Steel city has fallen: Analyzing and Understanding the factors and determinants leading to the financial distress of EPE Sider Al Hadjar

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Summary: This paper is an attempt to discern the different factors and determinants leading to the financial distress of EPE Sider Al Hadjar, through a general evaluation of the internal and external environment of the corporation. Our research tries to take an eclectic and descriptive analysis of how and why the company's finance is altered by specific events and circumstances. the analyses suggests a misallocation of resource within a very unfavorable conjuncture, exacerbated by operational loses and deficiencies. we also describe the behavioral response of the company through its financing and investment decision and through its financial needs; and found that it went against rational norms of decision making, embodied by the lack of awareness in matters of losses and expectations.

Keywords: financial distress; factors; determinants; behavior; state-owned.
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I-Introduction:

It is by the characteristics of the environment that a corporation of any kind is ultimately driven and it's the interaction with such specific environment that a behavior is build upon as a response to the external pressure. Modern finance set the nature of corporations by the profit-seeking path materialized by the decision making process, even if many legitimate voices went to introduce other factors influencing decision making, finance will always render the general health of the company. Different factors and determinants can either lead to utter success or to financial distress.

the steel sector is very rich in factors and is characterized by many impulses and fluctuation in matter of productivity and profitability, which makes it a very interesting sector to study and to unravel its environmental and financial subtleties that shape how corporations react to different unfavorable circumstances; and EPE Sider Al Hadjar is a good representative of the sector by its size, history and goals. This company knew in the last fifteen years a severe case of financial distress and is battling through a large reform to settle and solve a situation where the profitability is bogged down. We set the problematic as it follows:

- What are the different factors and determinants that exacerbate the financial distress of EPE Sider Al Hadjar, and what are the irrational manifestations of corporate decision-making behavior in this context?

We will see that Sider Al Hadjar is influenced by political, economical, financial, sectoral, operational, climatic and behavioral factors. First, we will try to set the stage and describe the steel industry and the characteristics of the steel sector that encompasses the factors influencing Sider Al Hadjar; we will have to widen our scope to include in our description global fluctuation and political influence due to the nature of EPE SAH, which is far from an independent entity. We will describe the behavior of the EPE SAH through the nature of its financing and through its investment decision. Finally we will describe the treasury to have a clear view of how EPE SAH is holding financially and what can be done for a brighter future.

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The is an attempt to break a very generalized view of systematical mechanic-like decision making processes by including the human factor. A study case, rather than a statistical model, enables us to deepen our investigation on the effect of different sources of pressure on the financial distress of the steel champion. We don't have the presumption to precisely identify any butterfly effect, but we try to gather the different interactions in a coherent manner without neglecting any direct cause of deviation.

II- the steel industry as an environment:

II.1. Understanding the steel industry:

The steel industry has been commonly referred to as the backbone of any economy or as the bedrock of technological progress throughout history. Steel, because of its cost efficiency, its durability for long term use, and for its recyclability, is the second most commonly produced commodity after oil, it's the one material that has set the age of convenience that we live in. as Ocheri and al.[1] points out, "No serious program of industrialization can be contemplated without a strong steel base, at least a steel base that would grow with the visualized scope of general industrialization over a set period". The iron and steel industry applies high employment and enhances exporting earnings and tax revenues; the *world steel association*[2] explains that "For every two jobs in the steel sector, 13 more jobs are supported throughout its global supply chain. In 2017, it supported an additional 49 million jobs around the world".

The issue with this type of industry is that it's highly energy consuming, in gas, water and electricity, and gluttonous on raw material: "The steel industry is very dependent on the use of fossil fuels. At the global level, energy flows within the steel industry are rather complex"[3]; that implies a strict cost management; and is one of the most polluting industries: it's a major source of wastes, "of greenhouse gas (GHG) emissions and air pollution"[3], which require massive investments and modernizations.

Steel comes in all shapes and sizes, there is more than 3500 types of steel that can be spread over different categories, but its composition exclusively depends on iron ore which makes the iron ore quality, quantity and affordability the most important variables for steel production. Even if iron ore is considered as a low value commodities, it is with such impact that it could determine the financial performance of any producer; for Gonzalez and Kaminski:

"Steel prices depend on several variables…The technology choice for steelmaking is a key determinant of the price, the raw material and energy costs of steel production are strongly interrelated, and closely linked with other technological variables and firm's know-how. For instance, availability of iron ores of appropriate quality has a significant impact on energy and material efficiencies," which will have an important impact range on profitability."[3]

Transportation is also a significant part of their cost. If the transportation is not efficient and cost effective, then deposit is likely to be not economic. If for example; a smelter has an adjacent seaport, it might be possible to eliminate transport congestion with sea transport no matter where the ore comes from.

II.2.The global steel market:

The steel market had gone through an effervescency period because of the Chinese growth boom, with its surging raw material demand. As for example; the steel demand for the world (except China, Japan, EU, US, USSR) In 2000 was around 800 million metric ton, in 2017 the demand doubled reaching 1600 metric ton when china alone reached 1100 million metric ton (2015) , which led to the many mutations and anomalies[4].

The world steel report has reported two determining factors for our study: the deterioration of quality of the iron ore became a growing concern, and the high exposure to disruptions such as adverse weather condition[4]. One of the key goals of world steel association is that "the steel industry should be free of government involvement which distorts the market and prevent fair competition", yet many companies are SEO's, state owned organizations.

