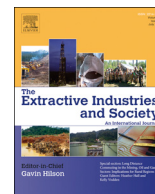




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Embedded corporate strategies and power: The case of Vale S.A. in Itabira, Brazil

Bruno Milanez^{a,*}, Rodrigo Salles Pereira dos Santos^b^a Department of Industrial and Mechanical Engineering, Juiz de Fora Federal University, Rua José Lourenço Kelmer, s/n, Campus Universitário, Juiz de Fora, MG, 36036330, Brazil^b Department of Sociology, Rio de Janeiro Federal University, Largo São Francisco de Paula, 1 - Centro, Rio de Janeiro, RJ, 20051-070, Brazil

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ABSTRACT

We argue that the power exercised by transnational corporations is context-dependent and that corporate strategies are embedded in institutional settings and related to non-economic forms of action. We apply the Global Production Network framework, introducing the notion of corporate strategy. We focus on the mining sector, assessing Vale S/A's capacity to influence political decisions. The research is based on a literature review, analysis of documents, and fieldwork in Itabira, Minas Gerais state (MG), Brazil. We found that relationships involving corporations, institutions and social movements are framed by embeddedness conditions, power capabilities, and continuous value capture, locking actors into a well-established discourse on development. In addition, we briefly apply this framework of analysis to link the case findings to the disaster that took place in Brumadinho (MG), in January 2019.

1. Introduction

This article examines the links between the capacity of transnational corporations (TNCs) to exercise power and deal with relational pressures exerted by non-economic actors, all of which are rooted in institutional environments. The central hypothesis is that the power exercised by TNCs is context-dependent: as far-reaching as their economic action may be, corporate strategies are invariably embedded in institutional settings and related to non-economic forms of action. Therefore, the different ways in which these strategies are designed and implemented are decisive for a TNC's prospects of ensuring ongoing value capture. We focus on the mining sector and on a major iron ore producer, Vale S/A, in order to provide an account on how relationships are framed by embeddedness conditions, power capabilities, and continuous value capture, locking economic and non-economic actors into a well-established discourse on mining and development.

In the paper, we use relational approaches focused on social and political actors in order to provide a detailed scenario of interaction. We apply the Global Production Network (GPN) framework, critically employing the key categories of embeddedness, power, and value to understand the extractive industry. Also, we introduce the notion of corporate strategy, which accounts for Vale's capacity to resist local pressures.

Although providing a multi-scale analysis, similarly to Mayes

(2015), we emphasize the local level. Accordingly, we focus on the relationships that Vale has established in the town of Itabira, Minas Gerais state (MG), Brazil, since its foundation in 1942. By doing so, we can describe contrasting capabilities to control and mobilize resources, which ultimately lead to power differentials between the company and political and social actors.

Methodologically, we benefit from comparative research that has focused on major mining towns in MG, thus being able to contrast findings from a broad empirical setting. We have also drawn on a literature review on extractive GPN and corporate strategies, as well as on the histories of Vale and Itabira. Our field research was conducted in Itabira in 2015, using semi-structured, formal interviews with local actors.

Research findings indicate that powerlessness in the town cannot be equated with an abstract lack of power by local political and social actors; rather, it is associated with the specific capacities of Vale to influence the state, workers, and social movements. On the one hand, the company is able to utilize institutional power in its own favor, while maintaining social contestation at 'acceptable' levels, on the other. Despite facing regular challenges, the company has been effective in regulating its territorial embeddedness to maintain regular levels of value capture since it is the most powerful actor on the local scene.

This work is divided into three substantive sections and a conclusion. The first section discusses the advantages and limitations of using

* Corresponding author.

E-mail addresses: bruno.milanez@uff.edu.br (B. Milanez), santosrodrigosp@googlemail.com (R.S.P. dos Santos).<https://doi.org/10.1016/j.exis.2019.05.015>

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the GPN framework to analyze the extractive industry. We argue for incorporating the category of corporate strategy to the GPN framework in order to improve the understanding of the power exercised by Vale. The second section analyzes the embeddedness conditions, the power, and the value capture of Vale's operations. The third section, on Vale's corporate strategies, adds more weight to the argument regarding the company's great capacity to deploy (dis)embeddedness and power devices to influence non-economic actors and guarantee constant levels of value capture. Finally, we conclude by summing up the major findings and providing some remarks regarding the dam failure, in Córrego do Feijão mine, in Brumadinho (MG), Brazil.

2. The framework: global production network (GPN) and corporate strategies

The GPN framework has provided a theoretical basis for research on economic activities at multiple scales. Based on this framework, economic globalization is defined by transnational systems that link raw-material extraction, production of goods, and provision of services, to consumption and disposal. Along these lines, new transnational production systems drive the functional integration of geographically dispersed economic activities (Dicken et al., 2001; Horner and Nadvi, 2018).

Briefly, the GPN model evaluates the role of groups of key actors, which include firms (their suppliers and customers), states, workers, and social movements with reference to three categories: embeddedness (societal, territorial, network, and material), power (corporate, institutional and collective), and value (creation, enhancement, capture, and destruction) (Dicken, 2011; Hess, 2004; Santos and Milanez, 2015a, 2015b).

