large companies operating in the city in mega mining projects, the city remains dependent on mining. According to the General Records of Employed and Unemployed Citizens (Caged), Barão de Cocais had a positive balance of 22,03% of jobs generated between April 2020 and April 2021. This balance is mainly due to outsourced companies that provide services to Minas da Vale and AngloGold in the neighboring municipalities of São Gonçalo do Rio Abaixo and Santa Bárbara, respectively.

According to the ANM, in 2021 Vale holds 2 mining titles in the municipality and the collection of CFEM increased by more than R \$ 8 million between 2019 and 2020. In addition to these two titles, Novelis do Brasil Ltda and Mineraminas Ltda have a title each with a collection of CFEM of 104,350.04 reals and 7,851.78 reals, respectively (ANM, 2021).

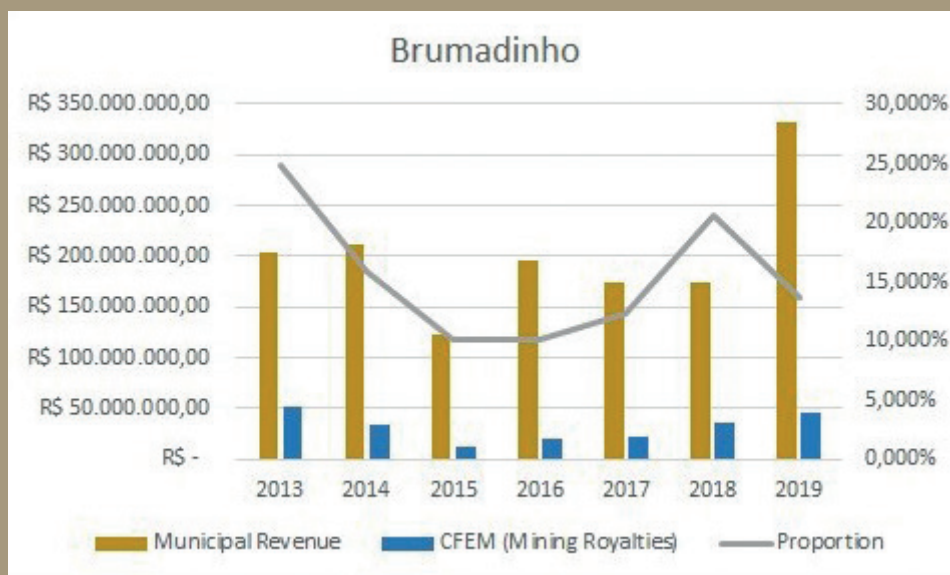


BRUMADINHO

The city of Brumadinho, located in the metropolitan region of Belo Horizonte, is a municipality that was strongly affected by ore-dependence. In 2019, CFEM accounted for 13% of municipal revenues, even with the rupture of Vale I Dam. Iron ore, mineral water, granite and sand are the main materials extracted in the municipality. In addition to Vale, many companies operate in the exploitation of these resources, reinforcing this region's dependence on mining activities, among which Vallourec and Mineração Camisa stand out.

In 2019, Brumadinho's CFEM stood for 13.6% of the municipality's revenues (SICONFI, 2021) which is equivalent to 3.4% of the value of Vale's operations in Brumadinho. They also corresponded to 1.6% of the value of Vale's and its subsidiaries' operations in Brumadinho. In 2019, the total CFEM paid in Brumadinho increased to 72.6 million reais due to the increase in Vallourec's operations (R\$32,896,669.35), offsetting the drop in CFEM paid by Vale (R\$14,563,706.13) (ANM, 2021).

Graph 6. Municipal revenue and CFEM in Brumadinho



Source: Siconfi (2021).

In 2018, before the Vale dam collapsed, 20% of formal jobs in Brumadinho were in the mineral extraction sector. The sectors with the most jobs in Brumadinho were the services sector (27%) and public administration (22%) (CAGED, 2019).

