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State-society relations and industrial sustainable growth: The case of post-Revolution Tunisia

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Abstract

This paper investigates the effect of state-society relations (SSR) in the industrial sector on the sustainable economic growth of post-Revolution Tunisia. The empirical part of the paper depends mainly on qualitative data collected from fieldwork interviews with the most important actors and publications of civil society organizations. The paper suggests the presence of state capture as the defining characteristic of SSR in post-Revolution Tunisia. The combination of having powerful tycoons, weaker state, and ineffectively organized social actors produced conditions that harmed sustainability. These settings allowed tycoons to violate environmental regulations and prevented Green innovation through the adoption of Green technologies. Yet, factors such as low value-added creation, increased labor-intensity, and low environmental awareness or prioritization all interact with state capture to lower sustainability. In those sectors where tycoons are active and dominant, competing social actors are incapable of effectively exploiting the presence of a freer political system, ultimately failing to successfully organize resisting coalitions, as evident in the textile sector. While higher resistance is witnessed where tycoons are not dominant as was the case in the phosphate sector, tycoons could still use the situation to their advantage.

KEYWORDS

civil society organizations, entrepreneurs, labor, occupational health and safety hazards, state, state capture, state-society relations, sustainability, Tunisia, tycoons

1 | INTRODUCTION

Accompanying the international growing concern on environmental degradation, the democratization of Tunisia in the aftermath of the Jasmine Revolution of 2010–2011 seemed to go hand in hand with the greening of the country's developmental efforts. For the first time, environmental rights were accounted for in the constitution of 2014. International donors, especially the European Union (EU) and its leading economy, Germany, all provided generous financial and technical assistance to target sustainability and growth in Tunisia. Much of this

funding was focused on creating a more environmentally sustainable economy. Civil society organizations (CSOs) were freed from the grip of the former Ben Ali's oppressive regime and new CSOs with a credible environmental mission soon evolved. However, a decade later, Tunisia seemed to realize neither much growth nor sustainability. CSOs often pointed to the gap between the constitution and how environmental laws were formulated, enacted, and implemented. Social frustration grew along with environmental violations and their impact on people's health and economic activities. The resulting protests contributed to the destabilization of the political system and the

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democratic transition until Tunisia witnessed the unconstitutional turn that started on July 25, 2021. It was remarkable that the Tunisian industrial sector was responsible for much—if not most—of the activities that had sown most of the public frustration over environmental issues.

Political corruption, even within a democratic setting, was often blamed for poor environmental policy implementation (Wilson & Damania, 2005). High degrees of political corruption were observed in post-2011 Tunisia, turning the country into an example of state capture. The term refers to a situation that is more common in countries undergoing democratic transition. State capture describes a condition in a country where businesspersons of large leading enterprises, or tycoons, dominate the state, and where other social actors and civic institutions are relatively weak, despite the freedom of association and political expression that a more open political system provides (Hellman et al., 2003).

Further weakening of the state can arise whenever fierce political polarization occurs between contending secularists and Islamists, or the persistence of networks of favoritism are extended to the advantage of tycoons. Such weakening also occurs as elements of Ben Ali's administration survived and retained some political influence. The inability of any other organized social actors to challenge the tycoons' collective power produced an environment of state capture in post-2011 Tunisia (Sabry, 2022b). This outcome was likely responsible for the witnessed poor sustainability of the economy. Greater sustainability could be realized by the implementation of stricter environmental policy, though it could temporarily disrupt economic activity and production. Greater sustainability could also be realized through the adoption of greener technology and Green innovations, which might boost economic activity in the long run.

However, Tunisia has failed in adopting either measure. The tycoons' actions produced the opposite, negative effect on sustainability across these exact same routes: hindering environmental policy formulation, enactment, and implementation, as well as discouraging Green innovations and technological upgrading. The outcome was the continuation of prior economic activity exhibiting poor levels of sustainability, particularly in the textile and phosphate sectors of the economy.

State capture may not be a necessary condition for creating a low sustainability economy, as there are potentially other political and economic causal factors. However, is state capture a sufficient factor? Specifically, to what extent has state capture been responsible for creating the low sustainability observed in the Tunisian economy? Or, perhaps it is the interaction of other factors with state capture that produces this outcome? How could these complementary factors cooperate to weaken the collective action of the other social actors within Tunisia who are in favor of sound environmental policy?

The literature hardly addresses these important questions from the specific example of Tunisia. The role of state capture on distorting environmental policy and diminishing its impact on sustainability has been studied across other regions of the world (Gustafsson et al., 2020; Sotirov et al., 2020). Yet, a gap still exists in our understanding of why state capture could have a higher impact on

sustainability in some cases more than others. This paper is tackling this issue by increasing our understanding of the causality between state capture and sustainability within the context of Tunisia. The findings are specifically relevant for similar countries undergoing a democratic transition, which might open opportunities for state capture at a time when the government and non-profit sectors are struggling to achieve sustainable development.

Depending on qualitative data collected from fieldwork interviews and publications of CSOs, as well as other available academic publications, the following research effort investigates environmental sustainability in post-2011 Tunisia. Two sectors of acknowledged high levels of environmental violations, notably the textile and phosphate sectors, are analyzed. The findings suggest that state capture is a main cause of the witnessed outcome of lower sustainability in these sectors. Yet, industry-specific factors, such as low value-added creation, greater labor-intensity, and low environmental awareness or prioritization, can all interact with state capture to enable lower sustainability. In the sectors where tycoons are active and dominant, other social actors are less capable of exploiting a freer political system to achieve their sustainability goals, and thereby fail to effectively organize resisting coalitions.

Much evidence of this reality was evident in the case in the textile sector. More effective resistance to actions damaging to sustainability was witnessed in those sectors where tycoons were less dominant. This was the case in the phosphate sector, yet tycoons could still use the situation to their advantage. Yet, state capture can be a sufficient condition, especially when combined with other complementary factors that can interact with state capture, making it even more effective at creating barriers to sustainability. Understanding this would help in formulating better policies that would empower the pro-sustainability policy coalition by strengthening the collective action of its actors and inducing even some tycoons to choose to be in that coalition. The results and the suggested policies are relevant for countries undergoing democratic transition characterized by state capture.

The paper starts with the theoretical perspective exploring how state capture affects sustainable development, leading to the formulation of several hypotheses. This is followed by the methodology section. The case of Tunisia is then discussed, where the identified two sectors are analyzed. The paper ends with a conclusion and policy insights.

2 | THEORETICAL PERSPECTIVE

Much literature exists discussing how state-society relations (SSR) in transitional democracies can affect economic outcomes. Democratization is believed to shift the power balance among different state-society actors to the advantage of social players, such as businesspeople, labor, and CSOs. Authoritarian regimes are likely to produce a dominant state vis a vis social actors. This is true even if the regime favored one social actor at the expense of others. Such is the case in Crony Capitalist orders, where business tycoons are

privileged but subservient and loyal to the state (Sabry, 2022a). In more democratic countries, however, social actors are freer to organize—particularly with the help of independent business associations, labor unions, and other forms of CSOs—to create more balanced power dynamics. The degree of such a balance depends on the degree of democratization and other different conditions that shape the resulting power allocation. It is often the case that democracy gives more power to tycoons relative to other social players and even relative to the state. The literature refers to this case as state capture and it is more common in countries experiencing a transition to democracy (Hellman et al., 2003).

State capture refers to a situation where business tycoons dominate the state, influence policymakers, and mold public policies to fit their private interests at the expense of other actors (Adly, 2010; Enderwick, 2005). This situation is more likely to emerge despite a relatively more democratic system that exhibits an inadequate level of political liberalization. Such conditions enable the capture of the state through tycoons' involvement in funding election campaigns and various other means (Hellman et al., 2003; Innes, 2014). Other social actors normally have more space to aggregate their power and organize independently from the influence of the state.

Yet, certain obstacles prevent such organizations from amassing enough power to balance the tycoons' power. Managers and owners of small and medium enterprises (SMEs)—which can be labeled as “entrepreneurs” to differentiate them from tycoons—face several organizational dilemmas that prevent them from employing effective collective action to further their interests. This list includes the likely dominance of tycoons over various business associations (Bennett, 1998), entrepreneurs' workplace isolation (unlike labor), the diminished capability to fund election campaigns (unlike tycoons), or inability to offer substantial voting blocs to support politicians (unlike labor) (Shadlen, 2002). The prevalence of substantial informal private sectors dominated by SMEs in developing countries is also relevant to this political environment. Labor suffers from collective action problems, including fragmentation along industrial sectors, skills, and other differentiating lines (Reich et al., 1973; Streeck, 2009). The presence of a sizable informal sector in developing countries again decreases labor's collective power (Schneider, 2009). Similar obstacles for CSOs could be anticipated especially when speaking about environmental-oriented organizations operating in developing countries. This might include fragmentation, possible conflicting interest representation, lack of funding, and low public awareness.

State capture, as a mode of SSR, shapes the formulation and/or the actual implementation of environmental policies and—particularly through this mechanism—affect sustainable growth. First, tycoons resist the formulation of any environmental policy they perceive as threatening to their interest (Downie, 2017; Kirchgässner & Schneider, 2003). Tycoons' ability to exercise their political power also allows them to control state resources, whether it takes the form of natural resources, legislations and regulations, or licenses and permits. Further, they are more likely to pressure for the formulation of favorable regulations and policies (Enderwick, 2005; Hellman et al., 2003; Hellman & Kaufmann, 2001). The stronger their power, and the

weaker the social actors and the state, the more their expected political and economic gains. Environmental policy is likely not to be effectively implemented when it is against tycoons' interests, and social actors are not able to form a supportive policy coalition for promoting such policies. Indeed, the literature on policy coalitions suggest that the realization of a major transformation necessitates the presence of a supporting power coalition (Doner & Schneider, 2016).