With regard to economic actors, the firm is the analytic focus. Corporations constantly compete to increase their influence in order to achieve specific economic objectives, such as cost reduction, revenue increases, and growth in market share, among others. Accordingly, corporative conception and control of GPNs constitute the fundamental techniques for converting territorial resources into value and specific forms of rent.

The GPN framework conceives the state as a prototypical political actor, while interstate actors and institutional arrangements also comprise some of its keys elements. Accordingly, economic regulation manifests great organizational diversity and, simultaneously, allows for and constrains the possibilities of exercising power, as state and interstate actors enjoy extremely varied conditions for pursuing either direct intervention or exercising indirect influence (Wilson, 2013). The inclusion of social actors – workers, social movements, and non-governmental organizations (NGOs) – in the analysis presents a comprehensive conception of agency, which might be extended to “[...] actions of collective agents who seek to influence companies at particular locations in GPNs, their respective governments and sometimes international agencies (most recently the IMF and WTO in particular)” (Henderson et al., 2002, p. 451).

Accordingly, the economic actor (firm) functions as an access device to the unit of analysis ‘network’, driving structures and processes around which a variety of other actors revolve. Along these lines, the GPN framework recognizes the essential and complementary domains of political and social actors in conditioning economic activities. The evaluation of their roles is based on three categories: embeddedness, power, and value.

Embeddedness is a polysemous notion (Coe, 2012) and, in attempts to make it operational, various specifying concepts, or a typology, have been proposed. Henderson et al. (2002, p. 452) define territorial embeddedness on the assumption that firms “absorb, and in some cases become constrained, by the economic activities and social dynamics that already exist” in a location. Hess (2004, p. 180) introduces the idea of societal embeddedness, which is related to the firms’ origins. Santos and Milanez (2015b) propose the concept of material embeddedness,

which is based on aspects such as materiality and territoriality, extremely relevant in the study of resource-based sectors (Bridge, 2008; Ciccantell and Patten, 2016).

The second category debated by the GPN framework is power. In a broad sense, it can be understood as an economic actor's capacity to influence the actions of others (Dicken, 2011; Gereffi, 1994; Henderson et al., 2002). Dicken (2011) claims that power relations within a GPN are unequal and depend mainly on accessing and controlling relevant assets (capital, technology, knowledge, natural resources, etc.). The GPN framework introduces a typology of power linked to specific actors: corporate, institutional, and collective power (Henderson et al., 2002). This approach, however, seems overly simplistic, failing to encompass all varieties of power expression.

While a more comprehensive approach towards power mobilization in GPNs is beyond the scope of this text, since we focus on corporate strategies, it is necessary to review three dimensions of business power, as proposed by Fuchs (2013). Firstly, when defining the instrumentalist approach, she adopts a relational concept of power, and focuses on the direct influence on the state (via campaign finance, lobbying, and rotating doors, for example). Secondly, the material structuralist perspective is deeply associated with the capitalist society since “growth is dependent on corporations, elections are often dependent on growth, and thus politicians have an incentive to respond to their concerns to make the economy grow” (Porter and Brown, 2013, p. 99). Finally, Fuchs (2013) looks at the ideational structuralist dimension, a perspective that is based on the creation of symbols and storylines.

The third category considered by the GPN framework is value, which is based both on the Marxian notion of surplus value as well as on more orthodox perspectives on economic rent (Henderson et al., 2002). This approach suggests the need of studying value creation, and also of understanding the processes of value enhancement and capture. In addition, Dicken (2011) introduces the notion of value destruction; often ignored in the GPN literature, this concept has proven important when debating the extractive industry.

In recent years, a growing literature has evaluated to what extent the GPN framework is appropriate to apprehend the extractive industry. Bridge (2008) makes a case for the GPN contribution to the debate about resource extraction and development. Santos and Milanez (2015a) base their analysis of the Brazilian mining sector on the GPN model and evaluate the interactive process between corporate strategies and social contestation. Bloomfield (2017) looks at the gold jewellery industry and evaluates the challenges activists face when targeting corporation brands. McQuilken and Hilson (2018) apply the GPN framework to Ghana's artisanal diamond mining sector and proposes the model as a promising approach to analyze the sector's structure.

As a supplementary remark, the classical framework (Henderson et al., 2002) presents the three categories of embeddedness, power, and value as independent elements. Nevertheless, we understand that there is an underlying relationship among these three categories. Along these lines, actors struggle for value capture (including both market and non-market value) but their success depends mainly on power relations, which are influenced and defined by embeddedness conditions. Each group of agents develops repertoires of actions in order to shape these three categories, and such dispositions are, then, introduced into their strategies. This is described in more detail in the following section.

In summary, the GPN framework has proven to be complex and robust enough to analyze the behavior of TNCs and the effects of their decisions. In spite of its established status, however, there is still room for improvement.

3. Bridging categories: corporate strategies in GPNs

In order to overcome some of the limitations of the GPN framework mentioned above, we propose a new category, namely, strategy. In our understanding, strategies are a repertoire of coordinated steps taken by an actor, involving the power exercised to: (1) increase its own

capabilities for capturing and enhancing value; (2) increase its power over or reducing other actors' powers; and/or (3) change embeddedness conditions.

