

Authoritarian Regimes and International Security Institutions: When Do Dictators Comply?

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SYNOPSIS¹

‘Atoms for Peace or War?’

“Unclear energy is our obvouse right” (Sadjadpour, 2006, p. 155)² was the slogan of a poster that an Iranian pupil held in front of TV cameras at a rally of school children in support of the Iranian government’s nuclear policies in 2006. The pupil’s plea is a clear illustration that even the youngest Iranians demonstrate for their country’s right to nuclear energy. This orchestrated scene is representative of the Iranian regime’s line of defense regarding its nuclear policies. Iran accuses the ‘West’ of preventing the country from realizing its ‘*inalienable right*’ to develop and produce nuclear energy. A right, which the Nuclear Nonproliferation Treaty (NPT) grants to all states that in turn made a legally binding commitment to renounce nuclear weapons.

And this provision reveals the core of the problem with Iran’s nuclear program. The world cannot believe that Tehran is honestly observing its obligation to refrain from producing atomic bombs. Does it really want ‘*Atoms for Peace*’? The immense series of NPT rule violations as well as Iran’s continuing efforts to conceal the nature and extent of its undeclared nuclear activities raise serious doubts about the true intentions of that country and whether it would rather not seek ‘*Atoms For War*’?

The Iranian nuclear crisis is indicative of a broader phenomenon unfolding in the Middle East, which affects not only the NPT but also the Chemical Weapons Convention (CWC) and the Biological and Toxin Weapons Convention (BTWC). Despite their differences, all three

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²The original slogan contains these typos. Correctly, it should read: ‘Nuclear energy is our obvious right’.

treaties are meant to prevent the use of atomic fission, chemicals, and microorganisms as weapons capable of killing millions – also known as Weapons of Mass Destruction (WMD). These three agreements prohibit the weaponization of science, regulate the peaceful use of it, and monitor state parties' compliance to these ends.

The effectiveness of these institutions in the attainment of their goals – international peace and security – is severely challenged by the disparate pattern of Middle Eastern state behavior. With the exception of Israel, all states in the region ratified the NPT and are obliged to forego nuclear weapons by reporting correctly and completely their nuclear activities and accepting regular international inspections. Despite this legalized commitment, several states have in the past engaged in clandestine nuclear experiments and obstructed the work of the International Atomic Energy Agency (IAEA), while others have complied with their nonproliferation undertakings. Iraq was among the first countries in the world to ratify the NPT in 1968, even before the treaty entered into force in 1970. However, only a few years later Saddam Hussein violated NPT rules by engaging in undeclared nuclear activities and incrementally developing a full-fledged nuclear weapons program (see IISS, 2008, p. 86–88). Turkey and Jordan, by contrast have honored their commitments persistently, while Iran has conformed to the rules during some periods and not during others. Likewise, Syria oscillates between cooperation with the IAEA and willful concealment efforts. This temporal and cross-country variation becomes even more puzzling when taking rule adherence with the CWC and the BTWC into account. Algeria, for example, respects its NPT and CWC obligations, but ignores several BTWC provisions. Libya violated the NPT and the BTWC and, later, after its sudden renouncement of WMD, ratified the CWC and accepted international disarmament missions on its soil. Iran, the regional champion in nuclear noncompliance, mostly complies with the CWC and BTWC. These latter two conventions have been ratified by almost all states in the Middle East.³ To summarize, for some countries there is an obvious mismatch between their promises and deeds, while others apparently endorse nonproliferation rules.

This study focuses on the factors that broaden or narrow this commitment-compliance gap with WMD nonproliferation rules and is guided by the following question:⁴ What accounts for the cross-country and temporal variation in compliance with WMD nonproliferation treaties

³Egypt, Syria, and Israel are neither party to the BTWC nor to the CWC.

⁴On the conceptualization of the commitment-compliance gap see Dai (2013) as well as Hafner-Burton and Ron (2009).

in the Middle East? My central claim is that authoritarian regimes differ in their domestic institutional capacity to keep the international commitments they have made. In a nutshell, I argue that the varying strength and persistence of institutional constraints over time on authoritarian rulers alter the prospects for compliance with nonproliferation rules. In order to provide an explanation for this general statement, I propose that factional veto players in a given regime primarily affect the constraining capacity of domestic institutions. When these veto players represent increasingly preferences for international trade, then compliance with nonproliferation rules becomes more likely.