Yet, tycoons do not always function as a unified collective actor. As pointed out by Schneider (2010), tycoons' lobbying in the legislature is more likely to be fragmented, seeking individualistic gains and resource allocations, and they are less likely to seek broader policy changes or reforms. Their effectiveness can be minimized when broad-based, cross-sectoral associations exist, where these business associations could contribute to building consensus among tycoons (Shadlen, 2002). Hence, in state capture, tycoons are more powerful than other social players but still face many limits to their power, including other social actors' organizational power and inter-tycoons' conflicting interests when they cannot act collectively.

“Grand corruption”, an example of which is state capture, is suggested to lead to environmental policy distortions due to tycoons' political contributions paid to policymakers (Wilson & Damania, 2005).¹ According to Kirchgässner and Schneider (2003), businesspeople are more capable of influencing environmental policy than other interest groups given their financial power, the existence of information asymmetry to their favor concerning the extent of environmental problem, their ability to influence the media, and their influence over national legislatures. Arguably, this is clearly more evident for tycoons, and especially under state capture. The tycoons' power could be exercised through blocking the formulation, enactment, or implementation of legislations and regulations that are less favorable to their interests. There is often a gap that often exists between policy enactment and implementation. Lemos' (2017) study on national policymaking in the USA suggested that accountability measures are harder to enforce with the implementation of policies and regulations, as compared to their enactment. Furthermore, the contacts between lobbyists and state enforcers are largely unregulated. While democratization should foster political accountability, some conditions within immature political systems could arguably shield tycoons' practices from such accountability by protecting their partner officials. Thus:

Hypothesis 1. *The higher the power of tycoons vis a vis the state, the lower the enactment and/or implementation of environmental laws in the public interest.*

The strength of tycoons' interest in capturing environmental policy depends on their anticipation of the extent of the resulting risks to their business objectives, where the policy could restrict their access to or use of important resources. This is particularly true for low value-added production sectors and export goods that are relatively more cost-sensitive and/or use outdated technologies. Such a situation would likely make the tycoons of these sectors ardent resisters to the introduction of new, environmentally friendly technologies and

production techniques that would likely raise their costs and squeeze their profit margins. On the other hand, businesspeople who invest in innovative and high technology activities are more likely to have an interest in supporting the transition towards more Green technology. Hess (2014), for instance, discussed how venture capital and technological leaders were among leading businesspeople who provided significant funding for a pro-Green policy coalition in the US state of California. A sector with a low level of innovation and technology would be denied the advantage of significant business support given to pro-environmentalist coalitions seeking favorable policies. Hence:

Hypothesis 2. *The lower the value added generated by an industrial sector in state captured countries, the lower the enactment or implementation of environmental laws.*

Tycoons' success in preserving their market power and resulting profits depends, however, on the coordination and resulting effectiveness of opposing social actors. A possible resisting coalition could be composed of labor unions and environmental CSOs. Labor's interest in environmental policy is attributed to the effect of environmental regulations on their workplace and their urban communities. The first is related to occupational health and safety standards as stipulated by the International Labor Organization (ILO) and ratified by many countries (ILO, n.d.). Labor unions should be supported by environmental CSOs, where the latter's role would be specifically important in raising awareness on environmental issues even among labor. The likely presence of a pro-environmentalist policy coalition between labor unions and environmental CSOs is evident from the literature (Hess, 2014). In terms of lobbying for these set of policies, labor unions would be more influential, but CSOs could also play a key role through their connections and communications with the government and the ministries overseeing environmental issues.

The role of CSOs would be amplified by foreign donors assistance (Börzel & Buzogány, 2010; Gustafsson et al., 2020). This would be more likely when those donors operate in developing countries which depend heavily on foreign aid and assistance. The EU is especially active in supporting environmental policies internationally (EU, n.d.). CSOs' power and their possible coalition with labor unions would be fostered by the openness of the country to international aid, especially from countries and organizations with a Green mission, such as the EU. However, some skepticism could be shed on the role of developmental aid. Sotirov et al. (2020) argued that foreign donors could strongly align with their national partners' priorities, where these partners are often subject to state capture. This leads to prioritizing selective economic and political considerations rather than environmental or sustainability concerns. On the other hand, Gustafsson et al. (2020) discussed how national elites in Peru who shared the same interests and were possibly captured by influential business elite (tycoons) managed to "appropriate and selectively implement" the sustainability policy recommendations of foreign donors. This was despite the latter's success in forging a supporting, if rather weak, reform coalition among CSOs and even subnational local governments. Börzel and Buzogány (2010) argued that in Eastern European countries

undergoing democratic transition, EU support aimed at fostering the implementation of more sustainable environmental policy was significantly hindered by the weaknesses of both the state and non-state actors that prevented their cooperation. Instead, civil society empowerment led to a more opposing stance of CSOs towards the government, rather than cooperation with the government. Thus, developmental aid could play a significant role in empowering environmental CSOs regardless of the consequences.

Hypothesis 3. *The more open a democratic country is to developmental aid from partners committed to a Green agenda, the higher the power of environmental CSOs.*

Moreover, in sectors which tycoons do not dominate, environmental CSOs and/or labor's resistance would be stronger and likely to be more effective. Hence:

Hypothesis 4. *In state captured countries, the less tycoons dominate the sector, the higher the resistance and effectiveness of resistance of environmental CSOs and their environmentalist coalition with labor unions.*

State capture might be detrimental to innovation and technological upgrading, including Green technology. Green innovation promotes less pollution, as well as other objectives such as energy saving, green product design, waste recycling, and/or corporate environmental management (Chen et al., 2006, p. 332). Innovation in this regard could refer to product or process innovation, where the latter refers to major changes in production and distribution methods (Sdiri, 2022). Tycoons might choose to defend their market share by lobbying for strict regulations that prevent competition from rival entities. SMEs would accordingly be denied easy entry to the market and the trial to acquire significant market share through innovation. This could also be true for Green technologies and innovation. Even in the presence of a more welcoming culture, there would be likely less incentive to win market share by using the appeal of Green technologies and innovation when the market entry is rather blocked and reserved for incumbents.

Hypothesis 5. *In state captured countries, the less competitive the market is, the less Green Innovation and Green Technologies adoption.*

On the other hand, labor could rather be an active actor standing against Green technology adoption and innovation. Even when labor unions are anticipated as pro-environmentalist actors, they are still concerned about job protection (Snell & Fairbrother, 2011). Generally speaking, labor-saving technologies would be resisted by powerful labor unions, whenever they feel endangered (see Frey, 2019). As suggested by MacNeil and Beauman (2022), labor's anxiety from the details of Green transition plans and their possible abandonment by the government fuel labor resistance to Green transition. Arguably, the fear is higher whenever fewer Green jobs are created due to transition instead of being lost. Strong labor unions were accused of

rent-seeking that limits enterprise R&D spending and thus hinders innovation (Bradley et al., 2017). Yet, other works have argued that this is not always the case, as other factors, such as market size and labor demand elasticity, also play a role (Calabuig & Gonzalez-Maestre, 2002; Dowrick & Spencer, 1994). Thus, Green technologies that are more labor-saving and spending on R&D to innovate Greener technologies and techniques might be resisted if they affect workers' material gains, even if they minimize occupational health and safety hazards (OHSH).

Hypothesis 6. *In state captured countries, the more labor-saving (capital-intensive) Green technology is, the more likely it is to be resisted by labor.*

3 | METHODOLOGY

The empirical part of this paper depends mainly on qualitative work collected through several interviews, publications from both international and domestic environmentalist civil society publications, and academic sources.

The interviews were conducted during several field trip visits to Tunisia in 2022. The main target of these interviews were organizational representatives of the main state-society actors related to the topic. Experts with multiple relationships with such actors were also needed to provide a more comprehensive view. Getting access to the relevant representatives, however, was not always feasible. This is especially true for getting the perspective of tycoons, as no interview with any of them was possible. Similar obstacles to access led to a higher representation of certain actors relative to others. More specifically, while it was more feasible to organize interviews with experts and CSOs, it was relatively harder to do the same with other actors. Given that many CSO publications—that documented various developments through fieldwork research—are also relied on, a possible bias could have been produced in favor of their perspective. However, the use of academic publications is used to counteract this concern.

The list of interviewees includes members of the government (Ministry of Environment), business associations (The Tunisian Union of Industry, Trade and Handicrafts [UTICA] and Tunisian Confederation of Citizen Enterprises [CONNECT], TunisianStartups), the main Tunisian labor union Tunisian General Labor Union [UGTT], Tunisian and international CSOs (Tunisian Forum for Economic and Social Rights [FTDES], Rosa Luxemburg Foundation, Fredrich Ebert Foundation, Heinrich Böll Foundation, Humanist Institute for Development Cooperation [HIVOS], and Advocate sans Frontier), and (as experts) local branches of EU development cooperation organizations (the GIZ). The information gleaned from the interviewees is reported as anonymous, per agreement, such that only their organizational affiliation is revealed. Details about the interviewees are reported in Appendix A. Further, CSO publications were mainly obtained from the *Forum Tunisien pour les Droits Economiques et Sociaux*—Tunisian Forum for Economic and Social Rights (FTDES), which is among the most active Tunisian CSOs in environmental issues. Another source of publications is the Tunisian branch of the German Heinrich Böll Foundation.