In this effort, we attempt to fuse contributions from various fields, including strategic planning, public policy, and social contestation. Usually, the notion of strategy is associated with normative and rational approaches. Mintzberg (1987a, p. 11) states that, to “almost anyone [...] strategy is a plan – some sort of consciously intended course of action”. Alternatively, we understand “strategy” as a descriptive tool helpful in grasping the linkages between an actor and its environment (Ronda-Pupo and Guerra-Martin, 2012), or the match between an organization's competencies and the reality (opportunities and risks) of its environment (Hofer and Schendel, 1978). In other words, it can be seen as a “shorthand way to understand [an organization] and to differentiate it from the others” (Mintzberg, 1987b, p. 27).

Methodologically, this approach seems to cohere better with empirical research. Access to decision-makers is not always granted by organizations (TNCs, governmental agencies, labor unions etc.); therefore, researchers may not be able to discover their intentions or plans. However, their behavior can be more easily recognized and understood from the outside.

Therefore, from our perspective, strategy is understood as a “pattern of stream of actions” (Mintzberg, 1987a, p. 12) or, borrowing concepts from the literature on public policy, as a “course of action followed by an actor or set of actors” (Anderson, 2003, p. 14). When we adopt such a perspective, it is important to note that strategies can be either deliberate or emerge as a reaction to environmental stimuli (Mintzberg, 1987a). At the same time, a strategy may be explicit, formally developed and documented, or implicit, created in tacit ways. Finally, our concept of strategy must also include inactions, referring to whatever an actor chooses “to do or not do” (Dye, 2013, p. 3).

In the remainder of this text, we use the definitions and categories proposed by the GPN framework and the notion of strategy to describe and analyze how Vale S/A, one of the largest mining companies in the world, drives embeddedness conditions and exercises power in order to capture and enhance value in Itabira.

4. Vale S.A. in Itabira

4.1. The firm

Itabira is a medium-size town in Minas Gerais state, in Southeast Brazil. Rights to its rich iron ore reserves were obtained in 1910 by the British firm Brazilian Hematite Syndicate (BHS), which later became the Itabira Iron Ore Company (IIOC) (Triner, 2011). In the late 1930s, the United Kingdom was having trouble in accessing good iron ore reserves (originally obtained in Sweden) to supply its war preparation effort. At the same time, Brazil and the USA were debating financing alternatives for the creation of a steel mill in Brazil. The Washington Accords of 1942 were signed in this context: the British government bought IIOC shares and transferred them to the Brazilian government; the American government financed logistics and infrastructure improvements; and the Brazilian government was committed to supply iron ore to the Allies. Thus, the Companhia Vale do Rio Doce (CVRD) was born, a state-owned company whose *raison d'être* was to supply the global market with Brazilian iron ore (Triner, 2011).

As a result, Brazil became an important player in the global mining market. In the late 1960s, the country was responsible for almost 7% of global iron ore exports; this share increased to 25% in the 1980s, and stabilized around 30% after the 1990s, establishing the country as the world's second-largest iron ore exporter, after Australia (International Trade Center, 2017; Triner, 2011).

CVRD was privatized in 1997 and, ten years later, changed its trade name to Vale S/A. Its shares are traded in various stock markets, including São Paulo, New York, Madrid, and Paris (Milanez et al., 2016). In 2015, Vale was the eighth largest mining company in the world with

regard to market capitalization (PwC, 2016) and the biggest iron ore producer (Vale, 2016). In that year, its net revenue came to US\$ 26 billion, concentrated in iron ore and pellets (62%), nickel (13%), fertilizers (9%), and copper (7%) (Vale, 2015). The company operates mines in nine different countries (Australia, Brazil, Canada, China, Indonesia, Mozambique, New Caledonia, Peru, and Zambia) (Vale, 2016). In 2015, Vale's workforce comprised 166 thousand workers, mostly concentrated in Brazil, which accounts for 78% of its employees. In Minas Gerais state, 42% of Vale's workers were outsourced (Vale, 2015).

The extractive industry is frequently responsible for social and environmental conflicts (Mayes, 2015), and Vale is no different. Shortly after purchasing the Canadian nickel company, Inco, Vale introduced major changes into the collective labor agreement. This provoked 11-month strikes in three of the mines, including the largest mine in Sudbury. In 2012, the company won the “Public Eye Award”, an award presented annually at Davos based on online voting for “the worst corporation in the world”. In part, the “prize” was related to its connection to the Belo Monte dam, which caused significant harmful impacts on Brazilian indigenous peoples. In 2014, Vale was involved in a corruption scandal in Guinea over the rights to mine the Simandou iron reserves. In 2015, Samarco (a joint venture between Vale and the Australian BHP Billiton) caused the worst environmental disaster ever experienced in Brazil when its tailings dam collapsed in Mariana (a town neighboring Itabira) (AIAV, 2015; Milanez and Losekann, 2016). Finally, in 2019, Vale's own tailings dam, at Córrego do Feijão mine, collapsed in Brumadinho (MG).

4.2. The state

In Brazil, landowners' property rights are limited to the surface, while the underground and its mineral reserves are considered public goods that belong to the Brazilian Federation. Therefore, Federal government controls access to mineral resources (ores, oil, and natural gas). At the same time, state environmental agencies are responsible for monitoring the environmental aspects of mining activities. They are in charge of granting environmental licenses and performing monitoring functions. In addition, local governments have little direct influence on mining activities. Nevertheless, state environmental agencies may ask local governments for Letters of Consent in order to issue environmental licenses.