The above question is theoretically and empirically relevant. From a theoretical perspective, the Middle Eastern compliance conundrum raises a question which has received so far little systematic attention within the nonproliferation literature. The examples above suggest that nondemocracies, which are the strongly prevailing regime type in the Middle East, do not behave uniformly, but exhibit considerable variation in their compliance behavior, both over time, across states, and within the same regime.⁵ This suggests that the category of non-democracies needs to be unpacked and those domestic factors that are conducive to more or less compliance with WMD nonproliferation rules need to be investigated. The broader theoretical implications of the research question relate to the analysis of authoritarian regimes' behavior in International Relations (IR). Few contemporary studies exist that focus on the variations in the internal characteristics of authoritarian regimes to explain outcomes within international security. Among them, Lai and Slater (2006) and Weeks (2012) analyze how different types of autocracies lower or raise the prospects for international dispute and conflict initiation. They each focus on different aspects of authoritarian rule, the organization of social control and audience costs respectively. They show that the varying institutional design of autocracies has an influence on international outcomes. Concerning the study of institutionalized security cooperation, however, our understanding of authoritarian regimes' compliance behavior remains so far incomplete. We know that democracies comply more than autocracies (see Morrow, 2007), but we still lack a coherent framework to identify the conditions under which different types of authoritarian regimes will comply with their international security commitments. This study contributes to fill this gap.

With regard to the empirical relevance, the patterns of Middle Eastern nonproliferation

⁵On enduring Middle Eastern authoritarianism, see Bellin (2004) and Posusney (2004).

compliance are related to what Sagan (2010) termed ‘nuclear latency’, the extent to which a state controls sensitive nuclear technology and processes that are not only capable of producing energy but also fissile material for nuclear weapons, such as uranium enrichment or reprocessing. Enhanced chemical and biological research and development are contributing further to a general latent WMD capacity, given that they have dual-use (civilian and military) applications. Efforts to develop indigenous nuclear fuel cycles to generate power and extend the petrochemical industry are accelerating in the Middle East (IISS, 2008; Acton and Bowen, 2008).⁶ Against this backdrop, compliance with the treaties that regulate the legitimate uses of such technologies assures that states’ activities are safeguarded and do not constitute a source of danger and instability. For the past couple of decades, the Middle East has been the focal point of some of the most intense interstate and intrastate conflicts. More recently, it has turned into a source of global and region-wide terrorism. Unknown and uncontrolled dual-use activities and materials, which are the result of treaty noncompliance, increase the risk of WMD proliferation both across states and to non-state terrorist groups in the region and beyond (see also Sagan, Waltz and Betts, 2007).

Although compliance with nonproliferation rules is of direct political relevance for international peace and security, few studies address it systematically and with adequate empirical evidence (Fuhrmann and Berejikian, 2012). I contribute to closing this gap within nonproliferation research by analyzing the conditions under which Middle Eastern states’ growing proclivity and ability to master dual-use technologies remain within the permitted confines of *all* three international WMD nonproliferation institutions (the NPT, the CWC, and the BTWC).

The Puzzle of Middle Eastern Compliance

Given the mentioned hostilities and intraregional conflicts, why should states under these dismal conditions have any incentives to comply with nonproliferation institutions?

The regional power distribution of the Middle East as well as its prolonged and severe security dilemma might account in part for the fact that the Middle East as a whole deviates

⁶More and more states strive to master the nuclear fuel cycle and indigenously develop nuclear power. For an overview of active and planned nuclear power programs in the Middle East, please consult the IAEA’s database on Country Nuclear Energy Profiles at http://www-pub.iaea.org/MTCD/Publications/PDF/CNPP2012_CD/pages/. Schulze et al., for instance, predict that the top ten chemical industry companies will come from the Middle East in the next years (Schulz et al., 2012).

from the rest of the world in terms of compliance with nonproliferation rules. On average, Middle Eastern compliance with NPT rules is the worst in the world. Out of a total of eight states that have so far violated their nuclear commitments, five have been countries from the Middle East (Iran, Libya, Syria, Egypt, and Iraq).⁷ A similar diagnosis holds for compliance with provisions of the CWC and BTWC. The enduring conflicts and mutual suspicion that are exceptionally more intense in the Middle East than in other regions, provide, according to structural realism, few incentives to comply with international rules.

While the lower regional average matches some predictions of structural arguments, the considerable variation of compliance does not. Structural accounts that highlight the power distribution in the international or regional system are confronted with a puzzle when actual nonproliferation behavior in the Middle East is considered. This puzzle has been recently identified by Solingen (2007) and Müller and Schmidt (2010) for the patterns of nuclear weapons build-ups and applies equally to the question of nonproliferation compliance.

Under its polarity assumption, structural realism leads us to expect that in a region marked by persistent hostilities and a regional power with nuclear capabilities, states would have no incentives to abide by global nonproliferation norms (Waltz, 1979; Mearsheimer, 1990, 2001). In fact, they would try to acquire WMD. The logic behind this argument is that “a country without nuclear allies will want nuclear weapons all the more if some of its adversaries have them” (Waltz, 1981, p. 8). The consequence is that nuclear weapons would proliferate as in a chain reaction, leading to secret initiations of weapon programs (Sagan, 1996, p. 57–58). This means that states without the nuclear protection from a great power and that are confronted with nuclear powers in a multipolar order, will seek WMD capabilities and, as a consequence, break their treaty commitments. The Middle East – with its decades-old conflict between Israel, the Arab states, and Iran as well as other regional rivalries – represents the ideal ‘laboratory’ for realist WMD proliferation theories.