Leading indicators shows that the last few years had noticeable downturn albeit with some signs of stabilization. WSA saw "that in 2019 and 2020 global steel demand was expected to continue to grow, but growth rates would moderate in tandem with a slowing global economy. No significant rebound is forecast before the second half of 2020". In Europe for example and according to Eurofer[5]"Apparent steel consumption fell by 3.1% year-on-year in the third quarter of 2019; the ongoing negative trend in steel demand is the result of the continued slump led by a weakened exports and investment". Eurofer mentions that Major risk factors are escalating, trade wars for example, between the US and several of its main trading partners. The geopolitics implication has great consequence, trade action and geostrategic conflict led for example to production dumping by china, which made the EU to raise their tax to 265%[6]

Accentured's 2030 forecast suggest that "any assumption that that global steel consumption will significantly increase in the future appears flawed given potentially disruptive factors" including: Circular economy driven by economics and environmental concerns, Digital technologies enabling reduced intensity of products, Materials science driving light weighting and substitution for steel. In addition, slower growth will impact the relative supply demand balance of raw materials which in turn will influence choices of technologies[7]

In the same time, the need of modernization and innovation in technologies is a must to reach the optimum configuration for the cost goals and ecological imperatives, which adds financial constrains to corporations.

for Silva and de Carvalho the main reason for the slowdown of the recent years could be explained by the excess capacity which reached record levels, causing the fall of demand and prices, and the increase of trade actions and safeguard tariffs. But most importantly, a deterioration of the financial performance.:

"Excess capacity in the steel industry likely plays an important role in the industry's profitability. Innovation and productivity issues are also important. Productivity is one of many factors that determine profits. Recent research suggests that productivity developments in the steel sector have been weak, which may reflect high exit barriers that prevent a reallocation of resources to the most productive firms and hinder the growth prospects of more innovative firms"[8]

The excess could also be explained through a behavioral perspective. a herding effect could have been the main factor: "In the previous cyclical downturns, steel producers had tried to maintain operations at a level of low average costs in hopes of finding new demand at lower prices on domestic and foreign markets. But, because too many producers pursued these incentives"[8], excess appeared. Steel companies have been under a constant fire that puts them in a difficult position; companies are under a global pressure, as they state:

"The aggregated free cash-flows for the global steel industry have been negative or barely positive in recent years, indicating that the steel industry is in need of external funds to cover any investment or even to maintain operational activities. As a consequence, debt ratios are rising and, for instance, the ratio of debt to EBITDA is at such high levels that bring into question the solvency of many companies. Moreover, markets are sending a clear signal that investment opportunities are scarce, if existent at all."[8]

Many steel companies went bankrupt due to such circumstances**;** Silva & de Carvalho explain that excess affects profitability through costs and prices:

"in periods of low capacity utilization, economies of scale are not fully exploited and thus costs are higher and profits lower. Prices also tend to be lower during periods of low capacity utilization, thereby directly impacting profits. At the global level, the effects of excess capacity are transmitted through trade; excess capacity can lead to export surges, leading to price declines and market share losses."[8]

However, that analysis also found that profitability is driven by a vast and heterogeneous group of factors, from global trends to firm-level behavior and characteristics, especially when describing state-owned enterprises. We need to keep in mind that neoclassical finance has passed the torch to new and less rigid theories that finally take into account the "real" behavior of decision makers in financial/organizational issues, generally imbibed with unconscious irrationality. A dynamic view could take into consideration, moral hazard, cognitive biases, nationalism, and dedication to specific goals, social justice, culture, and so on, which we will have to put as main parts in our paper .Steel industry is a very troubled sea , being "a cyclical industry and highly volatile , steelmakers' share prices react more to macroeconomic downturns and upturns , the evolution of the financial performance of steelmaking companies over the past 21 years has been *very* irregular"[8] .through this fact and through all the previous description put on the table any rational company executive or decision maker is then obligated to develop an environmental awareness and a responsibility toward the decision making process, that is, to a cognitive and effective level.

II.3. The Algerian economy and steel:

Eurofer noticed that "Exports of finished products to Algeria rose by 43% year-on-year over the first eleven months of 2019, it is worth noting that exports to Algeria had fallen for four consecutive years up to 2018"[5] :

As we can see in table (1), Algeria has very limited steel exportation, yet steel product importation are consequent but decrease by 2015, the steel use is constant on high levels over the years, as a proof, Algeria went from the 66TH place to the 45th place over only one year[9] (2017 to 2018) in crude steel production ranking of the world steel association (world steel association, 2019). The importation of semi-finished products reached a peak on 2015 then started to decrease to half the amount. The country is pushing gears to develop the economy by its own capabilities, Algeria limited the volume of the imports steel products (concrete reinforcing bars to 2 million Tons in 2016 whereas it was 5 Million Tons in 2015; and starting 2018, to no longer grant an import authorization for this product), and to begin the start-up of several concrete rod production units. Algeria was still of one of the most important importers from the EU, as the Deloitte CIS Research Centre reports that: "The only cloud on the horizon could be lower demand for wire rods in Algeria. In 2018, the Algerian government may attempt to restrict EU imports in a move to protect the local steel industry"[10] , Algeria focuses on an a large resource-allocation and investment strategy through the local industry, But as we said before , this strategy might be seriously thwarted by global overcapacity which has prompted some producer countries to adopt dumping strategies, thus flooding the markets with products, at low prices and often of lower quality; which had a direct effect on the share of Arab steel companies in their own markets[6]

Algeria as any other developing country with an economic transition needs to consolidate and develop the industrial steel fabric throughout its territory. put differently, Algeria needs to depend on performing corporations to set the right pace toward progression and resource allocation in a capital intensive industry ; and if we consider finance as the thermometer of their health ; they need to be efficient vessels in a way that assure their own subsistence and sustainability without hindering the financial flows .