4 | THE TUNISIAN CASE

4.1 | A general outlook

There are a number of reasons why, until 2021, the post-Revolution Tunisian SBLR could be described as state capture scenario.² The Tunisian state in the post-Revolution period was generally weaker than it had been before 2011. Several factors contributed to this outcome. One of the leading factors was the Islamist-Secularist polarization that reached its climax in 2013, which continued to cause constitutional deadlocks, frequent cabinet changes, and general political instability (Carboni, 2022; Tamburini, 2022). The resulting power fragmentation and struggles between the president and the ministry ultimately created a political environment where the state was unable to implement “a coherent long-term economic strategy” (Paciello, 2013). The bureaucratic apparatus became an arena where two competing political powers contended with each other, with each party trying to infiltrate and control the other (Boubekeur, 2016).

Moreover, the administration that persisted—and many of its elements were represented as independent technocrats (Carboni, 2022)—had inherent sentiments against the Islamist Al-Nahda party. This contributed to the blockage of reforms and diminished government effectiveness (Marzo, 2019). This political fragmentation and polarization paralyzed the parliament and negatively affected the effectiveness of its legislative role. The popularity of the political parties and resulting political electoral competition diminished as the technocratic elements in ministries increased, as these elements were increasingly exploited as a consequence of this power fragmentation (Carboni, 2022). Public disappointment from the ineffective political system translated into lower voter turnout (Aliriza, 2020; Carboni, 2022; Marzo, 2019).

Against this background, tycoons' power was freed from the constraints of the Ben Ali state, while maintaining connections with the follow-on administration. In the Tunisian context, tycoons are big Tunisian business families who control large market shares in different sectors of the economy. Tunisian big families operate through holding groups comprised of various enterprises operating in different sectors (Oubenal & Ben Hamouda, 2018). The individual enterprises controlled by these holding groups are not necessarily large firms, but act in a coordinated fashion. They can even be SMEs, at least in terms of employment (Sabry, 2022b). Thus, entrepreneurs here refer to owners and managers of SMEs which are not part of large holding groups.

Another important constituent of tycoons is multinational corporations (MNCs), many of which enter partnerships with local tycoons to collude and achieve common goals. These are largely EU entities, particularly French, German, and Italian enterprises. Investors from these countries dominate the foreign direct investment made in Tunisia (Guesmi & Moisseron, 2018).

Despite the reportedly higher levels of favoritism under Ben Ali, data from the Global Competitiveness Report (GCI) reveal that favoritism to connected firms and individuals dramatically increased in the post-2011 (World Economic Forum, n.d.), as reported in Figure 1. Tycoons joined dominant political parties, funded electoral campaigns, and won parliamentary seats (Oubenal & Ben Hamouda, 2018). They

also controlled a significant part of the banking system (Oubenal & Ben Hamouda, 2018). Their control over the biggest and only accepted representative of business interests in economic and social dialogs, the UTICA, is however debated (Sabry, 2022b).

Democratization enabled entrepreneurs to organize and defend their own interests. Depending on data from the varieties of Democracy dataset (University of Gothenburg, n.d.) (see the full definition of the different variables in Table A.1), a very significant increase in the degree of civil society participation and freedom of association is observed in the post-2011 period. The figures suggest that CSOs generally experienced a growth in power and influence, including environmental CSOs. However, the role of the UTICA as representative of the broader interests of businesspeople in general, rather than the narrow interests of tycoons, is debatable. CONECT, which is the business association that is more representative of SMEs, was actually denied representation in economic and social dialogs (Sabry, 2022b).

On the other hand, democratization unleashed the power of the biggest labor union in Tunisia, the UGTT. It evolved into a dominant political player and the most organized social actor in the economy. Figure 1 suggests that the UGTT's power (as suggested by the "engagement in independent trade unions" indicator) slightly increased over time, though it was already strong before 2011. The UGTT, however, mainly represented public sector workers and was less representative of private sector workers. Despite the emergence of other unions in the aftermath of the Revolution, the UGTT had the exclusive right to represent labor interests in social dialogs.

With the diminished power of the state, and the boosted power of tycoons, post-Revolution Tunisia embodied the conditions for creating a political environment of state capture. Such a development was not uncommon for countries undergoing a democratization transition. What was rather special about the Tunisian case is the ability of tycoons to nearly match the power of labor unionism, as represented by the UGTT (Sabry, 2022b). The presence of the union was rather limited in the private sector and was specifically powerful in the public sector, suggesting that tycoons and the UGTT each were dominant in their respective fields of influence.

Such characteristics of SSR in post-2011 Tunisia impacted its sustainable development prospects. Following the Revolution, many policy initiatives and funding opportunities that were strongly supported by foreign donors and international development organizations targeted the creation of a more sustainable industrial sector and overall economy. The constitution of 2014 created, in an unprecedented way (Mabrouki & Ben Othmane, 2022), new environmental rights within its articles 44 and 45. This included the right for clean water and a good environment, respectively (Labiadh & Gaaloul, 2022, p. 14). Several laws were decreed supporting sustainability in the post-2011 period, including the "local organization charter" in 2019, which provided a decentralized provision of local support for sustainability. Moreover, Tunisia also signed a number of international agreements that targeted the creation of a more sustainable economic development (Al-Marakshi & Al-Farshishi, 2021).

Nevertheless, the enactment of more precise and effective laws was either delayed or never done. The "environmental charter" and the "water charter" both motivated important legislation, first developed in 2013, that would have effectively fostered greater sustainability. However, the first charter was not accepted or even presented to the parliament. The second charter was only presented in 2020, and was ultimately sent back for further revisions (Al-Marakshi & Al-Farshishi, 2021). Other enacted laws were vaguely formulated, made room for voluntary rather than obligatory implementation, lacked incentives or supportive measures, and/or were generally not compatible with Tunisia's signed commitment to international standards. Such was the case, for instance, with the social responsibility of enterprises, or Law 35 of 2018 (Al-Zayer, 2021). More specifically, environmental concerns were relatively less reflected in the subsequent legislation related to economic activities, where sometimes even less emphasis was placed in comparison to the pre-2011 period. Such was the case in the "investment law" of 2016 in comparison to the "investment promotion charter" of 1993 (Al-Marakshi & Al-Farshishi, 2021).

Empirical data reveals a partial understanding of the environmental problem faced by Tunisia. Table 1 and Figure 2 show how the levels of particulate matter (PM2.5) have generally increased by more than 10% between 2001–2005 and 2016–2020 (see the full

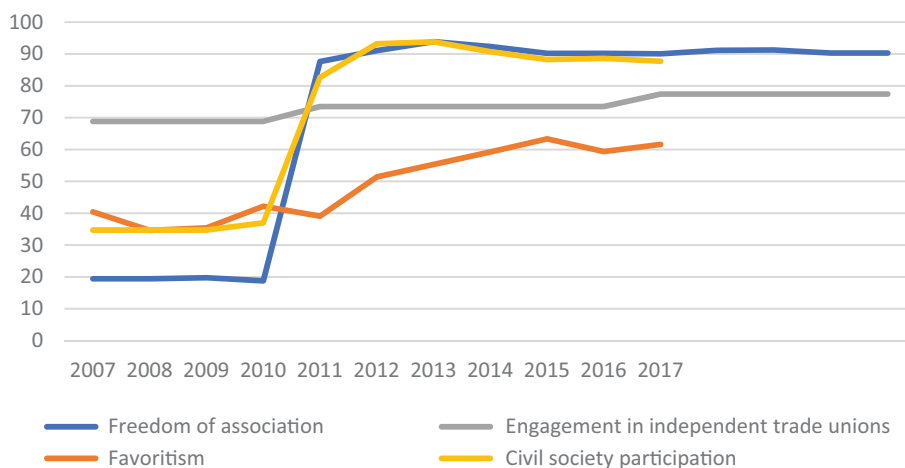
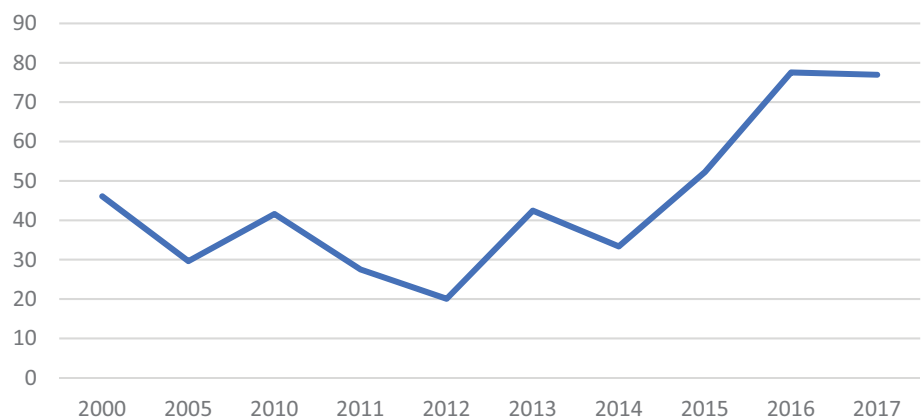


FIGURE 1 State-society relations in Tunisia 2007–2017. Depending on data from the GCI and V-Dem datasets (University of Gothenburg, n.d.; World Economic Forum, n.d.).