While some cases seem to fit those structural predictions, others represent an anomaly for the purely structural variant of realism. The Iranian leadership might feel threatened by Israel’s undeclared nuclear capability.⁸ As a result, it invests into an indigenous nuclear deterrent and

⁷I count the violations of the IAEA’s comprehensive safeguards agreement, which requires regular, complete, and correct reporting of nuclear material and activities. Violators beyond the Middle East are North Korea, South Korea, and Romania in the 1980s. See Rockwood (2007) and Goldschmidt (2009). For the Romanian case, see IAEA InfoLog (2006).

⁸And even Pakistan’s declared atomic bomb (see Takeyh, 2006).

ignores the international rules it subscribed to. Several questions, however, are left unanswered: why did Iran suspend its enrichment activities all of a sudden in 2003 and 2004, and chose a route of selective nuclear compliance: sticking to some nuclear rules, but ignoring UN Security Council resolutions demanding an unconditional suspension of nuclear activities? Why did Libya, hardly threatened by anyone in the early days of the Gaddafi regime⁹, break its NPT and BTWC commitments by engaging in a full scale WMD program, which constituted the very cause for Libya being threatened and isolated? Why did the same regime, being on the path toward a nuclear deterrent and in the possession of chemical weapons, decide to shut down its nuclear facilities, ratify the CWC, and promise to comply henceforth with its treaty obligations, when the international and regional structure was multipolar and hence a danger to its survival (Mearsheimer, 1990)?

These few, but crucial, cases demonstrate that the hypothesized consequences of a multipolar regional system on proliferation behavior, to which I add the conscious violation or respect of treaty rules, have a weak empirical backing. Structural variables, and especially polarity, lead us to expect a homogeneous outcome for most of the states in the Middle East: noncompliance with nonproliferation commitments. The regional security context provides few incentives to adhere to international security institutions.

Yet, the variation in compliance levels and therefore in the propensity to stick to nonproliferation goals varies too strongly to be attributed to a constant multipolar region. With its focus on systemic causes and its unitary state assumption, structural realism has difficulties in accounting for variations in (non) compliance across states within the same region and even more within the same state.

To do so, it would have to incorporate additional assumptions and unit-level explanations. While not neglecting realism, I choose not to run through a list of realist variables in order to assemble a fragmented explanation with the help of various auxiliary hypotheses and idiosyncratic causes. Rather, theoretical parsimony generates more insights.

I argue that we have to look at those factors that make treaty commitments credible in the first place and on this basis develop a coherent account for how these conditions affect nonproliferation compliance decisions. Put differently: Under what conditions can we believe that a state's intentions are indeed peaceful and that it will stick to its obligations? The answer

⁹It even enjoyed the backing of the Soviet Union in the 70's and 80's (see IISS, 2008, p. 98)

I give is that this depends to a large extent on authoritarian states' domestic capacity to make credible international treaty commitments.

In that regard, international security institutions introduce 'tough' scope conditions for the analysis of states' rule adherence and the domestic conditions for it, because short-term incentives to break one's promises are strong and affect all states alike in international anarchy (Jervis, 1978, 1982; Axelrod and Keohane, 1985). Potential cheaters reap a strategic military benefit when they do not comply (i.e. building WMD), while others stick to their undertakings and disarm. This pervasive feature of interstate security cooperation is amplified by the intense mutual hostilities and suspicions in the Middle East.

Yet even under these adverse scope conditions for compliance, I argue and show that in authoritarian regimes domestic institutions – which provide for veto player competition and where trade interests are politically represented – affect nonproliferation compliance outcomes. I will substantiate my propositions with the use quantitative methods and original data on compliance with the NPT, CWC, and BTWC.

Authoritarian Regimes and Credible Commitments

Why do some authoritarian regimes observe their international treaty undertakings, while others break them? Owing largely to the dominance of the realist paradigm in nonproliferation scholarship, regime type explanations had a hard time to establish themselves within the field. Driven by recent contributions in the nonproliferation literature (Solingen, 2007, 2010; Hymans, 2010; Müller and Schmidt, 2010), I situate myself in this strand of nonproliferation research that takes domestic explanatory factors seriously and analyzes the consequences for proliferation behavior. I contribute to this literature by developing a theoretical model that relaxes the dichotomous conceptualization of regime type as either democratic or nondemocratic and that takes the considerable variation in the institutionalization of authoritarian regimes as the starting point for explaining their international behavior. By synthesizing insights from scholarship on authoritarian institutions, credible commitments theory, and domestic politics approaches in nonproliferation, my theoretical framework highlights the role and influence of domestic institutions and the political competition between rivaling factions with diverse preferences in authoritarian regimes as factors driving decisions of compliance with nonproliferation treaties.