Still in 2018, the mineral extraction sector was responsible for 39% of formal jobs in the pay range between two and five minimum wages, and for the majority of jobs with pay above five minimum wages (64%), while it corresponded to only 6% of jobs of up to one minimum wage and 4% of jobs in the range between one to two minimum wages (CAGED, 2019). The other sectors of the local economy, mainly services, held the majority of jobs below two minimum wages, which means that the income level of the mining sector is higher than the income level of other sectors in Brumadinho. The mineral extraction sector also occupied the majority (35%) of the total mass of wages in Brumadinho (CAGED, 2019).

PARAUPEBAS

Parauapebas and Canaã dos Carajás are two Brazilian municipalities located in the state of Pará, northern Brazil, and have an estimated population in 2020 of 213,576 and 38,103 inhabitants, respectively (IBGE, 2021). Parauapebas is a city that was built according to the needs of the then state-owned company CVRD to shelter its employees, who would come to work in the exploitation of iron ore and other types of ore in the Grande Carajás Project (PGC).

Emancipated from Parauapebas in the 1990s, the municipality of Canaã dos Carajás would, in the following years, increasingly grow in its importance in the Brazilian and international mineral extraction scenario. The municipality of Canaã dos Carajás, is where the S11D - Serra Sul complex is installed. S11D is Vale's largest mining complex and is the largest investment in the company's history (MARQUES, 2019). It has also been considered the largest private investment made in Brazil in the 2006-2016 period (VALE, 2018).

Due to the volume of ore extracted in Parauapebas , the municipality was temporarily the highest collection of financial compensation for the extraction of mineral resources in Brazil, as shown in the following table 6.

Table 6. Municipalities with the highest collection of CFEM in Brazil, compared to the years 2010 and 2020

Position	2010	2020
1st	Parauapebas (PA)	Parauapebas (PA)
2nd	Nova Lima (MG)	Canaã dos Carajás (PA)
3rd	Itabira (MG)	Conceição do Mato Dentro (MG)
4th	Mariana (MG)	Marabá (PA)
5th	São Gonçalo do Rio Abaixo (MG)	Congonhas (MG)
6th	Congonhas (MG)	Itabirito (MG)
7th	Brumadinho (MG)	Itabira (MG)
8th	Itabirito (MG)	Nova Lima (MG)
9th	Canaã dos Carajás (PA)	Mariana (MG)
10th	Ouro Preto (MG)	Paracatu (MG)

Source: ANM (2021).

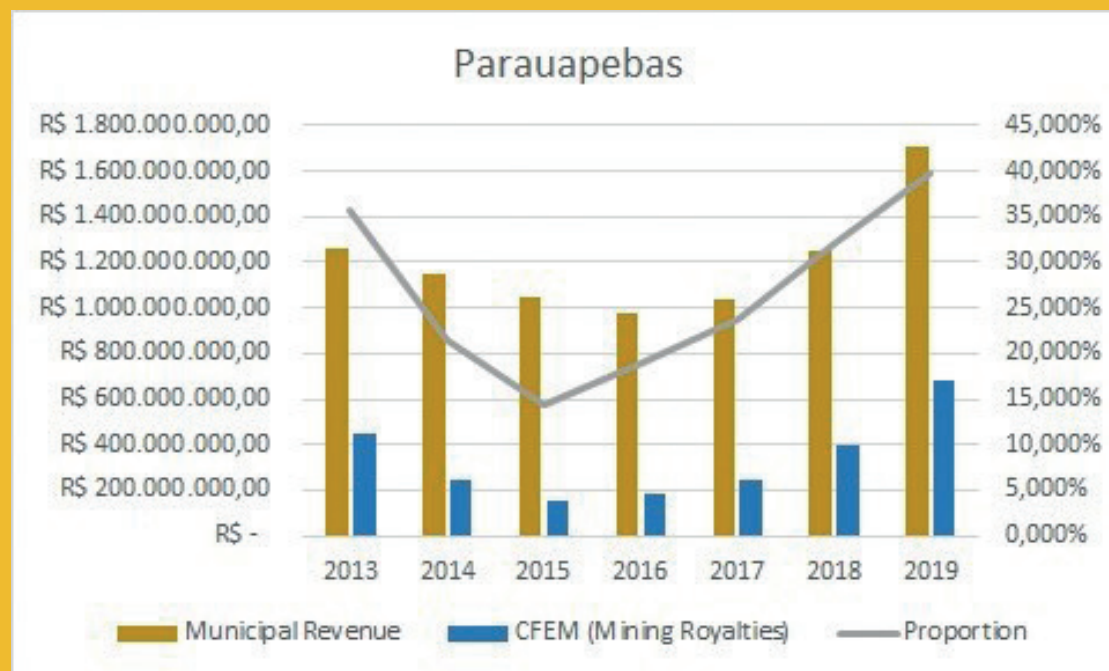
In 2010, Parauapebas was ranking first in Brazilian municipalities' CFEM collection, which demonstrates the significant importance of the Carajás mine. The amount of CFEM collected by Parauapebas in 2010 was more than 21% of the total collected in Brazil (table 7). Table 6 also shows the increase in the participation of other municipalities in the state of Pará, reaching the first places in the largest collectors' ranking (consequently, the largest extractors' ranking too) in the last 10 years, notably Canaã dos Carajás (bordering Parauapebas) which is in the same mining complex of the south-southeast sierra, jumping from the 9th position in 2010, to the 2nd in 2020. Similarly, Marabá comes next, in the 4th position, in CFEM collection