TABLE 1 The performance of Tunisia in some environmental indicators in a comparative perspective.

		PM2.5 air pollution, mean annual exposure (micrograms per cubic meter)	PM2.5 air pollution, population exposed to levels exceeding WHO guideline value (% of total)	PM2.5 pollution, population exposed to levels exceeding WHO Interim Target-1 value (% of total)
Tunisia	2001–2005	34.58	100.00	46.07
	2006–2010	35.55	100.00	41.58
	2011–2015	34.67	100.00	35.13
	2016–2020	38.05	100.00	77.25
Arab	2001–2005	52.73	100.00	–
	2006–2010	53.79	100.00	–
	2011–2015	54.60	100.00	–
	2016–2020	58.73	100.00	–
Middle Income	2001–2005	55.07	99.38	–
	2006–2010	59.03	99.36	–
	2011–2015	55.84	98.97	–
	2016–2020	52.45	97.94	–
World	2001–2005	47.15	95.33	–
	2006–2010	50.25	95.14	–
	2011–2015	47.90	93.85	–
	2016–2020	45.35	91.32	–

Source: Author's calculation using data from the WDI (World Bank, n.d.).

FIGURE 2 PM2.5 pollution, population exposed to levels exceeding WHO Interim Target-1 value (% of total) in Tunisia (2000–2017). Depending on data from the WDI (World Bank, n.d.).

definition of the different variables in Table A.1). This is in spite of this figure remaining below the average figures for the remainder of the Arab World, other middle-income countries, and the overall world average. The percentage of the population exposed to at least 35 micrograms per cubic meter—which is far above the level accepted by the World Health Organization (WHO) guidelines of 10 micrograms per cubic meter—increased by about 68% in the same period, exceeding 77%. Different CSO publications, however, suggest the presence of even harsher environmental problems, as discussed below.

Various types of enterprises are reportedly engaged in polluting activities. According to FTDES1 and ASF1, even MNCs often violate HSH regulations. On the other hand, both interviewees agreed that SMEs missed resources that would enable them to effectively implement the regulations. State subsidization for sustainability was, they suggested, rather insufficient.

Two main factors could be identified as being responsible for the persistence of low levels of sustainability evident in the post-Revolution period. The first is the insufficient enactment and poor implementation of environmental legislations and regulations, while the second is the obstacles facing innovation and technological upgrading in general and in terms of Green technologies in particular. To what extent did state capture impact on sustainability in Tunisia through these two routes?

4.1.1 | The first route: Low enforcement of environmental measures

Generally, the easiness of violating environmental regulations was facilitated by the above-discussed problematic way they were

formulated, delayed enactment, and slow and inefficient implementation. FTDES1 stressed the voluntary nature of environmental laws as being responsible for tycoons' violations. MINENV1 affirmed that even if legislation and resulting regulations related to production wastes exist, the application of environmental regulations and laws are voluntary (with no compliance enforcement) in the part related to industrial inputs and issues related to excessive resource use. While projects that are funded by the EU are usually required to submit environmental and social impact studies before starting to operate, domestic projects are not.

The failure to enact effective environmental legislation raises the question of whether the parliament was deliberately responsible for such an ineffective outcome. Most of the blame about this poor legislative performance is assigned to the parliament of 2014–2019, between the enactment of the constitution of 2014 and the elections of 2019 that witnessed the escalation of the political turmoil that culminated with the unconstitutional measures taken by President Qais Saeed in July 2021 (Al-Marakshi & Al-Farshishi, 2021). This was the period that witnessed the presence of a parliament that allowed little room for significant opposition, despite of its sharp ideological divide between the secular Nidaa Tunis (40% of the seats) and the Islamist El-Nahda (32% of the seats). Both parties agreed on forming national unity governments, but such unions were unstable (Martin & Carey, 2022). Tycoons joined the big political parties, especially Nidaa Tunis (Oubenal & Ben Hamouda, 2018), which became both a rallying point for elements of the former Ben Ali's administration and a platform for anti-Nahda politicians (Boubekour, 2016).

Having both partners of the Ben Ali's former crony network (administration and tycoons) in a ruling political party and the trial of Al-Nahda to appease their national government coalition partners made it very likely that the parliament was either incapable or unwilling to hinder tycoons' economic privileges. Moreover, Nidaa Tunis dominated the leading positions (even if not the position of the president) of the "General Legislative Commission." This is the commission responsible for discussing civil and commercial legislations in the Tunisian parliament, as well as the "Industrial, Energy, Natural Resources, Infrastructure, and Environmental Commission" responsible for the industrial sector, innovation, and environmental issues. The party's members and Al-Nahda's constituted the majority of both commissions' members (Marsad Majlis-the Tunisian Parliament Observatory, n.d.).

A case in point here is the "economic reconciliation bill" of September 2017—presented by Nidaa Tunis and unresisted by Al-Nahda—which called for excusing tycoons and functionaries involved in corruption cases as long as they compensate for what was due (Martin & Carey, 2022). Even if hard evidence is lacking, it is still likely that the parliament was reluctant to enact effective environmental regulations because they endangered the tycoons' economic interests within some sectors of the economy.

On the other side of the equation, labor stands as a main bearer of the consequences of environmental violations. They were candidates for presenting a balancing force that should have pushed for the enactment of more effective environmental laws and their

implementation, especially those laws that minimize OHS. The UGTT's power enabled it to strongly protect the social rights of labor and especially those of the public sector (Aliriza, 2020). It managed even to increase public sector employees' salaries despite post-Revolution economic hardships (Vatthauer & Weipert-Fenner, 2017).

The union has various means of influencing the enactment and implementation of environmental regulations and laws. According to UTICA1, there are regular meetings and evidence of strong cooperation between the UGTT and the UTICA, the main and only accepted official representative of businesspeople in social and economic negotiations. Both sides settle most issues via direct, mutual negotiations. There are sectoral agreements between the UGTT and UTICA, but there is also the recently established national council for social dialog, created on the national level in 2018, comprised from the government, UGTT, and UTICA. The interviewee attested that the UGTT is more powerful than UTICA in terms of connections with decision makers. This opinion is supported by UGTT2 account that the state administration is represented in the UGTT, and that functionaries are allowed to be part of the union. Given such settings, one might anticipate that the UGTT had the means to compel businesspeople—tycoons and entrepreneurs alike—on following environmental regulations and the state to enact more of and strictly implement these regulations.

Nevertheless, despite the effective interest representation of the UGTT for labor and especially public sector employees, the support of the union for the protection from environmental hazards seems in doubt. UGTT1 and UGTT2 asserted that the union is increasingly supporting environmental issues. UGTT2 affirmed the union's commitment to environmental issues, especially those stressed on by the ILO and international trade union movements and the United Nations (UN) sustainable development goals (SDGs). Nevertheless, both UGTT interviewees asserted that the union is often faced by a dilemma between defending the social rights, right to have a secured job, and the environmental rights of labor, such as implementing occupational health and safety standards.

CSOs have a clearer assessment of the priorities set by the UGTT and where the rank of the commitment to environmental issues was positioned. FTDES1 and ASF1 stressed that, as a welfare objective, the UGTT seems not to set protection from workplace environmental hazards, attributing this to a lack of awareness. To the contrary, FES1 believed that the UGTT is rather incapable of doing something meaningful. If UGTT pushed for complying with regulations, enterprise owners would threaten to close down, and the UGTT would be blamed by workers. Thus, as asserted by ASF1, environmental rights were in third place among UGTT's priorities, only after employment levels and economic and social rights.

Despite having access to the administration, the union was, according to UGTT2, marginalized in policymaking on environmental issues. The state refrains from inviting them to policy consultancy meetings, and when it does, this is rather done for window dressing and in a less serious fashion. The goal is often simply to appease international development organizations that require UGTT's participation. Information asymmetry allows state officials to manipulate UGTT's

participation in policy consultancy and render it ineffective. Agreeing with UGTT's assessment, MINENV1 pointed out that the UGTT is not part of the steering committee of one of the projects the interviewee is responsible for at the Ministry of Environment. This is true, despite having representatives of business associations and CSOs, blaming this outcome on administrative issues related to how the UGTT is structured.

Rather than the UGTT and other labor organizations, environmental CSOs seem to have a more focused mandate to promote the protection of labor from HSH at their workplace and in their local community. Several CSO with environmental mission were either established or got more active in the post-2011 period, including the Tunisian Forum for Economic and Social Rights (*Forum Tunisien pour les Droits Economiques et Sociaux*—FTDES) and the Tunisian branches of the international Lawyers Without Borders (*Avocats Sans Frontières*—ASF) and several German foundations, such as the Heinrich Böll, Friedrich Ebert, and Rosa Luxembourg foundations. Despite the acknowledged support that international organizations that promote environmental issues ultimately provide for CSOs, there are often complaints that such support was rather insufficient. FTDES1 complained that the recommendations given by big international organizations do not often come with the needed enforcement capacity to ensure continuity of implementation. Developmental projects that these organizations sponsor last only for a few years. The funding provided by these projects is either temporary, or limited in scope in comparison to the challenges they are assigned to address. As suggested by ASF1, the net effect is rather limited to merely creating exemplary cases (e.g., enterprises) the state is then expected to put effective environmental policies into place.