The argument proceeds in two steps. First, I propose a general association that theorizes on the consequences of the institutional variation across autocracies of their capacity to commit credibly to international agreements. Second, I advance an explanation that spells out the mechanisms at work between domestic political institutions and nonproliferation compliance decisions. The framework explains when and why some regimes are more likely to break the international rules while others adhere to them.

I argue, first, that more domestic institutional constraints on authoritarian executives' power increase the probability of credible authoritarian commitments. If domestic institutions limit the discretionary power of executives, they reduce the capriciousness involved in authoritarian decision-making. This enhances the predictability of policies and leads to less uncertainty in international behavior. Sudden shifts in policy become less likely. The existence as well as the constraining effect of institutional arrangements in authoritarian regimes is conditional upon the fulfillment of their purpose – securing the survival of the regime and more specifically of the autocrats. Put differently, such institutions are not a permanent and stable feature of authoritarian rule.

Consequently, I hypothesize that their constraining effect depends on the persistence of the specific institutional arrangement in a polity. This is the first argument, which establishes that more *and* more durable institutional constraints in authoritarian regimes increase the capacity to keep one's international undertakings. This domestic regime type hypothesis establishes a general association between the specific kind of authoritarian regime and its up-front propensity to adhere to ratified international rules.

Yet, which functions do these institutional constraints have to fulfill in order to *effectively* limit dictators' authority and contribute thereby to compliance with international rules? In order to respond to this question I derive, as the second argument, an explanation for the conditions under which authoritarian institutions reduce or disable arbitrary decisions and increase the capacity for credible treaty commitments.

If political groups with diverse preferences are represented and can compete politically within authoritarian institutions, then this feature is a functional equivalent to formalized checks and balances. The participation of different political groups in decision-making prevents the concentration of political power in one hand and imposes limits on the discretionary au-

thority of dictators. Rather than looking upon a specific institution, like authoritarian elections or legislatures, I focus on how institutions in authoritarian regimes divide political power by regulating the participation of *diverse* political groups in decision-making.

Crucially, the number of factional veto players as well as the distribution of preferences for international trade among them affect prospects of WMD nonproliferation compliance. In that regard, I hypothesize that both factors interact and are mutually dependent. That is, whether a high number of veto players will lead to nonproliferation compliance depends particularly on whether preferences for international cooperation, measured by an interest in global exports, become prevalent or not. If all veto players favor WMD they will most likely credibly commit to WMD. In turn, whether preferences for trade will have an impact on higher compliance with WMD nonproliferation rules depends on whether political actors within authoritarian regimes represent these interests and have the power to implement them.

I argue that when there is a higher number of veto players as well as a prevalence of preferences for economic exchanges, then compliance with nonproliferation rules is more likely. This second, domestic politics explanation, integrates insights from veto players theory (Tsebelis, 2002) and recent domestic politics theories in nonproliferation (Solingen, 2007). By doing so, I derive an explanation for when and which institutional constraints will lead to more or less nonproliferation rule compliance by explicitly modeling the effect of veto players and trade groups as interdependent.

Rival Hypotheses: Relative Power and Threat

Although not figuring at this study's theoretical core, excluding realist arguments from an analysis of nonproliferation behavior is tantamount to omitted variable bias and will yield incomplete accounts of the phenomenon of Middle Eastern compliance. While it has been argued that structural reasons cannot explain the cross-country and temporal variations in compliance, because their central explanatory factors (regional multipolarity and nuclear threat) are constants, other propositions within the realist paradigm may carry some weight. Realism's domain of inquiry is nuclear proliferation, but the propositions it advances can be applied, as (Koblentz, 2009) shows, also to the field of BW and CW proliferation.

Changes in a state's relative power as well as in the specific threats it faces provide all

reasonable incentives for states to break their nonproliferation commitments. Therefore, I discuss realist approaches whose explanatory factors vary and deduce hypotheses from these factors. Specifically, the proposition reads that states with more relative power will have fewer incentives to comply with nonproliferation rules, given the context condition in the Middle East. This is the relative power hypothesis. I then derive the hypothesis that the *growth in relative power* will lower prospects of compliance. That is, when a state consecutively gains power from one year to the next, two effects are possible: First, it can afford to engage technologically in proliferation relevant activities. Second, it will have fewer incentives to rely on other states for its security. The third realist hypothesis I derive is: the higher the level of threat a state is exposed to, the fewer incentives will it have for compliance. Finally, states locked in enduring rivalries with other states in the region are more likely to break their international commitments.

The Governance of the Dual-Use Dilemma

The three WMD institutions differ in many institutional and substantive respects and warrant a separate analysis. The element of comparability, though, is that all three prevent the abuse of dual-use science for producing WMD.