Table 7. Value (%) of the collection of CFEM in Parauapebas (PA), in relation to the total collected in Brazil, and in the States of Pará and Minas Gerais

Year	Total amount collected in Brazil	Total by state		Parauapebas	%
		MG	PA		
2020	6.080.696.753,38	2.364.537.041,68	3.112.167.351,72	1.534.894.165,40	25,24%
2019	4.504.238.668,90	1.834.442.821,24	2.192.444.248,42	1.156.139.681,25	25,67%
2018	3.036.143.592,41	1.311.277.683,72	1.294.063.533,93	695.349.377,03	22,90%
2017	1.838.568.021,45	777.782.496,79	681.171.514,95	403.190.143,25	21,93%
2016	1.797.879.226,75	858.495.783,06	526.443.296,68	285.490.066,82	15,88%
2015	1.519.721.771,84	675.502.250,23	442.515.986,70	232.112.169,90	15,27%
2014	1.711.318.234,76	800.749.838,10	504.784.813,31	369.352.761,43	21,58%
2013	2.376.174.750,78	1.204.758.694,35	804.582.059,22	700.520.912,78	29,48%
2012	1.834.958.234,73	974.490.374,97	524.271.976,11	427.086.035,56	23,27%
2011	1.561.680.727,11	788.843.819,55	462.689.037,81	371.088.416,69	23,76%
2010	1.083.427.367,36	534.939.450,16	314.992.533,43	229.896.598,41	21,22%

Source: ANM (2021).

Graph 7. Municipal revenue and CFEM in Parauapebas



Source: Siconfi (2021).

The great impact on CFEM payment revenue on Parauapebas general municipal revenues is shown in Graph 7. At certain times of price increases, CFEM represents a considerable portion of the total municipal budget of Parauapebas (36% in 2013; 32% in 2018; 39% in 2019), albeit at low price periods this participation sharply decreases, which directly results in a sudden suffocation of public accounts, with the municipality having to supply for its usual demands (health, education, security, infrastructure etc.), but with meeker resources. In 2015, for example, the share of CFEM in the total municipal budget fell from 36% in 2013, to 14% in 2015, leading to great fiscal instability as well as fiscal fragility.

Finally, to be noted is the gigantic dimension of Vale's revenue in Parauapebas, reaching up to 43 billion reais in 2020, which represented 21% of the total revenue of the mineral sector this year.