The economic pressure, energy consumption issues, modernizations, the variability of prices, climate catastrophes, downgrade of iron quality and global market volatility are direct factors affecting the financial health of the Algerian steel industry champion: EPE Sider Al Hadjar

III- General diagnosis of EPE Sider al Hadjar:

III.1.Brief outlook on Sider al Hadjar:

SAH was the unique national entity representing the steel industry. Notorious since its creation, The El Hadjar steel complex is a steel complex located in the commune of El Hadjar in the wilaya of Annaba. The flagship of the Algerian steel industry of the 1970s.

The National Steel Company was created on September 3, 1964, responsible for the construction of the El Hadjar Steel Complex, 1969. The mines were nationalized in 1966 following Algeria's independence from France; the steelworks and hot rolling mill of complex are inaugurated in 1972. In 1983, the Ferphos Company was created and, in 1990, it became autonomous from the government through a privatization project .from October 2001 to 2013, the Annaba complex, including both the Ouenza mine and the Boukhadra mine, the two principal iron ore mines, have been owned by ArcelorMittal (70%) and Ferphos (30%): .after 2013 the complex was "re-nationalized" as Sider Al Hadjar.

SAH is the only national producer offering and developing a full range of steel products and services; the al Hadjar steel complex is structured by different parts, mainly by the workshop with the objective of producing steel and processing it, the steel complex extends over more than 800 Ha. It is also to be noted that the activities are extremely extensive. SAH has its own maritime facilities connected to the rail network for the transportation of raw materials and the shipment of finished products.[11]

III.2.EPE Sider Al Hadjar as a politically connected state-owned firm:

Sider al Hadjar , as such as many other companies around the world (ex : Singapore Airlines, the Korean steelmaker POSCO, and the Brazilian regional jet manufacturer EMRAER) is a political connected firm currently owned and managed by the holding IMETAL (With a share capital of 65,386 MDA, and already owning 21 subsidiaries) after a failed privatization strategy, and born from the reorganization of the commercial public sector within the framework of a recent resolution implemented by the State participation council in 2014. The EPE SAH complex was engaged in a similar strategy as the cited companies: state-ownership and monopoly.

When it was a 'natural' monopolist, EPE SAH could negotiate prices, especially since steel is a good being sold as a part of inputs for further production of high-capital goods. an SEO is supposed to be more competent to evenly distribute economic surpluses. Nem Singh and Chun-fung Chen. explains that "many countries achieved economic success with a *large* SOE sector , an industrial policy focused on cultivating SOEs through monopoly and then scaling up the process of production of strategic industries."[12] And as a state owned enterprise, profits can be easily extracted from EPE SAH without going through appropriate channels of financial reporting; SOEs are also typically given special privileges (including both rights and resources) ; and it is supposedly to be more effective than private firms in markets where information is difficult to transmit, and quality is hard to measure. EPE SAH is centralized as any top governed entities since it is situated in a core strategic industry (which is then often referred to as central SOE), located at the commanding heights of the economy, this statue granted EPE SAH with a large political network; the government is assigned responsibilities and has economic interests that stretch beyond those of any other participants.

As the two mines are directly connected to EPE SAH, we suppose that the state company has more discretion in extracting and managing mineral rents without major adjustments. Mines must benefice a special treatment by reason that such resources are not created and their extraction will render them unavailable to later generations, reducing social and economic opportunities[13] .This is why, in general many mineral resources are publicly owned in most countries, which mean that countries with larger mineral resources (like Algeria) tend to have larger SOE sectors; but Property-rights, which are the rights over the enjoyment and disposal of assets, are attenuated because a market for corporate control is absent. Consequently, there is a lack of capital market discipline to which SEO's executives can be subjected to.

In reality an SEO can hide a very different view, Zeckhauser and Horn points out that:
"The more an SOE is insulated from competitive pressures, and the less able citizens are to direct the manner in which it operates, the less confident we can be that it is an appropriate organizational form or that it is performing effectively."[14]

The actual state of EPE SAH is the result of a matter of economic autonomy strategy that goes against the previous resolutions of privatization, largely because of the decaying stat of EPE SAH and the partnership with Arcelormittal, the world's leading steel and mining company. The partnership was initially set to attract the willingness of foreign capital in, developing technological know-how, transferring knowledge and training the local workforce to eventually transfer the management of strategic industries into domestic hands, a strategy adopted by many economies, but led instead to very "edgy" situation. The stat of SAH kept degrading until emergency measures was taken; a concentration/centralization of ownership has been initiated between 2013 and 2016. First, in 2014 the structure was reorganized to 49%/51% between AM and for IMETTAL, in exchange "the Government of Algeria offered various incentives, including low-cost local bank financing. Future investment plans will be funded by equity contributions from shareholders and bank financing"[15]. A development plan was approved by the public authorities at the end of 2013 with a view to redressing the situation of the Sider Al Hadjar company ,considered as abandoned during the previous decade in term of investment by the foreign partner. In 2016 AM's was completely diluted and SAH became a complete SEO under the control of IMETAL for nil cash consideration, But "ArcelorMittal will continue its technical support for the implementation of the El Hadjar Complex development plan."[15]