The label WMD evolved historically and is by now a catch-all term for nuclear, biological, and chemical weapons. WMD share certain characteristics that conventional weapons lack. Sadly enough, they “kill more with less” (OTA, 1993, p. 46).¹⁰ While this ‘feature’ constitutes the main separating line between WMD and conventional weapons, it is controversial whether WMD are a unitary category (Müller, 1997). Is it justified to compare chemical and biological weapons, whose effects depend on the weather and against which shelter is possible, together with nuclear weapons? Ultimately, no weapon can match the destructive power of the atomic bomb and its derivatives (hydrogen bombs). And there is no protection – like gas masks or vaccines – against nuclear weapons other than nuclear weapons themselves (Koblentz, 2003; Waltz, 1981). These considerable differences in destructiveness create different incentives to acquire them. States can effectively provide for their security via nuclear deterrence; but hardly with chemical and biological weapons.¹¹

¹⁰This means that a single WMD can kill a lot more people than any single conventional weapon.

¹¹For example, Saddam Hussein’s chemical weapons did not deter coalition forces in 1991 to attack the country

The international WMD nonproliferation treaties differ as well from each other. In general, chemical and biological weapons have been treated as one issue area and the resulting two conventions, which evolved into two distinct treaties due to historical contingencies, abolish an entire class of weapons. That is, they require the unconditional disarmament of all chemical and biological weapons and add the obligation to abstain from any proliferation of those weapons.

By contrast, the NPT provides for asymmetrical obligations for two different sets of its state parties. States are divided into Nuclear Weapon States (NWS) and Non-Nuclear Weapon States (NNWS). The former are those state parties that conducted a nuclear weapons test before January 1, 1967. The latter are those states that had not conducted a nuclear explosive test until that date and that ratified the treaty thereafter. The NPT prohibits for the NNWS the production, development, acquisition, and spread of nuclear weapons. Compliance with this commitment is monitored by the IAEA. The NWS¹², in turn, are obliged to not spread nuclear weapons and assist other states in acquiring them. The NWS can retain their nuclear weapon stockpiles under the terms of the NPT but should contribute with the other state parties to global nuclear disarmament.

The different institutional design of the CWC and BTWC on the one side and the NPT on the other as well as the differing destructiveness of WMD and associated incentives, suggest that many treaty and weapon specific factors might affect compliance decisions. Due to the lack of appropriate quantitative measures to control these features, I decide to separate the analysis of compliance with CWC and BTWC provisions from an analysis of nuclear compliance.

What justifies, though, addressing compliance with these three treaties in one study? The element of comparability is given by what these institutions try to accomplish: solve the dual-use dilemma. The dilemma is that nuclear physics, biology, and chemistry can be used for the advancement of humankind but also for its massive destruction. Even before the atomic bomb was dropped, some physicists of the Manhattan Project called for the global regulation of nuclear energy to prevent its hostile use (Bohr, 1950). Several years later, the NPT was the first multilateral instrument to set limits on the uncontrolled spread of nuclear technology that has

(see Sagan, 2000). As the civil war in Syria demonstrates, the possible use of CW is a reason to intervene into the conflict and not to abstain from it (Baker and Gordon, 2012).

¹²The official nuclear weapon states are the United States, Russia, China, the United Kingdom, and France - the permanent five members of the UN Security Council. All other possessors of nuclear weapons, India, Pakistan, Israel, and presumably North Korea, are non-NPT members and can only enter the treaty in the future as Non-Nuclear Weapon States. Should they wish to accede to the NPT, they would have to disarm their nuclear arsenals.

both civilian and military applications. Similarly, calls for governing chemical and biological research activities, where the dual-use dilemma is even more acute, have led to the creation of the CWC and BTWC. The treaties try to strike a delicate balance: specifying and permitting the peaceful uses and preventing military or hostile abuses of technology and material. To achieve this goal, they specify a set of rules that require states to declare and continually report their activities, facilities, and material. This is the baseline for running a system of material accountancy and controlling stocks and flows of sensitive material. Furthermore, sensitive processes such as those technological steps that are especially conducive to military uses, are controlled and monitored by international inspections, among others. With these institutional regulations, these treaties attempt to halt the proliferation of WMD and to control the knowledge, technologies, and material conducive for their production. It is compliance with these rules that is the dependent variable in this study.

Compliance with International Security Institutions

A state is ready to incur the costs of binding itself to international rules the moment that it chooses to ratify a treaty. However, for these rules to exert their regulating effect, states have to persistently stick to these agreements (Simmons, 2010). This is all the more important in security institutions that govern dual-use activities and where the security of other states depends on other state parties' compliance. Therefore, in order to judge about the credibility of states' commitments, one has to analyze their on-going compliance behavior. Within security institutions, short-term incentives to break out from an agreement are accompanying every long-term cooperative endeavor. Hence, the question of noncompliance has to be asked repeatedly.