What further complicates the task of environmental CSOs is the mutual distrust between the UGTT and some of these CSOs. UGTT2 expressed doubts on some of the foreign-funded and politically motivated CSOs, asserting that UGTT was pleased to collaborate with those the interviewee referred to as “national” CSOs. FTDES1, on the other hand, believed that environmental issues are not the first among the list of priorities of the UGTT. HBS1 assessed UGTT's commitment to environmental issues as insufficient, despite their participation in different environmental events.

There are two means by which environmental CSOs try to influence the state and policymaking. The first is through direct or indirect communication with the state. The Ministry of environment is one of the most likely targets for environmental CSOs, and they, as mentioned before, are invited to projects' steering committees. HBS1 affirmed that the state often invites environmental CSOs to different events and listens to their recommendations. The process, however, is less institutionalized, dependent on the specific minister in office, and is rather likely to be more informal. Moreover, discussions with environmental CSOs often fit only window dressing purposes to appease donors. Until the disbandment of the parliament in the aftermath of the July 25, 2021, CSOs used this opportunity as well to communicate with parliamentarians.

Another possible but indirect route of communication is through international donors who often listen to the assessment of

environmental CSOs. This indirect route also became less possible with the rise of the populist rhetoric in the post-July 25, 2021 political scene. Together with claims of defending national sovereignty from foreign influence, CSOs are increasingly facing repressive laws against their activities. At any case, the interviewee's account suggests that environmental CSOs' influence over environmental policymaking is rather limited. This arises because the state functionaries lack the capacity to effectively conduct a real partnership in policymaking with civil society. They are willing to formulate policies independently from CSOs while maintaining CSO participation in the process simply to appease international development cooperation partners and donors.

The second means by which environmental CSOs influence the state is more confrontational, such as through social protest and litigation. An FTDES report pointed out that social protest because of environmental issues was insignificant before the revolution and grew exponentially thereafter, as police repression of such activities became increasingly restrained. Environmental social protest has also coincided with a rising awareness on environmental issues. It has taken also different forms, such as demonstrations, sit-ins, and litigation efforts, where protestors were at times victorious against policy-violating industries, even when the rulings were not sometimes implemented (e.g., the *Menich Msab* campaign) (Labiadh & Gaaloul, 2022). As the case study of the phosphate industry would show, these protests were successful at times in hindering environmental violations, though not always without a price.

Thus, as the democratic transition created more political power for tycoons, it also empowered other actors such as the UGTT and environmental CSOs. However, as typical for countries experiencing state capture, those other actors were not able to solve their collective organizational problems and function as a unified and powerful resisting policy coalition capable of forcing both the state and the tycoons to accept a more sustainable economic development path.

4.1.2 | The second route: Hindering innovation and technological upgrading

State capture also affects sustainability in Tunisia in an indirect way, through its impact on innovation and technology upgrading. This includes Green Technology. International and EU organizations provided and channeled much assistance to create a better business climate that encouraged innovation and technological upgrading, including the adoption of more environmentally friendly technologies. Nevertheless, the GCI show that a deterioration of technological upgrading and innovation has occurred, as a result of various factors fostering their development in Tunisia in the post-2011 period. Table 2 shows that a fall in most of the indicators and/or a widening gap with the leading world five economies—treated here as the global technological frontier—is witnessed between 2009–2012 and 2015–2018.

The low level and deterioration of innovation in Tunisia can be attributed to various reasons. The Tunisian economy had deep structural problems that supported such an outcome. The country is

strongly integrated in global value chains (GVCs), especially European led value chains, thanks to both geographical proximity and historical factors. However, Tunisian involvement is largely confined to what is referred to as the “offshore sector,” which is dominated by multinational corporations (MNCs) whose activities are directed to exporting. The offshore sector is relatively more productive, but it still specializes in mainly assembly and low value-added activities that characterize the country's participation in European GVCs (Nucifora et al., 2015).

Specialization of low value-added exports and exploiting the benefit of cheap labor makes it unlikely to attract FDI to promote the digitalization and technological upgrading of the Tunisian industrial sector, as suggested by FES2. Furthermore, the link between the offshore and onshore sectors is tenuous and the investment in physical capital is limited (Nucifora et al., 2015). All of this means that prospects for upgrading the value chain of exports are rather minimal. The tycoons in the offshore sector have little incentive to push for innovation policies that would foster either backward or forward integration. This negatively impacts the capability of developing local Green technologies for the offshore sector.

In contrast, the onshore sector is controlled by domestic tycoons who previously benefitted from various privileges under Ben Ali (Nucifora et al., 2015). These tycoons maintained strong relations with the administration, effectively reducing the potential effects that enacted laws might have on their market dominance across the different sectors, as pointed by RLS1. The market remained restrictive for the growth of SMEs in many industrial sectors (Mouelhi & Ferchichi, 2017). While the offshore sector's tycoons have little incentive to lobby for effective innovation-fostering policies, it is more likely that the tycoons of the onshore sector are more endangered by innovations that could disrupt their market dominance. Hence, they have an interest in hindering the enactment and effective implementation of those policies.

According to Startup1, tycoons dominated private banks and channeled resources to their own businesses. Even international and EU funds that were originally directed to SMEs ended in SMEs owned by tycoons, as these entities were part of their larger holding groups. Consequently, innovative SMEs that had sound models did not receive enough bank funding (Stölting, 2015). According to SME1, funding chances for SMEs were therefore limited, and little information on these funding opportunities was made available. Both venture capital and business angels in Tunisia remained insignificant, as assessed by RLS1 and Startup1. They saw how private equity investments generally remained insufficient, despite the creation of many private equity investment vehicles (e.g., SICARs investment companies, FAs funds for startups, and FCPRs mutual funds; Stölting, 2015). HIVOS1 questioned the insufficiency of venture capital funding despite the availability of funds, together with their aversion to taking risks, despite the inherent nature of this financial vehicle.

Finally, there were various obstacles that prevented the realization of the great innovation potential held by startups. The implementation of laws that would have encouraged the mushrooming of innovative startups was of rather low quality. Startup1, for instance, asserted that there was a delay in implementing the Startup Act of

2019, which stipulated regulations and laws targeted at startups despite the backing of international organizations. CONECT-GIZ1 spoke about different developmental projects targeting SMEs and innovation that the GIZ supports. In one of the projects, enterprises and startups were brought together with experts with the purpose being supporting innovation and its application by domestic enterprises. The success of the project was very limited, given that the enterprises complained about the lack of financial resources needed to support the adoption of the startups' innovations. At any case, international development organizations generally aim at creating pilot success stories under the presumption that these would be emulated by other enterprises. Arguably, this brings some doubts on the scale and pace of the success of this specific strategy.

In short, a combination of tycoons' dominance and state's incompetence and inefficiency led to low levels of innovation in the economy, and at a time where international developmental assistance was either insufficient or disoriented. The likely outcome was hindering the development of new local Green technologies and business models that would have fostered sustainability. Those findings are not particular to Tunisia but exist in many other countries undergoing democratic transition that is associated with a great weakening of state power, permitting the emergence of state capture.

4.2 | The textile and apparel sector

The textile and apparel industry is one of the most important sectors of the Tunisian economy, contributing about 23% of total industrial exports and employing more than 174 thousand persons (Gaaloul, 2022, p. 11). As Table 3 and Figure 3 reveal, the industry was responsible for more than 32% of the value added of the manufacturing sector of the Tunisian economy in 2001–2005. However, this figure has continuously fallen over time, falling by about 45% of the stated figure from 2015 to 2020. This sector is also one of the major sectors where MNCs are active, being strongly connected to global (and especially European) supply chains. It is estimated that about 50% of the sector is fully or partially owned by MNCs, mainly from the EU. Furthermore, most of the exports of the industry flow to the EU, especially to France and Italy (Grumiller et al., 2018).

Despite the active presence of European FDI in this manufacturing sector, Tunisia's engagement in the EU value chain is mainly focusing on low value-added assembly activities (Nucifora et al., 2015). While the production of textiles is more capital intensive, apparel is more labor-intensive. Tunisia's capacity to produce textiles is rather limited. It focuses on the production of apparel that targets foreign markets, but it fails to establish strong linkages with domestic industries and markets. SMEs are mainly producing according to the cut-make-trim (CMT) arrangement, which constitute 80% of the sector's production in Tunisia. Larger firms operate according to free-on-board (FOB) and are responsible for the remaining 80% while a few firms apply the original-design-manufacturing (ODM). FOB enables firms to purchase inputs and develop their own supply network and linkages. ODM allows further creation of value added through design and

TABLE 2 Some industrial sectoral indicators of Tunisia (2001–2020).

	Average 2009–2012		Average 2015–2018	
	Tun	Top 5 world econ. ^a	Tun	Top 5 world econ.
Technology imitation/transfer				
Availability of latest technologies	5.44	5.95	4.54	5.94
Firm-level technology absorption	5.3	5.8	4.17	5.55
FDI and technology transfer	5.23	4.82	4.19	5.02
Technological adoption (composite)	5.31	5.49	4.3	5.5
Technological readiness (composite)	3.83	5.04	3.68	5.65
ICT use (composite)	2.36	4.49	3.05	5.79
Innovation				
Capacity for innovation	3.4	5.18	3.7	5.33
PCT patents, applications/million inhabitants			0.81	167.2
Innovation (composite)	3.69	5.02	3.02	5.15
Quality of scientific research institutions	4.15	5.5	3.16	5.65
Company spending on R&D	3.44	5.18	2.85	5.25
University–industry collaboration in R&D	3.83	5.2	2.95	5.15
Gov't procurement of advanced tech products	4.37	4.25	2.73	4.29
Availability of scientists and engineers	5.44	5.11	4.31	5.12
Venture capital availability	3.27	3.3	2.36	4.13

Source: Global Competitiveness Indicators (GCI) (World Economic Forum, n.d.).