Different signs of jamming mechanisms can be noticed, for example: as a basic need for future investment, and although both the Ouenza and Boukhadra mines have been producing iron ore for several decades, no iron ore reserves are reported for these mines and no Estimated mine life from iron ore reserves is available in 2014-2015 due to "material deficiencies in the drilling data recording and archiving process". Algeria is the only country through AM reports with no available drilling data. such basic data are important at the extent in which investments depends on to plan efficiently future cash flows and projects termination. another proof that the partnership failed is the retardation of the modernization plan that rise productivity involving more than 767 million dollars added to the other budgets already spent , that should have been finished on 2017 but will only be operational in 2022 ,

The re-centralization and concentration of ownership is a sign of moral hazard and inner disturbances, a classical behavior for corporations under distress; it's a natural reaction to agency problems, following Jensen and Meckling logic; to prevent any opportunistic behavior from the partners and any rent seeking behavior which could be the principal issue even after the reorganization. The partnership was in the center of a two decade long of controversy, considerably covered by the local media, crippling EPE SAH's reputation.

According to the Ministry of Industry and Mines, the objective of the recent measures and reforms decided are to ensure the recovery of the situation of the complex in order to guarantee the sustainability of its activity, the safeguarding of jobs, ensure an increase in its competitiveness and above all the safeguard of the colossal investments subscribed by the Public Treasury. the statements resumes the actual goals of SAH , and denounces in the same time the problems that we will have to describe in our article .we need first to point out that we can compare the state of SAH with the nationalization of British steel in the matter of conflicting goals : For instance, numerous motivations were evident. (Transfer of national power to the public sector, improving labor's bargaining power; improve the productivity of the steel industry and its exports.)[14], this "confusion of goals" has an important impact on performance.

We already pointed out that Sider al Hadjar is under the jurisdiction and the monitoring of the government and for several strategic reasons and a considerable part of the expenditures are spent on the subsistence of EPE SAH. EPE SAH is part of the global strategic scheme of the country that must operate on global scale, but there is no such development, it remains on the pattern of the internalization strategy , clients are mostly local state-owned companies.

Through this strategy , SAH as a SEO could reduce the exposition to environmental danger already cited by providing continuous funding , the article of Nem Singh and Chun-fung has shed light on many similar characteristics seen in SAH : Through the restructuration , the government wants to ensure sufficient control over a strategic industry and natural resources, , it was supposedly the best option to develop winning sectors given “the lack of capital, unwillingness of foreign firms to invest, and the relative backwardness of domestic capitalists.” They note that “The states can opt to create a centralized agency to monitor and regulate the company. It is undertaken by a public holding company or a new regulatory agency to centralize information gathering and aid decision-making processes”, in our case it is been assumed by IMETAL under the jurisdiction of The State Participations Council (CPE) relating to the organization, management and privatization of public economic enterprises. Through the CPE, the State exercises its role of owner of the assets entrusted to the Participating Management Companies. This can partially resolve information asymmetry problems. In a majority shareholder structure, the state through its holding company exercises control over asset management and keeps decision-making powers in the hands of governments

The implication of an interventionist government such as Algeria could have many benefits, first, basing on the resource dependence theory mentioned by Wai-Yan and Chee-Wooi[16], the government intervention helps to reduces uncertainties and risks, it can ensure essential supplies when there excessive risk granting a stronger resource base, and leading to favorable bank landings as mentioned by Faccio and al.[17] It’s very important to notice that in the Algerian case, banks doesn’t lend expecting to receive direct economic support, but because they are actually coerced to do so. The financing entities are principally public banks that are under government control. the article emphasize the fact the politically connected firms are more prone to bailout, which is the case for SAH which was already bailed out during the global steel industry crisis, the connection also facilitate different procedures and policies, mitigate cost of debts , lower tax rates with strong market power[18],which reduces transaction costs. in theory, this point could make EPE SAH a strong organization**,** yet the situation is not as expected. Furthermore, if it’s obvious that such type of organization could be a victim of internal conflicting socio-economic goals, distorted incentives or a misallocation of resources; the financial health of SAH is under a severe financial distress.