Rule compliance is commonly defined in the IR literature as consistency between state-level policies and international agreed-upon rules (Simmons, 1998; Börzel, 2000). To ascertain how well states observe their obligations requires also that a commitment extends into the foreseeable future and beyond. Therefore, my focus rests on on-going compliance with treaty obligations and not with the implementation of standing rules that require one single act. In fact, this conceptualization of compliance is a dynamic variant of the commitment-compliance gap, as it has been formulated in the international Human Rights (Dai, 2013; Hafner-Burton

and Ron, 2009) and, with yet another label, in the technical literature on monitoring (Avenhaus and Kyriakopoulos, 2006).

Fixed rule standards as they are formulated in the treaties serve as a benchmark against which to measure systematic deviations of state behavior. I add to this a temporal component by observing how states complied in each year with the set of standing treaty rules. This definition excludes various alternative conceptualizations of compliance that analyze the consistency of state behavior and broader international regime norms that are not spelled out formally in treaties. While such an approach might be viable, I choose to stick to clearly identifiable, transparent, and measurable standards of behavior. In addition, such a conceptualization allows me to reproduce the proposed measure of compliance.

I conceive of compliance as a continuous measure and not as a binary concept. That is, some states might commit more violations than others or observe their obligations better than others. While this complicates the construction of adequate data sets for the case of nonproliferation treaties, the advantages are twofold. First, a continuous measure is closer to the empirical reality and more accurate. How would one code Iran's selective nuclear compliance with a dichotomous or even an ordinal measure? The country complies with some rules and breaks others. In short, a binary or limited ordinal aggregation rule would reduce the empirical variation. And second, a continuous measure allows to conduct an "explicit comparison of observed variation in levels" of compliance (Simmons, 2002, p. 200).¹³ This increases the information we get about state behavior and allows us to draw more fine-grained conclusions as to the determinants of rule-adherence. Hence, a state party to an agreement can vary in its compliance both diachronically and synchronically.

In sum, I refer to compliance with rules that govern dual-use activities. Compliance is measured for the set of states that agreed to conform to the treaty rules of the NPT, the BTWC, and the CWC. These treaties provide a fixed benchmark against which I measure the consistency between state behavior and treaty requirements over time.

¹³For a similar point see Botcheva and Martin (2001).

Measuring Compliance with WMD Nonproliferation Treaties

Research on (compliance with) WMD nonproliferation is confronted with a serious drawback: considerable data limitations (Williamson, 2003). The proliferation field is characterized by a high degree of secrecy and confidentiality. This extends also to the handling of state party information by international treaty organizations (IOs). Although these IOs collect and assess data on state party compliance, in general they do not publish the results of the entire verification process. As a consequence, only a small portion of compliance information is publicly available and often this information is not presented coherently in one IO document.

Therefore, developing a coding and measurement procedure is not straightforward and requires technical knowledge and considerable patience to collect, streamline, and evaluate the adequacy of publicly available information for measuring compliance. However, it is worth engaging in this effort, since we gain a precise understanding of actual and observable state behavior and do not rely on secondary sources with varying informational quality to ascertain compliance (for an example of the latter approach see Fuhrmann and Berejikian, 2012). While not providing a full picture of states' compliance, the evidence necessary to devise my measures of compliance comes from one authoritative source: international organizations.

According to the outlined approach, I construct two data sets on rule compliance: one for compliance with rules from the CWC and BTWC and one for NPT rules. These represent new data that have not been conceptualized and measured in this way before. The measurement of compliance applies to all states that ratified the respective treaties and starts from the time that data on their compliance is available from IOs. I discuss, first, the CBW compliance data and, second, the NPT rule compliance evidence.

The available data from the CWC and BTWC allows me to measure *whether* states reported on dual-use related activities, material, and facilities. Both conventions specify a set of reports state parties have to submit each year and wherein they declare material stocks, R&D activities, planned chemical and biological production thresholds and the like. I calculate the percentage of reports submitted in any given year by a state party to the amount of annual reports required from that state by the conventions. This gives a proportionate continuous measure, weighted by the reporting requirements each state has to fulfill. This measure captures state parties'

willingness to share sensitive information with other state parties. Furthermore, it expresses the comprehensiveness of this willingness.