^aSelf-calculation of the average of the five leading economies of the World in terms of GDP: the USA, China, Japan, Germany, and the UK.

product development. CMT, to the contrary, is rendering manufacturing SMEs into contracted factories, where cheaper labor is at the disposal of larger firms that provide inputs and then buy the processed output (Grumiller et al., 2018). Fewer linkages could be created by this model, and the incentives to innovate are likely almost non-existent. The incessant pressure for cost reduction produces further incentives to use less social-sensitive and environmental-friendly production techniques.

The textile and apparel sector is causing alarming levels of pollution. The ecological hazards caused by the textile sector in Tunisia can be attributed to several reasons. The first is the nature of the industry itself. The industry is well known for its heavy ecological burden, where it is considered globally the most ecologically harmful industry (Choudhury & Kumar, 2013). The production processes use water extensively.³ Another major concern is wet processing, where various dangerous chemicals are used in the process (e.g., in bleaching, dyeing, printing). Further, heavy metals are used in items such as binders and auxiliaries, and waste water issues arise especially with regard to the use of dyes (Choudhury & Kumar, 2013). Such waste water is responsible for about 17% and 20% of all water pollution in the world (Gaaloul, 2022, pp. 11–15). To this could be added the sizeable carbon emissions of the industry (Tsai, 2018).

What aggravates the environmental hazards for Tunisia is the country's specialization in low value-added exports, as well as the most polluting activities within the value chain. Indeed, dyeing and printing activities are generally among the highest polluting processes of the industry (Mia et al., 2019). Yet, new technologies could

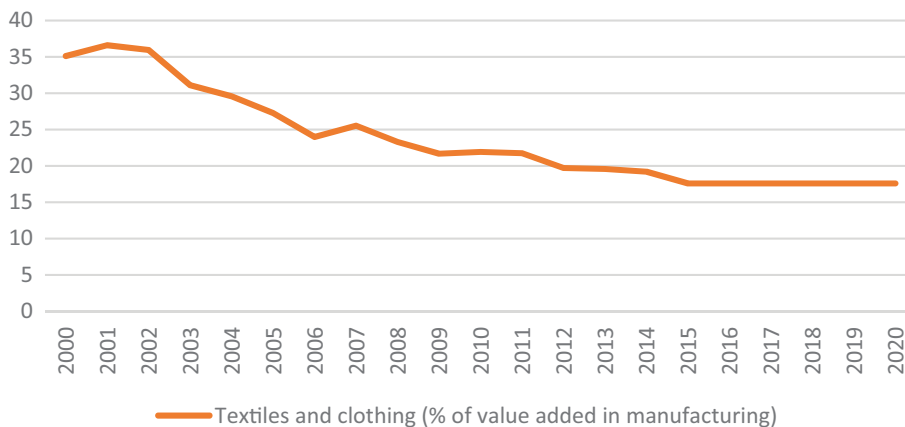
mitigate such pollution, even within these production stages. Green chemistry, for instance, substantially reduces the environmental hazards and waste produced by the industry. It could decrease costs of solvents, reagents, waste disposal, and energy (Choudhury & Kumar, 2013). There is also an increasing use of “eco-friendly” textiles among popular clothing and fashion brands (Nabil, 2021). Automation is another example of a technology that could reduce wastes at the stages of dyeing and printing (Choudhury & Kumar, 2013). Industry 4.0 technologies—entailing digitalization of manufacturing and service processes and system components' integration—could further reduce pollution, together with making production more efficient and allowing customized production (Tsai, 2018). “Green textile industry” is expected on the long-run to be less costly than non-green one for the production of garments, although it initially necessitates substantial investment (Nabil, 2021). Taking the decision to make the initial needed investment remains, however, the main concern.

The inability of Tunisia to either upgrade its involvement in the sector towards a higher value-added activity with less ecological impact, or reduce the ecological impact of present activities, corresponds well with the general obstacles hindering innovation and technological upgrading in the country. Tunisia has an industrial cluster in the field of textiles, the Monastir-EI Fejja (Mfcpole), that is more technologically and ecologically-oriented (Mfcpole, n.d.). Yet, innovation and technology upgrading in the sector is still problematic. A policy paper, Chatbri et al. (2019), that was submitted to the Tunisian government pointed to the underdeveloped use of different technologies in the textile sector and how Industry 4.0 technologies, and especially

TABLE 3 Some industrial sectoral indicators of Tunisia (2001–2020).

Year range	Textiles and clothing (% of value added in manufacturing)	Manufacturing, value added (% of GDP)	Medium and high-tech manufacturing value added (% manufacturing value added)	Mineral rents (% of GDP)
2001–2005	32.10	16.12	14.10	0.02
2006–2010	23.29	16.76	11.50	1.64
2011–2015	19.57	14.99	25.45	0.60
2016–2020	17.59	14.13	27.57	0.22

Source: Author's calculation using data from the WDI (World Bank, n.d.).

**FIGURE 3** Textiles and clothing (% of value added in manufacturing) in Tunisia (2000–2020). Depending on Data from the WDI (World Bank, n.d.).

artificial intelligence (AI) would significantly boost the sector. For instance, only a few large firms used automated quality inspection and only in some respects. Firm managers in the sector have little understanding of AI and the collaboration of these firms with AI firms and startups as well as academic institutions is rather absent (Chatbri et al., 2019). To this could be added to the general difficulties faced by startups pointed out earlier. This should impact negatively on the innovation and technological upgrading of the sector, as this applies to the Greening of the sector with the help of Industry 4.0 technologies.

The sector's tycoons are not likely involved in obstructing the enactment and implementation of innovation-fostering policies, which is more likely to be done in the interests of some onshore sectors' tycoons, as their market domination is based on various economic rents and favored allocation of resources. This implies that innovation could be disruptive to their market dominance. Yet, the textile sector's tycoons lack the incentive to lobby for the enactment and implementation of legislations to foster them. Increasing their incentive through policies that develop linkages to the onshore sector and innovative Green startups and SMEs and encouraging tycoons to upgrade in the value chain would likely bring them towards the pro-environmentalist and Green camp. Yet, these policies seem to be missing or insufficient. CONECT-GIZ1 and HIVOS1 spoke about the presence of foreign donors' programs that tackle the development of those needed linkages, but the scale is quite limited.

The widely acknowledged reason for the acute environmental hazards caused by the sector is comprised of major violations of

existing laws and regulations. The FTDES reported a number of violations for which the sector is responsible, especially the washing and dyeing processes which are responsible for using vast amounts of water and employ various toxic chemicals (Gaaloul, 2022, pp. 11–15). The situation is especially critical in the Monastir province, where the textile sector is responsible for dumping industrial wastes in the Gulf of Monastir exaggerated use of water, mostly freshwater, endangering the economic activities of both fishers and peasants. The companies working in the sector dig deep wells to extract dear freshwater, mostly without obtaining licenses or permissions. These actions aggravate the water shortage problem for the local population (Gaaloul, 2022, pp. 11–15).

While many companies are responsible for the environmental problems caused by a sector where SMEs are also actively present, ASF1 suggested that MNCs working in this sector violate environmental laws even more. They have more financial resources and produce more, causing higher levels of pollution and lower levels of sustainability. There is no respect for environmental laws across these SMEs, like they do in their countries of origin. The growing commitment to environmental regulations among GVCs provides a puzzling situation. According to GIZE1, there is a growing concern among enterprises within the sector, as the ISO certification is increasingly being required by the EU for exporting textiles. Failing to meet the requirement would subject violators to higher taxes.⁴ Nevertheless, the implementation of pollution-related environmental requirements in the sector is less pressing than the more urgent energy saving ISO requirements. Further, the mechanism for the implementation of the

former is rather ambiguous, leaving more room for the continuation of violations of environmental regulations in the sector. According to the interviewees' assessment, only a few firms in the sector apply the pollution-related ISO requirements, after being induced via the demand of their main clients within the value chain.

Social protests against environmental violations of the sector in the Gulf of Monastir started in 2006, even before the revolution, and have increased in number following the revolution. Protests at times were violent, where equipment were burnt and roads were cut off in 2013 (Labiadh & Gaaloul, 2022, pp. 25–29). Nevertheless, the effect of social protests on the operation of the sector seems marginal. Figure 3 shows that the share of the value added of the industry as a percentage of the whole manufacturing sector has been falling through time, but this fall has somewhat diminished in the post-2011 period. Table 3 offers some possible explanation for this outcome, as it shows that the share of medium and high tech grew significantly in the post-2011 period.

Regardless of being a sign of industrial structural transformation, there is little evidence that environmental concerns have led to a drastic fall in the activities of this sector. Furthermore, as pointed out by Grumiller et al. (2018), the phasing out in 2004 of the Multi-Fiber Agreement (MFA)—which provided Tunisia and other countries preferential access to EU markets—has significantly reduced the share of Tunisian exports in the EU market to the advantage of Asian producers. Further, the effect of the financial crisis of 2008 and the rising labor costs in the aftermath of the 2011 Revolution complicated the problem. Figure 3 suggests the latter factor played a limited role, given that most of the fall in the sector's share of value added happened before 2011.