III.3. Financial distress through financial results and goal comparison:

EPE SAH has reached financial distress, a zone of virtual financial downfall, by the fact that the government can be considered as the ultimate safety net for SAH and that without it, the financial constraint would drag down the complex to the pit. In 2018, SAH had a net profit of -4689 MDA, a global return of -10,3%. in one hand, It should be noted that the result for the 2018 financial year (-4.689 MDA) is better than that adopted in the action plan approved by the State Participations Council (-6.672 MDA), which means that bad result were very much expected, in the other hand, the initial EBITDA goal was 810 MDA but the real result was (-6 277) MDA. in august 2019, the net profit was (-7797) MDA, During the first eight months of the financial year, the EPE SAH achieved an added value of 309 Million DA compared to a target goal of 3 988 Million DA. With a heavy leverage, SAH still owes 6,8BDA for local supplier and another supplier debt of 12 Billion DA left by Arcelormittal as the poison of the chalice after they gave up the commands in 2016, the supplier debt rose to 15,7 billion in 2019 (after decreasing from 2018). The 2018 result is the best result since 2007, which means that SAH had a negative net profit for 11 years, any other corporation would have been bankrupt by the 4 first years, unless it is an SEO.

SAH is not a unique case, many steel industries are going through a crisis, for example “United-state steel corporation” expects “fourth quarter 2019 adjusted diluted loss per share to be approximately ($1.15)”[19] even British Steel has entered insolvency after the government refused to provide it with a £30 million loan[20]. According to the “FRISK STEEL INDEX”, the steel industry knows a 256% risk evolution since the great recession of 2007; approximately 47% of these steel companies are in the FRISK score red zone with high bankruptcy risk[21]. The downgrade is not new, radetzki[22] describes how managerial inexperience, costly nationalizations and operational inefficiency characterized the SEO's of the global steel industry in the eighties.

we don't consider this examples as scapegoats or a general trend that reflect a normal behavior of steel corporations, or a "normal" state due to the environment, rather, we imply that any small step concerning growth or diversification in this type of environment could be fatal to any none-aware corporation. the steel industry is as important as uncertain, an anecdote is brought by B.Gold[23] with a Japanese steel executive in explanation of his company's decision to expand despite great domestic and international uncertainties: "It all comes down to Hamlet's question: to be or not to be?"

III.4. The irrationality of a giant:

We argue that the upper echelon executives (corporative or governmental) of EPE SAH are under the influence of three behavioral disturbances that added weight to the financial distress and to external factors: the first is what we will refer to as "responsibility dissociation" which is the distancing and detachment from any effort to assume the probabilities of the different negative outcomes; and the riskiness of financing and investing decisions. The second is what we call "none global awareness" which is an environmental myopia regarding the different changes from different scales (field: economical, political; scale: global, local) that affect the financial performance of EPE SAH, and the absence of an effective outside view. And finally, escalation of commitment, which is to maintain investment (allocation of resources) to losing courses of actions (Sleesman anevd al.[24] en in negative prospects, it also refers to the persistence of the original strategies overtime due to intensive involvement. These three behavioral anomalies are correlated to each other; different effects of responsibility distancing can aggravate the other two behavioral disturbances.

A large literature covers the behavior of executives concerning decisions of investment, financing , or structural settings , the decision covers a direct choice under a specific circumstance that could involves full/partial responsibility , without any devaluation of the effect of the environment (eg : external risks) , and yet , few have shed light on how this responsibility could be exacerbated . In our case, this exacerbation is due to the soft-budget effect.

Soft budget theory is born through the efforts of Janos Kornai to explain observed patterns of state-owned enterprises' performance and describe the vertical relationship of authority between the state and the firm: ''the softening of the budget constraint appears when the strict relationship between expenditure and earnings has been relaxed, because excess expenditures over earnings will be paid by some other institution, typically by the state. The argument is that being part of the government, SOEs are able to secure additional finances if they make losses and get rescued with public money if they are threatened with bankruptcy, In this way, SOEs can act as if the limits to their budgets are malleable, or soft"[13]

This theory describe multiple phenomenons in socialist firms, for example, the fact that SEO are bailed out persistently by state agencies when revenues do not cover costs. As kornai specifies: "state ownership provides the government with much stronger inducements to soften the budget constraint" [25], and SAH is no difference. Kornai believes that the study of corporate behavior must be seen through the prism of financial constraints, as a way to explain decision making, we also believe it has many similarities with natural necessity that drives any human behavior.

kornai qualifies SBC as a phenomenon that "denotes a characteristic configuration of symptoms generated by particular circumstances" chained to " the expectation of the decision maker as to whether the firm will receive help in time of trouble or not "[26]. Indeed this "syndrome" is a matter of expectations, moreover, of prospection. We will show that preventive prospection is affected through the expectation of the government's safety net, since "The softness of the budget constraint makes the price and cost responsiveness of a socialist state-owned enterprise much weaker than that of a private firm in a market economy", we consider that such weakness is related to prospection weaknesses. The "decision maker expects such external financial assistance with high probability and this probability is built into his behavior". Which lead to riskier choices and less responsibility toward outcomes.

Kornai argue that the expectation will develop only if such bail-outs recur with a certain frequency so that managers learn to depend on them. We argue that if bailouts are a common social phenomenon, executive's and politician's individual expectation of bailout frequency as a condition can be discarded , it is well known that Algeria has a old bad habit of bailing out sick firms since decades ; a loose budget could lead to:

- Exacerbated monitoring problem and limited performance.
- Poor management performance will not be automatically reflected in a bigger cost of capital. Unsatisfactory performance by SOEs may will go undetected
- SOEs lack strong measures of financial success, the pressure for profits is attenuated; it is difficult to judge the salience of any change in the cash surplus generated by the enterprise

SBC exacerbate the cost and loss incentives and drag down any punishment effect; Majumdar cites B.Jalan who introduces major SBC effects[27]:

- Losses do not matter, and the efficient use of resources is of no consequence, for nothing depends on it."
- "The price responsiveness of the enterprise declines and the capacity to adjust to multiple types of changes diminishes, and inhibit prospective capabilities",

Therefore, creates a none-awareness toward the external environment. It "also becomes unresponsive to technological changes and to unfavorable external conditions.''