Table 8. Comparative value of operations and amounts paid for CFEM by Vale S.A - Parauapebas (PA) (R\$)

Year	Value of operations	CFEM
2010	12.614.857.307,67	229.896.598,41
2011	19.921.877.643,68	371.088.416,69
2012	21.494.709.204,96	427.086.035,56
2013	28.277.489.515,76	700.520.912,78
2014	20.231.390.319,44	369.352.761,43
2015	13.967.862.691,16	232.112.169,90
2016	15.961.757.372,10	285.490.066,82
2017	22.423.064.696,73	403.190.143,25
2018	20.347.431.765,62	695.349.377,03
2019	32.451.112.676,36	1.156.139.681,25
2020	43.906.363.922,79	1.534.894.165,49

Source: ANM (2021).

CONCLUDING REMARKS

Few brief comments, we can see how reliant these areas are on mining revenue for their basic services, but we know that companies like Vale continue to engage in profit shifting, so we can also say that the income for these municipalities is likely to be much lower than it would have been otherwise. If these IFFs can be stopped, then these municipalities would have much greater revenues from CFEM, allowing them to provide better public services and most importantly diversify their economy away from a reliance on mining. Following this argument, we can see then how IFFs lead to worsening public services and make it more difficult to move away from a dependence on mining.

In other terms, transfer mispricing and other IFFs cheat municipalities out of revenue, harming local communities. Often the municipal revenues through payment of royalties serves to mitigate damages created by the mining activity itself, such as the emission of dust, the water shortage, the deterioration of streets and roads and the creation of economic alternatives to mining-dependency. However, with the mechanisms of transfer mispricing, this revenues decreases considerably, leading to an even more fragile situation in these municipalities.



4. ELEMENTS FOR SOCIAL AND FISCAL JUSTICE IN BRAZILIAN MINING

We end this text with a series of recommendations that can collaborate with social and fiscal justice in mining in Brazil.

Creation of spaces for deliberation, participation and popular control over mining

The creation of national, state, regional and municipal mining councils is necessary. These must be the forums for decisions related to mining activity in the country and must necessarily include the communities where mineral extraction takes place, including traditional populations, and the sector's labour unions.

Annulment of PEC 55/2016

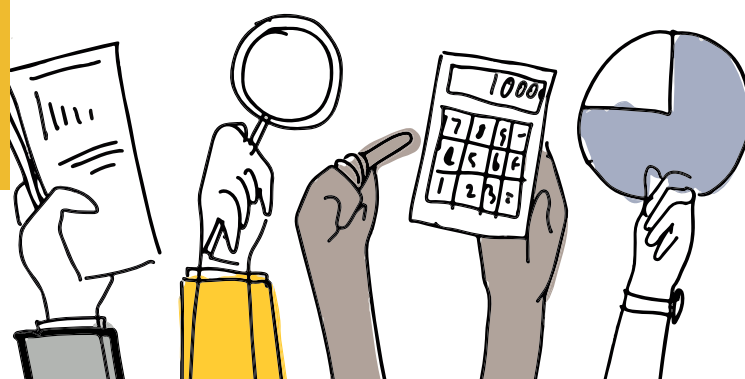
Repeal of PEC (Constitutional Amendment Proposal) No. 55, approved in December 2016, which limits the growth of public investments for twenty years, which is now calculated based on the primary expense paid in 2016, corrected only by inflation (IPCA) of the time course.

Increase in the CSLL (Social Contribution over Net Income) aliquot for mining companies

The mineral and financial extraction sectors have been increasing their profits, despite the pandemic and the economic crisis. It is necessary to increase the CSLL rate of these sectors, as a way to finance public policies aimed at monitoring mining.