As far as federal environmental agencies are concerned, they have rather reduced powers in Brazil to actually curb extractive projects. Hochstetler (2002) argues that corruption, underfunded agencies, and the low environmental awareness of large companies undermine environmental capacity in the country. At the same time, Milanez and Bührs (2009) propose that, for historical and cultural reasons, the environmental sector is isolated from the circles of power. At the state level, Milanez and Oliveira (2015) describe the capture of environmental agencies by coalitions that are linked to corporate interests.

Vale started operating in Itabira in the early 1940s, when there was no environmental legislation in place. The National Council for the Environment defined procedures for Environmental Impact Assessments (EIA) only in 1986. However, it was not until 1994 that the Minas Gerais government required Vale to present its EIA. The company obtained its “corrective” environmental license in the following year, conditional on carrying out 52 mitigating and compensating measures (Tubino et al., 2011). Nevertheless, in 2015 disputes still existed between the Municipal Secretary of the Environment and the company regarding the fulfilment of all the corrective clauses (Interviewee 8, Staff from the Municipal Secretary for the Environment).

4.3. Workers

Trade unions in Brazil are organized on a territorial basis and often negotiate with employers separately. Therefore, mining workers of the

same company who live in different towns might not be represented by the same union. Besides, mining unions usually represent only employees, while outsourced workers are represented by other unions.

Locally, the Metabase Union of Itabira and Region represents almost 5,500 workers from thirty localities. This total includes active employees (49%) and retired workers (51%) (Diário de Itabira, 2015b). However, this union is notable for its close ties to the company and the defense of company interests (Interviewee 9, Director of Metabase Inconfidentes, Congonhas Region).

The Vale workman has... a profile... Because Itabira is a company town, isn't it? Vale rules... And there is no other way... Today there are new mining companies coming to town. But before, there was only one. It was only Vale, and if you were fired... you had to wash cars... (Interviewee 1, Vale worker).

Thus, the history of the Metabase Itabira is characterized by the absence of open conflicts with Vale. Indeed, these seem to emerge only in moments of acute crises. The foundation of the union itself was part of the company's strategy to control workers after a first strike in 1945 (Minayo, 2004). A second strike took place in the late 1990s, when the company was about to be privatized and an extensive voluntary redundancy program was set up. The third strike took place in 2008, during the world economic crisis, when Vale proposed the suspension of all contracts for six months, as well as firing half of its workforce in Itabira. A new wave of contestation took place in 2015, at the end of the commodity boom, when Vale planned to fire a significant number of its workers in the town (Diário de Itabira, 2015a, 2015b).

Overall, the union's collective power in Itabira is low, defined by its lack of propensity for confrontation. This characteristic, to some extent, seems to be embedded in the constraints created by a company town setting and directly related to a strong dependence on Vale (Carvalho, 2014).

4.4. Social movements

Despite the presence of diverse social movements in Itabira, our research has not been able to identify any significant social contestation against Vale. In general, in our field research, we were able to identify expectation of benefits from Vale, but no real criticism towards the company and its socio-environmental impacts. In part, this could be explained by the embeddedness of Vale, as discussed in Section 4.5. As mentioned by one of Souza's (2003, p. 73) interviewees, "Vale not only pollutes the environment, it also pollutes the minds of people from Itabira, as everybody wants to work for it, to service it, or to sell something to it".

In spite of the lack of broadly-based criticism of the company, there have been a few moments of contestation. Some episodes that involved environmental claims were organized in the early 1980s, and there were two public civil actions against Vale, in 1986 and in 1992 (Souza and Silva, 2002). The most critical actions of social contestation were related to territorial disputes over urban space, propelled by the expansion of mining activities.

Specific acts of contestation have emerged from church organizations, and the First Congress on the Environment of the Ecclesiastic Province of Mariana (which includes Itabira), in 2014, revealed its critical perception of Vale's behavior. The church's proposal in 2015 to create a Commission for the Environment describes Vale's behavior as "the great challenge in the province!" (Província Eclesiástica de Mariana, 2015, p. 1). Accordingly, some of Vale's labor strategies (e.g. subcontracting, high employee turnover, and precarious working conditions) have been associated with an increase in alcohol abuse, sexual violence, and mental illnesses in the region.

4.5. Embeddedness

Embeddedness is a multidimensional concept that requires different

levels of analysis. First, we will look at territorial and social embeddedness. Both types are examined to understand how the image of "development promoter" is created by Vale at both the national and local levels. Subsequently, we look at the material form of embeddedness, highlighting the importance of mining infrastructure, which, to an extent, acquires some determinant features that are similar to natural ones.

Historically, Vale has been identified in the Brazilian and Itabiran imaginaries as a matter of 'national interest'. At the national level, this is mainly due to its alleged foundation as a lever for industrialization (Presas, 2012). From the state's perspective, it has been strategic in providing foreign currency that allowed the Federal Government to pay its debts (Triner, 2011).

In reality, it [Vale] is a parallel power in the country, isn't it? It is a multinational corporation in eighteen states, thirty countries, five continents. And everything began here [in Itabira], 1942 [...] (Interviewee 2, Director of Metabase Union of Itabira and Region).