The SBC syndrome is highly correlated the responsibility dissociation, which is worsen by another variable: the size of the firm. we argue that the bigger the firm, the more dissociation there is between the patrimony of the firm and the owners, then the less painful losses will be , in the same time , they will be more inclined to continue the activity even in unfavorable circumstances .

If losses don't matter, productivity does. It is such an importance that an escalation of commitment toward productivity emerged. First, escalation of commitment is born due the sunk cost effect: sunk cost represent the "account" of the recourses (time, money, effort) already invested which will be considered as an "emotional loss" if the activity stops even in successive losing results. Sunk cost entraps the agent to keep the activity going even when the activity undergoes a downgrade[28]. EPE SAH has already invested massively in production enhancing project and modernization, creating a sunk cost that unbalances any incentives to restructuration or creative destruction. Social cost and social goals, such as labor is another reason, SAH employees more than 5000 employee, project termination could lead to a social crisis. In addition, it has recruited 1914 other employees to raise the level of productivity.

EPE SAH takes productivity as the main goal and keeps investing when the company has registered a severe financial downfall. SAH is in such a commitment toward productivity that most of its goals are expressed by metric tons produced and is observed by the redundancy toward escalation of expenses through the different reports, even if the goals are rarely reached. It is in such a commitment that the company risked another partnership; they signed another contract to another facility with the Dubai based group under the name of Emarat Dzayer group. This leads another massive injection of cash for the initial facility plus the set up of other projects due to the rise of need of water and energy that will lead to other investments. By the time the contract was signed another budget of 48 BDA was granted to pursue that type of investment. Other factors could have contributed to the commitment: the reputation. SAH was known by its contributions in the steel industry all over the Algerian territory. The Self-presentation theory[24] suggest that when Decision makers are under the spotlights they are more likely to escalate in order to manage the impressions others have of them and "save face". The continuous negative net profit makes it likely to perceive that actual situation as a normal trend, which increase the chance to omit its importance and raises escalation of commitment.

We must clarify that the literature attributes escalation of commitment to high responsibility implication, which is against our first premises. Once again, SBC could explain such deviation from the norms when political issues are taken into account.

EPE SAH is going to invest even more in the few coming years with more than 100 projects and 7 main projects, but as Silva and de Carvalho summarizes:

“Governments are incentivising new investments in the steel sector, by supporting lending for projects or through various measures. Influencing commercial decisions in the steel sector can lead to inappropriate investment decisions and increase the challenges facing the global steel sector, particularly when they contradict market signals.” [8]

In this context” any additional capacity expansions supported by governments should be halted or, at least, fully scrutinized new capacity additions can further deteriorate the already challenging global excess capacity situation, we are able to realize that growth may not be desirable in all case.”

Investing massively and blindly without being aware of the global trend could affect the local performance of EPE SAH; The three effects have created an inertia that prevent from aiming to new financial goals, the reform may not achieve a deep restructuration , preferring instead the *statu-quo*, and using scapegoating as an alibi. Failing to reach global awareness through adequate prospection will undoubtedly lead to a late response to any crisis, by creating rigidity toward threats and by lowering the power of anticipation. The presence of the government could create an illusion of invulnerability, the presence of escalation of commitment suggests a lack of cognition of the decision makers and the presence of different biases that generally emerges in crisis that inhibit a rapid, prompt and decisive response, suggesting a limited initiative to search and construct a long term plan.[29]

The environmental myopia has several consequences on EPE SAH, it suffered from a major flood that occurred in 2019; this flood had a disastrous consequence on productivity for 2019 which led to a production shutdown for more than 20 days. Despite the fact that Annaba is known for such phenomenon (Annaba has been flooded many times through the last 30 years: in 1973, 1976 , 1979 , 1985 , 1996[30] ,2005 and 2009) no response whatsoever was put to prevent such catastrophe . Furthermore, these climate events could increase scapegoating.

An enhanced prospection would also have helped the anticipation of the global market downward, that had direct consequences on the financial performance: SAH had multiple operational problems already reported in the introduction:

- iron ore supply problems due to the inefficiencies of transport perturbation/cessation of ore supplying (the two mine are respectively 150 and 180 KM from EPE SAH and linked to the factory by a railway line) led to three production shutdown for 36 days in 2019
- the none capacity of the two mines to cope with the activity of SAH, which led to massive iron ore importation in a difficult geopolitical situation
- degradation of the quality of the iron ore and the coke, which led to overconsumption and cost exacerbation
- a decline of demand and prices that curbed the activity of the plants

in 2018 , those factor led to a low production of the exercise 48313 MDA (26593 in 2019) that doesn’t cover enough consummations and external services of 47608 MDA (26284 in 2019) to creates a substantial margin , which led to a low added value of 705 MDA (309) that does not even cover the cost of labor of 6500 MDA (5120) ; the new employment could worsen the situation at some extent from a different view , even if SAH knew about the global downturn , it is in such commitment to productivity that it would have made no difference , SBC exacerbate finance through operational , but the politic keeps up the engagement to productivity.