Free-of-Mining Territories

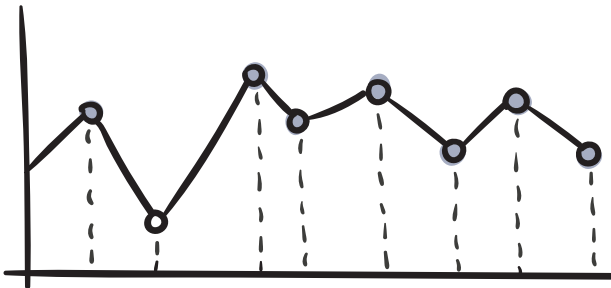
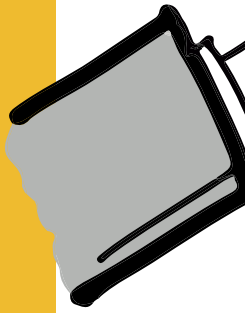
The creation of means of direct consultation with the populations before the installation of large mining projects, especially those that decisively interfere in the local social structure. As has been done in some countries, people should have the right to say "no".



Incentives for the economic diversification of the mined regions

The creation of funds for economic diversification in the mined municipalities – one with federally managed and the other with management by each city – to be controlled by national policy councils. These funds must support activities not directly linked to mining or the mining production chain. These activities should have a popular and local character and be intensive in the creation of jobs, such as family farming, agroecology, community tourism, small companies, solidary and cooperative economy, research and development, education, science and technology. Such resources will also be used so that municipalities can protect themselves from price fluctuations in the international market.

Strengthen the most localized production and consumption networks, by solving bottlenecks in the commercialization of agricultural production, which also compromise the ability of social reproduction of farming men, women and families.



Increase in the percentage of Financial Compensation for the Exploration of Mineral Resources (CFEM)

Since 2017, after Law No. 13,540, the basis for calculating CFEM started to be levied on gross sales revenue, less the taxes that are levied on sales. The percentage used depends on the explored mineral, reaching a maximum of 3.5% in the new legislation. In comparative terms, internationally, CFEM in Brazil is still too low. Therefore, we defend its increase.

Creation of entities that inspect and monitor the expenditure of CFEM resources

The process of regulating the resources generated by the contribution must count on the performance of inspection entities at the sub-municipal, municipal and state levels that will investigate the destination of these resources.

To institute to municipalities, by law, the obligation to issue annual reports on how CFEM is spent to the Court of Auditors, so that the population has access to such reports.

Create a dialogue with the population about the destination of CFEM, i.e. to demonstrate how the resources from CFEM are spent.



Provide for special participation in mines operating at major profits

In cases of mines with extraordinary comparative advantages in the international market, such as Vale's Carajás Complex (Pará), there will be an increase in CFEM.

Expansion of the capacity to inspect and monitor the state apparatus

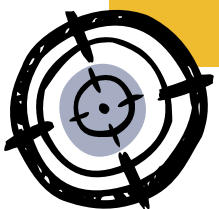
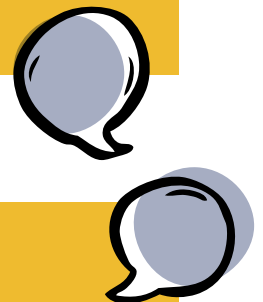
The capacity of the National Mining Agency (ANM) should be strengthened, with the opening of a public tender to strengthen the performance of the agency, which is presently scrapped. The state and municipal agencies responsible for licensing, monitoring and inspection must also be subject to rigorous efforts.

Transparency and access to information

Make ANM documents available and easily accessible as related to the authorization, concession and monitoring of the operation of all mining companies. Basic information about the minerals market should also be easily accessible (information about mining companies, market fluctuations, new mining processes etc.).

Work conditions

Define the responsibilities of the National Mining Agency specifically in terms of health and safety in the monitoring of the Risk Management Plan, as provided for in NR (Regulating Norm) 22. Provide company resources for the decommissioning and environmental recovery plan, approved by the affected workers and communities. To this end, this proposal includes the provision of resources from different origins for the execution of the mine closure plans and / or in case of disasters, i.e. the municipal and federal funds as mentioned above; insurance; credit letters; third party warranties etc. Enforce ILO Convention 155, which provides for the inclusion of issues on safety, hygiene and the work environment at all levels of training, and of issues approved by Decree No. 7,602, of November 2011.





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