Yet, is this measure indicative of whether the state really complies with the terms of an agreement? Failing to submit reports does not mean necessarily that one is engaging secretly in prohibited activities. And even when states report comprehensively, there is still the possibility that they cheat on their commitments. However, two arguments suggest the use of such a measure for tracking the consistency between treaty rules and state behavior. First, evading systematically to report on one's technical and material capabilities is a form of defection in security institutions. Crucially, cooperative arrangements in this field reduce uncertainty about others' intentions and capacity to build weapons by exchanging information on the types of facilities and flows and stocks of materials between cooperating states. Failing to do so creates additional uncertainty and is a form of evading the informational costs imposed by international institutions, while reaping the benefits. Second, this measure is the closest approximation one can get for nonproliferation compliance with the CWC and BTWC, due to the low availability of data. In some cases the low reporting shares might be indicative of instances of actual noncompliance (see Chayes, Handler-Chayes and Mitchell, 1998, p. 40). Libya, for example, performed weakly in submitting its CWC reports and indeed concealed, despite its disarmament decision, the existence of chemical weapons on its soil.¹⁴

The measure of nuclear compliance counts how many violations a given state party committed in a year. In that regard, I count how many provisions of the so-called IAEA comprehensive safeguards agreement have been violated. The IAEA safeguards agreement is a compulsory sub-agreement of the NPT and specifies operational rules that prevent the diversion of nuclear facilities and material to prohibited military ends. As in the case of the CWC and BTWC, states are obliged to report their material, activities, and facilities. However, the agreement covers a broader range of rules, relating to procedures of international inspections and the installation of seals, cameras, and other surveillance devices. The publicly available data from the IAEA make it possible to measure state behavior across that range of rules which safeguard sensitive material and prevent its use for nuclear weapons production. In short, compliance with nuclear

¹⁴As the OPCW reports, inspectors found undeclared chemical weapons after the fall of the Gaddafi regime in 2011 (OPCW, 2013).

rules is operationalized as the number of violations a state has committed. Obviously, when a state commits no violations, then it is in compliance with its safeguards agreement.

Both measures capture violations of treaty rules. They differ, though, systematically in the seriousness of rule breaches. Infractions with the CWC and BTWC reporting obligations are minor compared to violations of the safeguards agreement. Despite their differences, both operationalizations are derived from the same underlying concept: states' propensity to adhere to rules that govern dual-use activities and thereby the prevention of the proliferation of WMD and related technologies, material, and processes.

Research Design

Quantitative methods are most adequate to conduct an analysis with multiple layers of variation and several explanatory and dependent variables. And while regression analyses can uncover and assess the patterns that drive the Middle Eastern compliance conundrum, it is not possible to generalize the results beyond the region.

However, the region presents an outlier in terms of the variation in nonproliferation compliance. The average compliance level is low compared to other regions in the world and the intra-regional variation high, which remains unaccounted for by conventional realist explanations. The Middle East is a *deviant sample*, which allows us to “probe for new – but as yet unspecified – explanations” (Gerring, 2008, p. 656) and to generate new propositions that are applicable beyond the specific region (for a similar point see Geddes, 2003).

To do so, I test the same theoretical argument about authoritarian regimes in both an analysis of reporting compliance with the CWC and BTWC and in an analysis of substantial compliance with NPT rules. By varying the institutional context and the operationalization of nonproliferation compliance, I examine whether my theoretical account holds across institutions, states, and time or is driven by the respective institutional context. This serves to check the robustness of findings. The realist variables as conceptualized in this study are also applied to both analyses.

The joint BTWC and CWC sample comprises (the same) 17 states from the Middle East from 2004 to 2010. It starts from 2004, because no data from the CWC was available prior to that date. The unit of observation is the *'year-country-treaty'* construct. In total, this yields

224 observations. The dependent variable is a proportion and expresses the annual share of submitted reports per state to the number of requested reports per state. Some states comply at a rate of 100 percent, others not at all. On average Middle Eastern states comply at a rate of 42 percent with reporting rules across both conventions. The standard deviation is as high as the regional mean. Due to the distribution of the dependent variable I use a logistic-binomial regression model which is adequate for proportional outcome variables (Papke and Wooldridge, 1996; Gelman and Hill, 2007; Hox, 2010).

The nuclear sample comprises 19 states from the Middle East from 2001 to 2010. It begins in 2001, since IAEA information were reliably obtainable from that date onwards. The number of violations is counted for all states in each year, except for Iraq due to the war.¹⁵ The nuclear compliance samples comprises 184 observations on the dependent variable *nuclear rule violations*. The regional mean is 1 and the standard deviation across time is 2.74.

To account for the distribution of the dependent variable, which is a count of violations, and for the fact that not all states can violate nuclear rules because they lack the facilities, I choose a zero-inflated negative binomial regression model (Zorn, 1996; Long and Freese, 2006). Briefly, it separates the sample in two groups; the first group is the *always zero group*, i.e. those states that can never violate the rules, because they have no nuclear activities. The second group comprises those states that can potentially violate nuclear safeguards due to their level of nuclear activity. The resulting estimates are then probability weighted across both groups. This is a more accurate estimation procedure for the purpose at hand. The use of different regression methods minimizes the probability that the results concerning the main theoretical argument about authoritarian regimes is driven by the choice of a specific method or model.