Hence, the textile sector, in which MNCs in partnerships with local tycoons have significant power, have witnessed major violations in environmental regulations. This is likely facilitated by the general power enjoyed by tycoons in both the country in general, and in the sector specifically. This supports the first and fourth hypotheses, respectively. The low value-added characterizing Tunisia's participation in the global textile value chain makes such violations more common, given the focus on cost-savings rather than investment in better and greener technologies that require greater levels (at least initially) of investment. This reality provides evidence in support of the second hypothesis. Despite the openness to developmental aid to the EU, which has an ardent environmental policy, the power of

environmental CSOs is not powerful enough to offer the resistance that would force a stricter implementation of environmental regulations in the textile sector. This is likely partly attributed to the lack of sufficient support of international and EU organizations to ecological issues other than the ones responsible for CO₂ emissions and climate change, such as energy transition. This supports the third hypothesis.

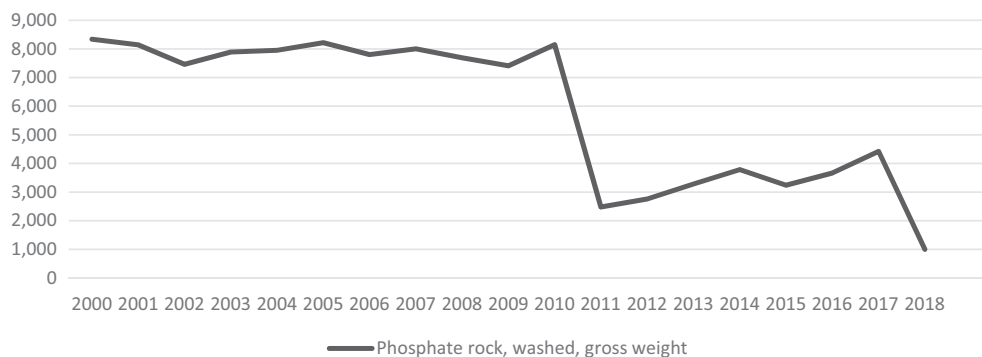
Despite the overall low level of competition across the many markets in Tunisia, the textile sector in the country is characterized by the presence of many producers and SMEs, suggesting a more competitive setting. The active presence of tycoons, however, coincides with the inability of environmental CSOs and labor in effectively resisting environmental violations in the sector. This also supports the fourth hypothesis. Despite lacking the incentive to lobby for the enactment and effective implementation of innovation policies, the more competitive nature of this sector likely makes the tycoons less interested in obstructing policies fostering Green innovation. However, there appears to be no hard evidence to support this claim together with the fifth hypothesis.

Finally, there is no evidence that Industry 4.0 technologies, which are more labor-saving and capital intensive, are being resisted by labor and the UGTT. Yet, it is likely that the prospects of what Green technologies could do for the employment in this sector provides a disincentive for their adoption. The labor-intensive nature of the industry in Tunisia and the fact that it is a major employer of Tunisian workers supports this assumption. This could be in partial and indirect agreement with the sixth hypothesis.

4.3 | The extractive and phosphate industries

The phosphate extractive industry is another important industry in Tunisia which is an internationally leading country in its extraction, at least before the 2011 Revolution. Phosphate extraction, however, has drastically fallen in the post-2011 period (see Figure 4). Indeed, extractive industries tend to be more capital-intensive and relatively low value added. They are also more volatile and have a less certain valuation, which is determined by world prices (McKinsey & Company, 2022). This industry is known to be responsible for considerable environmental concerns in Tunisia and throughout the world. However, the use of Industry 4.0 technologies could lead to more sustainability in the sector, as evidence was provided that digital

FIGURE 4 The Production of Phosphate in Tunisia (in Thousand metric tons) (2001–2018). Depending on data from the United States Geological Surveys (USGS) data (Mobbs, 2003; Taib, 2008, 2013, 2018).



transformation does generally in the mining sector (Xu et al., 2022). The use of these technologies in the mining sector is expanding internationally, especially robotics, automation, internet of things, and others (Lazarenko et al., 2021).

Phosphate extraction dates back to the late 1890s and early 1900s, during the French colonial period. New cities were built to serve the phosphate mining activity in the area, mainly four: Redeyef, Moulares, Metlaoui, and Mdhilla (Irouche et al., 2021). The industry is dominated by the public sector and is represented mainly by two big companies: the Gafsa Phosphate Company—*Compagnie des Phosphates de Gafsa* (CPG) and the Tunisian Chemical Group *Groupe Chimique Tunisien* (GCT) in Gerbs. While the former mainly extracts phosphate, the latter uses this phosphate in producing phosphoric acid and various fertilizers. The CPG is playing a major role in the economic and social activities of the region, providing services such as water and electricity provision, as well as investing in education, transportation, and cultural activities (Irouche et al., 2021; Issaoui, 2022, p. 63).

Acute violations of environmental laws and regulations are witnessed in the two main SOEs operating in this industry. Environmental issues of concern are numerous. More direct risks are also faced by workers, where their health and safety is facing the highest risks because of the high levels of fatal and non-fatal accidents in the workplace attributed to the lack of safety measures (Issaoui, 2022, p. 124). Workers do not wear protective suits and are subject to very hazardous working conditions (Irouche et al., 2021, pp. 116–120). According to ASF1, workers of the CPG and GCT are also exposed to dangerous vapors, both at the workplace and at their nearby residential areas, where waste is being dumped into potable water.

Other risks facing workers as part of their local communities include dangerous emissions from drilling and blasting activities, material processing operations, internal transport, material handling operations, wind erosion of stockpiles, waste water mismanagement, and freshwater resources depletion (Issaoui, 2022, pp. 78–79). Many of these practices violate government regulations (Irouche et al., 2021; Issaoui, 2022). They also negatively affect the economic activities of the local communities, especially fishermen and the livelihood because of aggravating water shortages.⁵ Moreover, both companies are held responsible for the spread of dangerous diseases among local communities because of pollution (Ben Othman & Mabrouki, 2021).⁶ For instance, the industrial activities of the GCT in Gabes are blamed for the widespread respiratory, skin, and cancer diseases observed among the city's inhabitants (Irouche et al., 2021, pp. 116–120).

The pollution from phosphate is not confined to the activities of the two SOEs. Of the various activities leading to toxic emissions, internal transport of phosphate was particularly highlighted as being responsible for huge release of dust due to the use of predominantly unpaved roads (Issaoui, 2022, p. 80). The latter is suggested to be caused by tycoons' exercise of influence over state officials. According to ASF1, a big businessman, politician, and parliamentarian—who comes from a big family and a former member of a former ruling party—used his connections in securing the right to transfer phosphates by trucks rather than the—less polluting and cheaper option of

using the railway. The trucks are overloaded, driven at higher speeds, and the roads are in poor condition and sometimes traversing hilly topography. All of this produced much dust that harmed local communities. An FTDES report discussed violations made by transportation vehicles that transport phosphate through the main road exposing the locals in Mdhilla to various hazards (Mejbri & Attar, 2022).

As part of the post-Revolution surge in social protests over environmental issues, several social protests took place in the Redeyef city. Here, the locals once locked down a company's facility in June 2018 and induced the company to pledge to contribute towards supplying freshwater for the locals. The locals of another city, Mdhilla, where both CPG and GCT facilities are located, blocked the road in front of trucks transferring phosphates (Ben Othmane, 2022a, 2022b). In at least one case, social protest backed by environmental CSOs acquired the support of local government officials. The local government in Mdhilla prohibited the transportation phosphate through the main road of the city (Mejbri & Attar, 2022). Furthermore, the StopPollution movement was active in defending environmental rights and organizing various protest activities. The movement, for instance, was active in protests against the GCT in Gabes and forced its lockout for a whole month in late 2020 (Irouche et al., 2021, p. 120). The frequent stoppages of operation explain why phosphate production fell drastically in the post-2011 period (see Figure 4) and consequently the rent obtained from the mining sector has drastically fallen by almost 87% between 2005–2010 and 2015–2020 (see Table 3).

In these conditions, the UGTT commitment to defending environmental rights of labor and their local communities were brought into question. ASF1 referred to how the GCT appeal to UGTT, saying that the pressure on environmental issues on the company will lead to a closing of the enterprise and the loss of labor jobs. Fearing this, the UGTT refrained from engaging in major efforts on environmental issues, although at times there is support from syndicates and workers. UGTT2 affirmed the dilemma facing the UGTT between the preservation of jobs and the protection from HSH. The interviewee discussed how the union stressed the urgent need of adopting more advanced and environmentally friendly technologies and techniques, instead of retaining the outdated ones still used in the sector. However, this perspective was negated by the SOEs' assertion that resources are limited and the prospects of resorting to the easier alternative of privatization, which is generally much resisted by the UGTT. The UGTT is not against using more capital-intensive or labor-saving technologies to upgrade the sector and reduce its HSH, according to UGTT2. Yet, the SOEs management or the state should provide proper compensation for workers who would lose their jobs, something that the interviewee doubted would be rightly done based on previous experiences. Putting this together, one would reach the conclusion that there is a sort of implicit, likely reluctant, acceptance of the status quo by the UGTT.

The lack of trust between the UGTT and environmental CSOs was manifested in the seemingly lack of coordination between the two parties in environmental-induced protest. UGTT1 asserted that the union understands the just case that motivated workers to protest

against SOEs working in the phosphate industry. However, it has never called for such protests. The interviewee had some doubts about who encouraged these protests, implicitly pointing to the ultimate benefits that accrued to tycoons, including the arrangement to transport phosphate by trucks. Regardless of the validity of the doubts, they reveal the distrust towards some environmental CSOs which was pointed out in an earlier section.