At the local level, the relationship with developmental imaginary is even stronger, as Vale performed the roles of a development agency when it was state-owned. During that period, the company was bound by law to invest 8% of its net profit in local development, and it was seen as "a company of Brazilians and for Brazilians" (Presas, 2012, p. 117). Vale had its own housing program, and workers' families had access to special medical and educational services. In the absence of comprehensive public welfare provision, working for Vale meant not only high status, but it also granted "privileges" at the local level (Interviewee 3, NGO Representative).

This relationship was transformed after privatization in 1997. Not only did labor practices change, but Vale also adopted other corporate practices that reduced benefits. It abandoned the obligation to invest locally, reducing it to company-controlled Corporate Social Responsibility programs.

Then the perception changes. Then procedures change. A state-owned company in a city like this [...] This relationship, they used to say that Vale was like a mother. [...] And then she turned into the wicked stepmother. [...] There was a lot of welfarism, anything the town wanted [...] This relationship changed [...] (Interviewee 4, Director of FUNCESI).

An ambiguous relationship emerged between Itabira and Vale. On the one hand, there was pride, respect, fascination, and expectations. On the other hand, there was frustration, resentment, and bitterness. This mixture of feelings towards the company is crucial for understanding its embeddedness in the local societal fabric.

Along with societal and territorial embeddedness, material embeddedness is also essential for discussing how Vale exercises its power and implements its corporate strategy. This notion is particularly relevant for understanding extractive GPNs due to the immobility of mineral resources, their economies of scale, and the dependence on large logistics infrastructure (Santos and Milanez, 2015b). These constraints also influence the corporations' relationship with political and social actors, whose interests are also built on the conditions of their physical environment.

However, we must look beyond the mines themselves. The Itabira complex is comprised of three mines, three processing mills, four tailings dams, and sixteen overburden piles. The ore is freighted over a 905 km railway to Vitória, Espírito Santo state. Close to the harbor, the company operates eight pellet plants, many of which are joint ventures with foreign steel companies (Vale, 2016).

In addition to the logistics infrastructure, Vale has invested in R&D in the region. The hematite reserves were exhausted in the 1960s and the company had to change to friable itabirite, which had only 50%–60% iron content. In order to do this, the company established the Mineral Development Centre between Itabira and Belo Horizonte (Minas Gerais' capital city). In the early 2010s, friable itabirite also

began to run short and the company had to start exploiting hard itabirite, which had less than 40% iron. This was made possible only with the adaptation of the processing units (Durão, 2015). All this sunk investment plays a role in Vale's decisions and increases its linkages to Itabira.

Therefore, Vale is deeply embedded in Itabira. The embeddedness involves societal and material aspects. On the societal side, it has strong cultural linkages with the town and occupies a special place in the collective imaginary. These facts significantly reduce the level of social contestation, which is an important aspect of power and value capture. On the material side, not only does the company still have large reserves of economically viable reserves, but it also has made considerable investments in infrastructure and R&D in the region and is likely to attempt to harvest as much value as possible from these investments.

4.6. Power

The public regulation of Vale in Itabira and Minas Gerais is defined by its social and territorial embeddedness. First, mining was part of the historic economic formation of the state, going back to the gold rush years of the colonial period. Second, mining has been central to the state-sponsored industrialization process and was closely tied to the building of various steel mills as public enterprises.

The power of Vale in Minas Gerais is strongly based on its material structural presence. State revenue is linked to the economic performance of mining activities, particularly through the payment of royalties. In 2016, royalties paid by mineral extraction in MG totalled € 222.7 million; Vale and its subsidiaries (MBR and Vale Fertilizantes) were responsible for 66% of this amount (ANM, 2019). A similar situation can be found at the local level. In the city of Itabira, in 2014, the local government received € 194 million in mining royalties; this was equivalent to 11% of its total revenue.

And the city [...] it is an economic hostage until today... a hostage of Vale. Nowadays, the municipal government... in terms of taxes... the government revenue [...] revolves around royalties and taxes paid by Vale (Interviewee 5, NGO Representative).

A similarly strong pattern of dependency can be identified in the labor market. Between 2010 and 2015, the extractive industry was responsible for 28–37% of the formal jobs available in Itabira (Ministério do Trabalho, 2017). Thus the sector plays a very important role in maintaining a dynamic local economy. For example, in 2015, in the aftermath of the commodity boom, Vale dismissed thousands of workers in Minas Gerais. This led to job losses in various other sectors, with negative impacts on housing and retail markets in particular (G1, 2015). The capacity to structure access to work in these areas increases Vale's power considerably.

“[...] people [...] grew up with a high level of dependence [...]. They say “do not criticize Vale... my son might one day work there [...] I will not say anything about Vale, because my uncle works there. You know this kind of thing. Everybody tiptoes around Vale. It controls everything. This is why the city does not scream (Interviewee 1, Vale worker).

As a result, the material dimension of power is an important domain of Vale's action. The company's performance affects both public and private sectors; many people feel they have much to lose if the company reduces its operations. Therefore, there is a general feeling that what is in the interest of Vale is in the interest of the city and the state.

4.7. Value

In discussing the extractive industry, the notion of value creation is controversial since there is no work involved in 'producing' either minerals or oil. These materials already exist, and work is related to making them available to society. Therefore, to some extent, it would

make more sense to use the concept of value extraction.