SAH had to use importation to keep up production and tries to open to the outside markets through exportation, but quota system has been established by many countries, including Algeria, shaping how the trade is done, the global trends seriously affect demand, prices, quality and cost of production.

The rigidity could also be seen in the technology used, EPE SAH use exclusively OBC (oxygen blown conversion). might be more or less flexible to accommodate shocks depending on the steelmaking technology they employ. The EAF surpasses the BOF by the fact that it provides companies with a greater degree of flexibility in setting their production quantity and adjusts it, which in turn allows them to protect profitability and to better cope with volatile steel demand and negative supply shocks, when the BOF plant might carry on with losses because they have a larger share of costs. [8]

As we already mentioned, SEOs have a problem with reporting since they don't systemically go through appropriate channels of financial reporting, that SOE managers are likely to be less constrained by budgetary controls[12]. Polak and Ejaz, Notes that "many emerging economies are characterized by banks with incomplete or delayed information reporting capabilities and poor transparency into payment execution and settlement"[31]. Due to bureaucratic issues, the slow signing of the agreement with the national investment fund (NIF) had a negative impact on the main plan the development from the beginning of 2019. This external deficiency could be connected to the same internal deficiency. a feeble reporting process affected by environment myopia or responsibility dissociation can reduce operating efficiency significantly through the alteration of the internal control. The alteration could be a result of defectuous use or exploitation of financial statements or financial indicators to forecast sales, expenses and the availability of resources (raw material, financing, labor...) Leading to over/under-forecasting. Outsourcing raw material could be due to over-forecasting of available iron ore. Underestimating unit cost or Overestimating sales will directly affect inventory management[32].

This type of suboptimal decision, or any factor cited, could affect negatively the "Treasury Efficiency" which is defined as "the ability to achieve maximum output with given amount of funds or the ability to use the funds of the company in a way that it can create the maximum value".[31]

IV- How deep is the wound and how to cauterize:

IV.1.The treasury reflection:

Obviously, every firm needs positive cash flow and a healthy treasury to stay in business, except an abnormal entity. The treasury is a reflection of the management as a whole, it can be broadened to take in more operational decisions; management includes those for investment management, financial management and management of financial risk coverage crippling the treasury. For Phillips "The one unifying consideration all organizations share, whether publicly held, privately held, government, or not-for-profit, is the concern over treasury management"[33]. executives need to bear in mind that the treasury is not a simple drop out, but a key to understand what narrative and situation works best for the firm in an environment subject to embedded risks. Treasury reflects "the efficiency of forecasting, negotiation and establishment of relationships with financial institutions and financial risk management"[33]

During the last four years SAH has known massive in and out flows, each year had a specific cash flow that became a burden for the coming years. 2016 had and operational out flow of 16976 MDA of operational expenses, which are not balanced since the inflows only reached 2672 MDA which represent 15% of it; the TR was already weak with only 1,3 MDA, the result is that the expenses left the TR negative. 2017 had a better performance in terms of gains with a turnover of 13227 MDA against an operational expenses that doubled to 30 449 MDA, to prevent further degradation a loan of 47 000 MDA was granted to outbalance operational flows, which raised the TR artificially . 2018 as already said, is the best years since 2007, by a productivity perspective, the gains reached 52805 MDA, but with an operating outflow of 54473 MDA. Another loan of 2 billion was granted when SAH could finally start paying the supplier with and outflow of 3245 MDA the treasury decreased to reach 10390 MDA

2019 went through the same trend, relatively high productivity but with same superior operational outflow, the inflows never did exceed the operational outflow composed of consumption and external services .The EBITDA is negative for both 2018 with -6277 MDA and 2019 with -5046 MDA , raw material consummation represented generally 90% of sales. SAH invested 3693 MDA in acquisitions (1427 MDA in august 2019) balanced with an additional loan of 5544 MDA (3531 MDA in august 2019). EPE Sider Al Hadjar has preferential relationship with debts and bank loans, which could give false interpretation of its finance in general.

SAH is in such a situation is that it needs an additional fund only to guarantee production supply of raw material that reach 12 billion DA. During the four years the operational out flow was always in the same level as the gains, the margin is always extremely low or negative which shows a constant operational inefficiency that could be explained by the absence of aprudential spirit in dealing with the budgetary expenses. The treasury suffers from a malfunction in the operating cycle and the need for working capital increases at the speed of sales. The stat of EPE SAH's treasury is a consequence of low return on assets that leads to low net profit combined to a too low turnover, too high costs and inefficient asset management.

The company therefore takes more time to reimburse the suppliers and a longer customer collection: in august 2019, with a supplier debt of 15 BDA, SAH still need to receive 1081 MDA from its local client; and to efficiently manage stock: stocks at the end of August 2019 reached a very worrying level of 90 KT equivalent to 6.5 Billion DA whose company could have received at least 4 Billion DA if it had not been poor sales. as said before, this could be explained by the mismanagement of short-term net assets resulting in a longer cash conversion cycle. There is an imbalance between inputs and outputs and an inability to self-finance growth in sales without additional loans. the negative tendency may be a direct result of an uncontrolled growth in the company's sales. The negative safety margin may result in financial difficulties, with an inability to meet needs that may arise at any given time or unable to take advantage of unexpected investment opportunities [34]. The main concern is not to avoid idle resources that do not generate returns, but to inhibit any long terms financial drainers. EPE SAH needs a change of tempo in order to afford a "strategy of investing surpluses to obtain maximum profitability and finance deficits with minimum costs"[34]. EPE SAH must reach efficient business reengineering process that reduce costs, which reduce pressure on margins, and facilitate better decision-making based on greater visibility over information, transactions and cash flows.