Main Findings

I find that authoritarian regimes in the Middle East with high and durable institutional constraints are more likely to comply with WMD nonproliferation rules, all else being equal. At the core of this association stands the number of veto players and their preference distribution: more veto players and stronger preferences for trade increase considerably compliance

¹⁵Iraq is integrated into the sample from 2007 onwards, the date when the IAEA could conduct its inspection work in that country.

with nonproliferation rules in the Middle East. These findings hold across a series of model specifications and across the three different treaties. In the nuclear case, the hypothesized relationships between authoritarian regime type and compliance, and the veto players mechanism, are stronger than in the CBW case.

Persistent institutional constraints More constrained authoritarian regimes in the Middle East will stick to their international nonproliferation undertakings when their institutional constraints endure over time. Weakly constrained authoritarian regimes in the Middle East will comply less the longer the same regime survives.

The statistical analyses showed also that regime consolidation has a different effect on compliance for different authoritarian regimes. Less autocratic states, i.e those in which institutional constraints exist, are more likely to comply. As institutional constraints become fewer in Middle Eastern autocracies, regime consolidation works in the direction of increasing the power of dictators and hence their freedom of action. This lowers the ability to make credible commitments and, indeed, these regimes comply less. For any given level of regime durability, more autocratic states will break more often their commitments. When two authoritarian regimes are of the same ‘age’, say they exist since forty years, then the one with checks and balances will stick to the rules it subscribed to, while an authoritarian regime with less constraints will tend to ignore its commitments. At very low levels of regime durability (zero to three years) and few institutional constraints, though, authoritarian states in the Middle East tend to comply with their undertakings. When an authoritarian regime has not consolidated, power is still fragmented and dictators have to make compromises in order to ensure their power basis. Elites still compete over how power, rents, and privileges are to be distributed (Svolik, 2012). This moderates and constraints dictators’ choices. In addition, when a new authoritarian regime is in the process of formation, it shields itself from domestic and foreign pressure. Avoiding international retribution in response to treaty violations is therefore an imaginable explanation for observing more compliance.

Factional veto players and trade preferences Authoritarian regimes with more factional veto players who represent trade preferences will comply more with both CBW and nuclear rules. When the size of trade groups is large, and they are not represented politically in

institutions and cannot compete over policy decision making, the findings show that compliance will be low. Similarly, when the number of trade groups is low, then more factional veto players will not have a positive influence on compliance with nonproliferation rules.

Regarding the Middle East, we can say that states will comply more with international nonproliferation rules when executives are constrained by more competitive institutional modes of decision making, encompassing more political groups with an interest in their country's integration into the global economy – all else being equal. As my results suggest, groups with outward-oriented preferences make a difference regarding nonproliferation compliance when the political institutions within an authoritarian state enable more competitive modes of decision making. For a given distribution of trade preferences, more political competition will lead to higher compliance with both CBW and nuclear rules. Compliance is higher in the Middle East, when trade groups can block or avoid costly foreign policies by their increasing representation in authoritarian decision making institutions. Similarly, the findings show that veto players tend to have a negative effect on compliance when export-oriented preferences are marginal. Even if factional veto players exist in an authoritarian regime, they will not necessarily contribute to compliance unless they represent interests in global economic exchanges. Decision makers who favor economic autarky, or who shield their regimes from foreign influences, are more likely to break nonproliferation commitments. By contrast, the more preferences for international trade and global economic integration become prevalent among factional veto players, the likelier compliance gets with nonproliferation rules in the Middle East. In sum, factional veto players and higher shares of trade groups 'amplify' each other and contribute together to more rule compliance across Middle Eastern countries and over time.

Rival Hypotheses: Power and Threat The results regarding realist propositions are not consistent across the two statistical analyses. More powerful Middle Eastern states will not adhere to their nuclear safeguards obligations, which is congruent with the theoretical expectation. In the CBW case, though, this relationship reverses. More powerful states comply more with obligations from the CWC and BTWC. This finding is contrary to realist expectations. Concerning the enduring rivalry hypothesis, in some model specifications, this leads to less *nuclear* compliance. When we account, however, for the combined effect of political competition and trade, a regional rival has no systematic effect on a Middle Eastern country's compliance

decisions. In the CBW case, all other realist variables had no systematic impact upon Middle Eastern compliance.

Conventional structural theories would not expect that, under the severe security conditions of the Middle East, domestic institutions and preferences would matter much for compliance with international security treaties. As I argue and show, they do. At least for the Middle East, we can say that the regional compliance puzzle is driven, to a considerable extent, by authoritarian regimes' capacity to credibly stick to international rules, which, in turn, is a function of their institutional structure and the political game between different factions with conflicting interests. If the discretionary power of autocrats is circumscribed by domestic rival factions with a stake in stable international interactions, then one can be more confident that commitments are credible and that states would rather opt for '*Atoms for Peace*'.

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