In the case of Itabira, most of the value is closely associated with the size and quality of the reserves. Despite the fact that Vale has extracted minerals for more than 50 years, Itabira is still an important source of revenue. The city is responsible for 15% of Vale's net revenue in Brazil, and 34% when we consider all of its operations in the state of Minas Gerais (ANM, 2019).

Vale is also committed to value enhancement, with significant investments in R&D, as discussed in Section 4.5. Indeed, as a result of developing new technologies for processing hard itabirites, the company was able to convert 500 million tons of overburden into reserves (SUPRAM/LM, 2010), hence increasing the value of low-grade material significantly.

It is a low-grade ore, there is very little iron in it and, before, there was no market for it. [Vale] built a plant to process it and will blend it with high-grade ore. So, this is it. It is a second crop because they have a very large reserve of low-grade ore in the Conceição mine (Interviewee 2, Director of Metabase Union of Itabira and Region).

The power imbalance of Vale in Itabira – when compared to workers, the community, or the state – suggests that the company can capture most of the value extracted from the ore reserves. There are no specific data concerning the distribution of value in Itabira. However, general information regarding the company as a whole supports such an assumption. When we consider only its operations in Brazil, from all the value that the company distributed in 2015, 47% were operational costs, 35% went to capital providers, 9% to government, 6% to workers (wages and benefits), 2% to R&D and 1% to communities (Vale, 2015).

Finally, in Itabira, the concept of value destruction can be easily applied. As the pits expand into the urban zone, there are ongoing disputes for space between the company and city dwellers. In fact, the urban area has been reduced as a result of the continuous rounds of expansion of mining activities, each round in a different area. The neighborhoods of Vila Sagrado Coração de Jesus, Vila Conceição de Cima, Vila Cento e Cinco, Aglomerado da Camarinha, and Vila Paciência have all been destroyed (Souza, 2003).

Here we have a neighborhood called Vila Paciência and they started igniting explosions just above it. And there were stones falling on the houses [...] The motorway crosses [the neighborhood] and the trucks pass just around the corner. [...] At Vila Conceição, where the pit lies, there was a neighborhood. There was public transport, paved streets, supermarkets, schools. It was [part of the] urban area [...]. This is a setback (Interviewee 2, Director of Metabase Union of Itabira and Region).

In sum, Vale's behavior causes the kind of extensive damage to the landscape and environmental services (Santos and Milanez, 2015b) that characterizes the mining sector in general. The Vale case illustrates the destruction of economic value, and it relates to devaluation and demolition of not only private houses but also of public infrastructure (energy and water supply networks, etc.).

5. Corporate strategies

Above, we have used GPN categories and elements to describe and analyze Vale's operations in Itabira. In this section, we focus on the coordinated actions that involve the power exercised by Vale. We focus mainly on those actions directed towards the state and public actors, and on attempts to “exert a strong and consistent regulatory influence” (Szablowski, 2007, p. 8).

The literature lists various strategies or initiatives adopted by companies in attempts to influence government. Within the instrumentalist approach (Fuchs, 2013), some of the most traditional ones are lobbying, financial contributions to political campaigns, and the revolving door. Vale uses all of them quite often, especially when dealing with the federal and state levels of government.

Our research suggests that, at the local level, its actions are more subtle and based fundamentally on the material structuralist and ideational approaches. We propose that these differences are closely related to embeddedness processes. As we describe below, in Itabira, Vale and the local government are intermingled in a variety of “partnerships”. There are ‘grey areas’ between government duties and company responsibilities.

Vale is no stranger to strategies based on the instrumentalist approach when it deals with government. In recent years, as the Federal Government debated changes to the Mining Act, Vale adopted various practices in attempts to ensure that new embeddedness conditions did not reduce its capacity to capture value (Milanez et al., 2017).

Fuchs (2013) notes the establishment of relationships with decision-makers as a common practice among businesses when they lobby for favorable legislation. In the case of Vale, it is no different. In 2010, after issuing the National Mining Plan 2030, which would serve as the basis for the new Mining Bill, the Ministry of Mining and Energy organized eight workshops with various government agencies and a few mining companies. Vale took part in four of these meetings (MME, 2011). Moreover, according to a BBC report (Senra, 2015), the fourth version of the bill, which was presented to the Special Commission in the House of Deputies, was edited at Pinheiro Neto Advogados, a legal firm employed by Vale.

Another practice related to the instrumentalist approach is the funding of political campaigns (Fuchs, 2013). The literature documents that corporations usually make donations to representatives who are members of committees whose decisions might have an influence on their sector (O’Callaghan and Vivoda, 2013). Not surprisingly, this has been the case in Brazil. For example, the electoral campaigns of 19 of the 27 deputies who took part in the Mining Bill Special Commission received contribution from mining companies in the 2014 elections. Vale was the leading mining company in total campaign donations that year, contributing € 7.2 million to party financial committees and € 3.5 million to individual candidate campaigns (Oliveira, 2015). Similarly, at the state level Vale was an important donor to Fernando Pimentel, who was governor between 2015 and 2018. At the same time, 75% of members of the State House of Representatives were funded by mining companies in the 2014 election (Tribunal Superior Eleitoral, 2014). On the other hand, in the 2012 local government elections, the company made no donations for candidates for mayor in Itabira (Tribunal Superior Eleitoral, 2012).