IV.2. Recommendations for a future healing:

SAH forecasts are quite optimistic:

- A constant debt reimbursement of 1 billion starting 2020
- An increase in supplier debt repayment reaching 20 billion in 2023
- A creation of a positive margin (profit inflows – operational outflow) starting 2020
- To Reach in 2022 the 1,1 annual tone (that was supposed to be 2,2 annual tons in 2017)

The forecasts may suffer from an excess of optimism, an optimism that came in contradiction with the recent development. 2020 knew a worldwide covid-19 pandemic which led SAH to stop activity for more than a month. Such pandemic, as the flood, is a low probability event that goes beyond any corporate forecast; it will nevertheless affect the financial health of SAH and the operational efficiency.

Did the Algerian government bought a losing deal? Did arcelormittal sell a dead weight? It would be inappropriate to answer those questions but considering the nature of an entity such EPE SAH and how it is financed, finance comes very handy to assess how the factors led to a very tense situation. Financially speaking, another concept comes in to describe the amount of deviation from break even, and the amount of cash that could have been used in other opportunities: "financial/social opportunity cost"; as it is descriptive of all probable investment outcomes in a situation where the government ability to cure any lack of liquidity becomes a sword of Damocles; and of how escalation of commitment for example had masked those opportunities of investment or disinvestment. In a broader level, the government could have invested in more “liquid assets” that would have helped in a crisis like the covid-19.

Yet, it could be useless for us to present general framed solutions to a situation involving those types of factors, we purposely used a descriptive approach in this study case rather than any normative affirmation to be as close as it is to reality. If the conceptual structure looks complex, it is a consequence of our approach, be we can at least give guidelines to achieve a better situation.

Steel is a cyclical industry of high volatility , any decision can cause a instant punishment , EPE SAH’s development needs to be in a general economic plan that takes into account the specificities of the industry and the pace of the global market , it needs to cope with trade actions and phenomenons like the “excess capacity” , EPE SAH must not only adapt itself to the external environment , but it needs to adopt a proactive behavior toward its internal environment to reduce variability and create flexible response[35].

In the same perspective, EPE SAH needs to have a clean goal setting whether it’s toward productivity or profitability, whether to secure or enhance its position. a corporate logic must be implemented through a long term value-creating strategy, and through a decision making process that integrates knowledge from new organizational parameters .

Executives must acknowledge the severity of the financial distress that has already resulted in oversized costs. The activity and the investments must be screened according to rational norms and external signals. Understanding the real logic behind investments will grant EPE SAH the capacity to avoid stranded costs, costs that arise when investment are left to rust due to a change or a mutation in technology (from BOF to EAF), in regulations (ecological concerns) or in the market[37] Imperatives must not become constraints that prevent the right governances of the budget and the right projection over time.

Finally , in terms of returns, a strict monitoring and control on expenses is required (for the iron ore and coke’s cost and quality), EPE SAH needs to consider the different stakeholders and the layers of costs and loses[35] to prevent sticky costs (costs reluctant to change despite change in inputs , because of “psychological costs which emerge during the resource-adjustment process[38] and to invest into data systems to have a direct eye on the evolution of the operational management and its efficiency. If the right circumstances and the right decision are taken, SAH can register positive cash flow, and revive the profitability, creating a sustainable auto-financing that will concretize a favorable turnaround and a future recovery[39]

V-Conclusion

As we have seen, there is a broad set of factors influencing the financial state of EPE Sider Al Hadjar, and that a positive behavioral response to such situation is not systematic, it can effectively worsen the financial state and go against the environmental signals. Different theories and facts have been used to understand and prove the relevance of the analysis of the economical, financial, sectoral and political impact on the performance and on the decision making process. The continuous negative net profit, high leverage, low operational efficiency and inappropriate investments are the main characteristics that aggravate the financial drift and collide with the unfavorable environment.

- Appendices:

Table (1): Algeria's production, consumption, and trade of steel.

	2010	2011	2012	2013	2014	2015	2016	2017	2018
Production of Crude Steel	662	551	557	417	415	650	650	415	2000
Production of Hot Rolled Products	560	470	470	400	520	1050	1100	1950	2850
Exports of Semi-finished and Finished Steel Products	3	11	23	15	4	1	0	1	59
Imports of Semi-finished and Finished Steel Products	3654	3947	4723	5126	5975	6300	5465	4619	3181
Apparent Steel Use	3403	4208	5160	6268	6858	6656	6320	6459	6031
Indirect Imports of Steel	1591	1489	1771	1921	2183	2100	1804	1675	
Indirect Exports of Steel	2	3	15	2	1	8	4	64	

Source: based on the World steel assosiation. (2019). **Steel statistical yearbook 2019**. PP 5-43.

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