The case of phosphate industry in Tunisia provides evidence supporting some of the presented hypotheses. The relatively low value added of the extractive industry and its less competitive nature seemingly provides a disincentive for adopting greener technology or following environmental regulations. This supports the second and fifth hypotheses. The post-2011 Revolution democratic settings empowered environmental CSOs and enabled them to spread awareness and rally support for the environmental cause and against the violations happening in this sector. This supports the third hypothesis. The sector is not controlled by tycoons and is almost exclusively controlled by the state through SOEs.

This coincides with the presence of fierce environmental protest supported by environmental-oriented CSOs, which often managed to block SOEs from operating and forced their management to pledge to take action to address environmental issues. The drastic fall in the production of the SOEs together with the consequent fall of environmental violations provides evidence that the influence of tycoons in a sector is necessary for environmental violations to continue in this sector. This supports the fourth hypothesis. Even when the sector is not controlled by tycoons, their interests were manifested in the way they benefited from social protest, enabling them to engage in polluting activities such as transporting phosphates by trucks. Finally, the seemingly reluctant acceptance of the UGTT of the status quo and its refrain from more persistently pressing for the adoption of more Green technologies and potentially more labor-saving techniques provides evidence that supports the sixth hypothesis.

5 | CONCLUSION

This paper has shown how the post 2011 emergence of SSR characterized by state capture in Tunisia has impacted its level of environmental quality and pursuit of sustainable economic development. While not the only factor leading to this outcome, state capture has been illustrated to interact with other economy-specific factors, such as low value-added creation in more labor-intensive industry sectors and lack of priority efforts—in both public and private sectors—for pursuing sustainable issues, resulting in low observed levels of environmental quality and economic sustainability. Faced by little resistance from other social actors, the tycoons of Tunisia have negatively impacted sustainability efforts, directly through their outsized influence on the formulation, enactment, and implementation of environmental policies as well as indirectly through their hindering of innovation adoption and technological upgrading.

Building a powerful policy coalition among the main beneficiaries of environmental policies would enable better environmental policy

formulation, enactment, and more importantly, implementation. Mutual trust through shared objectives should be built across different civil society actors. In Tunisia, a higher level of trust would have facilitated cooperation between the UGTT and environmental CSOs, once both sides could agree on the mutual desirability of long-term benefits. Such cooperative alliances would have helped the state in implementing environmental regulations. This would have been produced by providing a sharper and more consensus-based policy consultancy and would have obliged the state to take civil society more seriously as a policymaking partner. International development organizations could play a key role in creating such a cooperation between civil society actors, given that they have their separate links to each of them. The UGTT should be encouraged to be a part of steering committees of government decision making bodies and environmental CSOs should be more integrated in social and economic state-society dialogs and given more voting share in different decision-making bodies.

Strengthening a pro-sustainability coalition such as this could be accomplished by identifying common interests and increasing the resulting incentives of its actors. Technological upgrading, for instance, through the adoption of Industry 4.0 technologies, could necessitate professional training programs and compensation schemes for labor. This would increase their productivity and ultimately raise their wages. The UGTT should be involved through state-society dialogs in setting the measures to accomplish this objective. The increasing relevance of ISO certification for GVCs provides a further opportunity for recruiting more social actors to the pro-sustainability coalition. Through the incentive of being more competitive in foreign markets, entrepreneurs and even tycoons would push public rallies for supporting policies that facilitate more sustainable production, including policies that encourage the emergence of startups and venture capital financing.

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ENDNOTES

¹ Grand corruption refers mainly to higher political forms of corruption as contrasted to petty corruption referring mainly to bribery of state employees (Wilson & Damania, 2005).

- ² For a more detailed discussion, see Sabry (2022b).
- ³ It is estimated that the textiles industry is responsible for wasting 4 trillion liters of water annually, where a single shirt wastes about 25 L and a trouser more than double that much; and most of this wasted water is not reused (Gaaloul, 2022, pp. 11–15).
- ⁴ ISO 4484-1 and 4484-2 and 4484-3 are the ISO requirements directly related to the textile sector and focusing on the microplastic content resulting from the sector, while many ISOs are related to emissions. See <https://www.iso.org/ics/13.020.40/x/>; internet.
- ⁵ It was found that the content of the toxic fluorine in the discharged water from the phosphate plant at Mdhilla is much significantly higher than the limit set by the Tunisian regulations, which ultimately affected the quality of groundwater used for drinking by the local community (Issaoui, 2022, p. 143). In the city of Gabes, the GCT is responsible for dumping the highly hazardous and radioactive byproduct of the production of fertilizers, the phosphogypsum, directly to the sea, with the estimated amounts being 5 million tons annually which had a drastic effect on the fishery activity in the area (Irouche et al., 2021, pp. 116–120). Furthermore, the activities of the CPG cause major water shortages in the area. FTDES reports discussed how the CPG and the GCT use potable water resources of the region, instead of sea water, in their production processes, which aggravated the water shortage of the locals. This is against Tunisian law that prohibits the unjustifiable use of potable water if other sources could be used (Irouche et al., 2021, pp. 113–120).
- ⁶ The CPG was responsible for a major increase in pollution because of improperly storing its extracted phosphate in open air in the Redeyef. The volume of the stored extracted millions of tons-worth of phosphate has increased through time since 2017 as a result of frequent work stoppage due to social protests (Irouche et al., 2021, pp. 114–115).

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APPENDIX A

A.1 | List of interviewees

ASF1: A member of the *Avocats Sans Frontières*—Lawyers without Borders in Tunisia.

CONECT-GIZ1: A former member of the CONECT business association.

FES1: A member of the German *Friedrich Ebert Stiftung*—Friedrich Ebert Foundation in Tunisia.

FES2: A member of the Friedrich Ebert Foundation in Tunisia who is responsible for environmental issues.

FTDES1: A member of the *Forum Tunisie pour les Droits Economiques et Sociaux*—Tunisian Forum for Economic and Social Rights (FTDES).

GIZE1: A member of the *Deutsche Gesellschaft für Internationale Zusammenarbeit*—German Society for International Cooperation (GIZ), working in one of the environmentally related projects in Tunisia.

HBS1: A member of the German *Heinrich Böll Stiftung* in Tunisia.

HIVOS: A member of the MENA team of the Dutch *Hivos*.

MINENV1: An official at the Ministry of the Environment in Tunisia.

RLS1: A member of the German *Rosa Luxembourg Stiftung Nordafrika*—Rosa Luxembourg Foundation North Africa in Tunisia.

SME1: An owner/manager of an SME and a member of one of UTICA's chambers.

TunisianStartups1: A leading member of the TunisianStartups business association.

UGTT1: A member of the UGTT.

UGGT2: A member of the UGTT involved in environmental issues.

UTICA1: A member of the UTICA business association and a head of one of the chambers in the association.

TABLE A1 Definition of the different Indicators used in the paper.

Indicator name	Definition from the WDI dataset	Source
Civil society participation	“Are major CSOs routinely consulted by policymaker; how large is the involvement of people in CSOs; are women prevented from participating; and is legislative candidate nomination within party organization highly decentralized or made through party primaries?”	V-Dem
Engagement in independent trade unions	“What share of the population is regularly active in independent trade unions?”	V-Dem
Favoritism	“To what extent do government officials show favoritism to well-connected firms and individuals when deciding upon policies and contracts?”	GCI
Freedom of association	“To what extent are parties, including opposition parties, allowed to form and to participate in elections, and to what extent are civil society organizations able to form and to operate freely?”	V-Dem
Textiles and clothing (% of value added in manufacturing)	Value added in manufacturing is the sum of gross output less the value of intermediate inputs used in production for industries classified in ISIC major division D. Textiles and clothing correspond to ISIC divisions 17–19.	WDI
Manufacturing, value added (% of GDP)	Manufacturing refers to industries belonging to International Standard Industrial Classification (ISIC) divisions 15–37. The value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources.	WDI
Medium and high-tech manufacturing value added (% manufacturing value added)	The proportion of medium and high-tech industry value added in total value added of manufacturing	WDI
PM2.5 air pollution, population exposed to levels exceeding WHO guideline value (% of total)	Percent of population exposed to ambient concentrations of PM2.5 that exceed the WHO guideline value is defined as the portion of a country's population living in places where mean annual concentrations of PM2.5 are greater than 10 micrograms per cubic meter, the guideline value recommended by the World Health Organization as the lower end of the range of concentrations over which adverse health effects due to PM2.5 exposure have been observed.	WDI
PM2.5 pollution, population exposed to levels exceeding WHO Interim Target-1 value (% of total)	Percent of population exposed to ambient concentrations of PM2.5 that exceed the World Health Organization (WHO) Interim Target 1 (IT-1) is defined as the portion of a country's population living in places where mean annual concentrations of PM2.5 are greater than 35 micrograms per cubic meter.	WDI
Mineral rents (% of GDP)	Mineral rents are the difference between the value of production for a stock of minerals at world prices and their total costs of production. Minerals included in the calculation are tin, gold, lead, zinc, iron, copper, nickel, silver, bauxite, and phosphate.	WDI
Ores and metals exports (% of merchandise exports)	Ores and metals comprise the commodities in SITC sections 27 (crude fertilizer, minerals nes); 28 (metalliferous ores, scrap); and 68 (non-ferrous metals).	WDI