A third practice mentioned in connection with the instrumentalist approach is the revolving door (Fuchs, 2013) between corporations and government agencies. Vale, again, seems to use this instrument often with respect to the Federal Government. For example, Vicente Humberto Lôbo Cruz, who became the Secretary of Geology, Mining, and Mineral Processing of the Ministry of Mining and Energy in May 2016, was Director of Vale Fertilizantes (the company division for fertilizers) until the year previous to his appointment (Alegretti, 2016). Lôbo Cruz appointed four directors, one of whom was a former Vale employee and two others who had been consultants to the company (Milanez et al., 2017).

At the local level, however, our research did not find staff from Vale working directly with the mayor. At the city legislative branch, two former Vale employees were identified among the 12 members of the City Council whose CVs were available in the Council’s website (2017–2020 term) (Câmara de Itabira, 2017). However, as in all small towns, people know each other, and informal personal relationships play their role.

The project of the Peixe River, it is already underway; it must be finished by July or August. It is also a partnership with Vale. Actually, the mayor himself asked for this project; he said: “You have a good contact with Vale”. Then, it [Vale] invested R\$ 1.5 million [€ 405 thousand]. We took part in the negotiation (Interviewee 6, Municipal Secretary of Economic Development).

Vale has always been present in designing and implementing local public policies. Mainly due to the material structuralist and ideational power dimensions, Vale has been considered an important partner when debating developmental issues. For example, the City Master Plan aims, among its objectives, “to develop, in partnership with the extractive industry, projects of tourism, in an attempt to evoke the mining history of the region [...]” (Prefeitura Municipal de Itabira, 2006, p. 41). The linkages between Vale and the local government are so close that Wasylcia-Leis et al. (2014, p. 488) question “whether or not City Hall has the ability to carry out its municipal duties independently of Vale”.

We know, for example, that during the [mayor’s] term, meetings take place not once a month, but every second week. There are internal meetings between Vale and City Hall (Interviewee 7, City Councilman).

Remarkably, Vale has also greatly influenced public policies for promoting economic diversification and reducing economic dependence on mining. Due to the company’s presence, for a long time diversification was not a part of the local agenda. However, in the early 1990s, when Vale announced that its reserves would last for only 35 more years, the local government created the Itabira 2025 project, which aimed to formulate economic alternatives for the city.

Within Itabira 2025, the local government created the Itabira Development Agency (IDA), the Itabira Economic Development Municipal Council (IEDMC), and the Itabira Economic Development Fund (IEDF). Under the supervision of IEDMC, IDA would use money from IEDF to promote new economic activities and to reduce the city’s dependence on mining and Vale. Nevertheless, Vale had a seat at the IEDMC.

Attempts to promote economic diversification, in fact, have fallen short. In the 1990s, the local government created an industrial district, and between 1993 and 1996, loans were made to 76 companies. However, most of the loans were not repaid due to inconsistent policies and a lack of professional management (Enríquez, 2007; Presas, 2012).

In the new attempts to promote economic diversification, Vale has always been a partner. For example, the company has handed over an area for the establishment of a new industrial district.

We might launch now, in April or May [2015], the new Industrial District [...]. Vale is also a partner that donated 300 ha [...] Besides donating this area, at no cost to the municipal budget, it is also signing a covenant; R\$ 8 million [€ 2,2 million] for the building of a solid waste treatment facility (Interviewee 6, Municipal Secretary of Economic Development).

In summary, the case of Itabira demonstrates the diverse corporate strategies that a company can develop. TNCs have a repertoire of actions, which they can employ when dealing with political actors. Depending on the context, one action might prove to be more efficacious than another. This is related not only to the power of the company but also to its embeddedness conditions.

6. Final remarks

Although centered on analyzing a local node of an extractive GPN, this paper has addressed some of the general arguments of the literature on international political economy related to extractive industries. Indeed, we have sketched specific adaptations to the GPN framework (material embeddedness and value destruction) and made explicit the need to theorize corporate strategy in depth.

We make a case for introducing the idea of corporate strategy in GPNs as a device to discuss the specific conditions under which an actor may take advantage of various situations in order to manage its own embeddedness. Although a network-based relational approach is appropriate, it must be recognized that agency keeps driving change in relationships and in the environmental sphere as a whole. In this case,

the exercise of specific corporate strategies was central to the selective disembeddedness Vale was able to achieve.

In Itabira, Vale has been skillful in mobilizing ‘fears’ and prospects related to development, strategically guiding processes of value capture and enhancement among actors. Also, Vale resorts to specific arrangements in order to manage both local and state/national scales in influencing political actors. While instrumentalist power resources are mainly directed towards state and federal levels, material and ideational devices converge to forge the long-term domination the company exercises in Itabira. In other words, while the company aims to exercise explicit influence on political actors on the federal and state levels, Vale abstains from doing so on the local level. As such, political (in)action by the company is driven towards ensuring that its conditions for value capture remain the same, by expanding access to reserves and other natural resources. Indeed, the company has been able to partially disembed itself by converting strategies into increased corporate power, both by acting explicitly on the political scene at the federal and state level, as well as holding back from doing so in Itabira.

Although our research findings regarding the weak levels of contestation by workers and social movements vis-à-vis Vale and the mining industry also point to relative powerlessness, it is premature to assume that Itabira is a comprehensively dominated local setting. Indeed, workers and social movements have challenged Vale’s corporate power from time to time. Legal and administrative frameworks have also been used by social and political actors as resources in struggles for embedding Vale on a territorial basis. Nevertheless, actors’ relationships are complex and depend on concrete negotiations related to resource-driven investments and divestments.

While this paper was reviewed, the Dam I, which was part of Vale’s Córrego do Feijão mine (Paraopeba Complex), collapsed in Brumadinho, another mining town 150 km from Itabira. This was the second largest mining disaster in terms of environmental damage (after the Samarco’s Fundão Dam, in 2015) and the most serious in terms of loss of lives, accounting for more than 250 casualties (CEDEC-MG, 2019). In reply to the reviewers’ suggestion, we attempt in this final section to evaluate to what extent our study in Itabira might help understanding what has happened in Brumadinho.

The origins of Brumadinho are related to the gold rush that took place in Brazil between the 17th and 18th centuries. At that time, the village that one day would become Brumadinho was a supply center for gold prospectors who moved around the province of Minas Gerais. The first iron ore reserves were found at the beginning of the 20th century and exploited ever since. Therefore, the town had a strong and long relationship with mining activities, which would give to mining corporations a relative high ideational power in town.

Due to Brumadinho’s rich ore reserves, various mining companies opened mines there. The intense presence of mining activities, also gave to these companies a significant material power. In 2017, royalties from mining were responsible for 12% of local government budget (SICONFI, 2018) and the mining sector employed 21% of the town’s workforce (MTE, 2018).

Among mining corporations, Vale was the one with strongest influence. Its presence in the town was built mainly through acquisitions. The Córrego do Feijão Mine was opened in 1923 by Companhia Brasileira de Mineração e Metalurgia (later Ferteco) which was bought by Vale in 2000. Similarly, the Jangada Mine was developed by Itaminas Comércio de Minérios S.A in 1974; the mine was transferred to Minerações Brasileiras Reunidas S.A. (MBR) in 2001, which was bought by Vale in 2007 (Milanez et al., 2019). In 2018, Vale was responsible for 56% of all mining operations in Brumadinho (ANM, 2019).

Despite its economic power, Vale did not seem to explicitly adopt instrumentalist strategies to influence local government. In the 2012 municipal elections, neither the first nor the second most voted candidates for Brumadinho mayor had their campaigns directly funded by mining companies. Nevertheless, the local branches of their parties, Brazilian Social Democracy Party (PSDB) and the Green Party (PV) had,

respectively, 11% and 40% of their election funds financed by mining corporations. Vale did not contribute to any of these funds (Tribunal Superior Eleitoral, 2012).

Therefore, as far as institutional strategies at the local level are concerned Vale seem to follow the same pattern in Itabira and Brumadinho, relying more on its economic and ideational power than on instrumental approaches. Different from Itabira, though, preliminary research indicates a small, but active, contestation movement in the neighborhood of the Paraopeba complex. The Movement for the Water and Ranges of Casa Branca (MASCBA) has been questioning Vale’s operation in Brumadinho since 2011 in various institutional and non-institutional spheres (Campos, 2015). Among their main concerns was the threat to rural communities’ water supply. Nevertheless, social contestation had not spread to the urban area of Brumadinho until the disaster in 2019.

To some extent, it could be argued that Vale focused its institutional tactics to state and federal governments because it was at that level that the most crucial decisions were made. For example, a few months after the failure of the Fundão Dam, the Minas Gerais governor, Fernando Pimentel (Workers’ Party), presented a bill that made the state legislation on environmental licensing considerably more lenient. In January 2016, this bill passed without facing substantial opposition by state legislators. Among other revisions, it made possible for high hazard projects to obtain environmental licenses in only one stage, instead of the three or two that were customary until then. It also created the Superintendence for Priority Projects (SUPPRI), a special sphere of decision, directly linked to the governor’s office. Projects submitted to SUPPRI had privileged treatment and were not evaluated by the regular staff of the state environmental agency. According to Bertoni (2019), between 2016 and 2018, more than 25% of the projects evaluated by SUPPRI were submitted by Vale, including the expansion of the Córrego do Feijão mine. These modifications in the state environmental legislation were critical in obtaining the environmental license to expand the activities of the Córrego do Feijão Mine without a rigorous analysis (Milanez et al., 2019).

In summary, if we look at the reality in Itabira and Brumadinho – and, to some extent in Mariana (Santos and Milanez, 2017) – it seems that mining corporations have been able to change their embeddedness conditions in Minas Gerais state in such a way that they have obtained a disproportional amount of power. Consequently, taking into account the wavering exercise of institutional power, labor and social movements there has been no effective system of checks and balances to restrict corporate actions or counterpoise firms’ decisions. This level of power proved to be harmful to communities and also to threaten the viability of the mining corporations themselves.

Disclaimer

I declare that this manuscript is original and is not under consideration for publication elsewhere. I have read the journal’s aims and scope and consider that the submission falls within these boundaries. I confirm that I have read these author guidelines and that the manuscript is prepared accordingly. I have no conflict of interest to declare.

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