



**INTERNATIONAL
RELATIONS
MULTIDISCIPLINARY
DOCTORAL SCHOOL**

THESIS SUMMARY

Valeria Puga Álvarez

Cooperation on non-proliferation: An analysis of the Treaty of Tlatelolco and the Latin American and Caribbean Nuclear-Weapon-Free Zone (NWFZ)

Doctoral dissertation

Supervisor
Gálik Zoltán, PhD
Associate Professor

Budapest, 2021

Institute of International Studies

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ABSTRACT

This project aims to identify and analyse the variables that explain the origin and level of effectiveness achieved by the Treaty of Tlatelolco, which created the Latin American and Caribbean Nuclear-Weapon-Free Zone (LAC-NWFZ), in its fight against nuclear proliferation at domestic, regional and international level. Until 1985, solely Latin America and the Caribbean had been able to establish an NWFZ in an inhabited area. Nonetheless, only in 2002, the Treaty of Tlatelolco entered into force in the 33 states of the continent. Tlatelolco's states parties have undertaken to prevent any form of possession of nuclear weapons, and Nuclear Weapon States (NWSs) have pledged not to attack nuclearly the zone or breach its denuclearized status. However, presumable violations have occurred and NWSs still had interpretative declarations over the Treaty jeopardizing its compliance. In addition, the fact that NWFZs' effectiveness has been scantily studied, leads us to pose the question: to what extent Tlatelolco has been effective to tackle nuclear threats and nuclear proliferation and what factors can explain it? To answer this inquiry, we propose a multidimensional approach that incorporates the study of material and immaterial variables through a detailed analysis of three subcases: Mexico, Argentina and Brazil, the most nuclear-developed states of the region and key players of the non-proliferation international regime. Due to methodological concerns, this dissertation observes a limited time span, which encompasses the roots and performance of Tlatelolco between 1947 and 1997 from an updated perspective. To do so, it proceeds in two stages: first, it analyses the main sources and motivations that enabled the opening for signature of the Treaty and the creation of OPANAL (1947 – 1967); and secondly, it explains the variables that affected the level of effectiveness or ineffectiveness achieved by Tlatelolco (1968 -1997). Despite the proposed time-span of observation, it is possible to conclude that Tlatelolco's "old" challenges and threats persist until nowadays even though Latin American and Caribbean states parties have predominantly respected the mandate.

Keywords: Nuclear-Weapon-Free Zones – Latin America and the Caribbean - Treaty of Tlatelolco – Effectiveness – Nuclear non-proliferation – OPANAL

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I. Introduction

Nearly three-fifths of the world are part of the six NWFZs. Since the establishment of the Latin American NWFZ in 1968 through the Treaty of Tlatelolco other five NWFZs in inhabited areas were instituted: in the South Pacific (1985), in Southeast Asia (1995), in Africa (1996), in Central Asia (2006), and in Mongolia (2000), which according to the UN is a Single-State Nuclear-Weapon-Free Zone (SS-NWFZ) (NTI, 2020). Nonetheless, their effectiveness and compliance are still far from being optimal discouraging the establishment of new NWFZs in other regions such as the Middle East and Northeast Asia.

Evidently, arms control treaties have always been a significant challenge for politicians and policymakers and just a few times in history they have been reached and entered into force successfully. The more radical the proposed mandate for a treaty is, the more difficult it is for it to be signed and accomplished. Then, it is not surprising that the last NPT Review Conference in 2015 was unable to issue a Final Document due to the United States, Canada and the United Kingdom's opposition to approve the text on the Middle East Weapons of Massive Destruction Free Zone (WMDFFZ) (Davenport, 2018). This is probably the last chapter in the long list of failed NWFZs treaties drafts since 1956 when Poland's minister of foreign affairs, Adam Rapacki proposed the creation of an NWFZ in Central Europe.

Why NWFZs are so difficult to be established? Commonly, and according to the UN resolution 3472, NWFZs have been defined as regional approaches to tackle nuclear proliferation. In a delimited area, any form of nuclear weapons possession is prohibited and states parties are obliged to implement a safeguard and control system under the surveillance of the International Atomic Energy Agency (IAEA). The NPT in its article 7 includes also a provision about NWFZs: "Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories" (UNODA, 2020a).

Additionally, NWFZs require Negative Security Assurances (NSAs) from the NWSs, which means the commitment from them not to perpetrate or attempt to perpetrate any nuclear attack against the members of a given NWFZ, and not to breach a treaty's norms in any case. To do so, usually, NWFZs' treaties include one or more protocols regarding the NSAs and an additional one if the zone has overseas territories ruled by external states. The NSAs problem has been a longstanding preoccupation for NNWSs since the NPT's negotiations in the '60s, but the NPT included no clause about

it. Since 1975 NNWSs have explicitly requested the negotiation of an international legally binding instrument of negative security assurances that obliges NWSs not to use nuclear weapons against NNWSs, (for instance, as an additional protocol to the NPT as Uruguay has recommended it) (UN, 2010:2), but this proposal has not prospered either. To redress this shortcoming, NNWSs have sought at every NPT Review Conference to include this issue in Final Declarations, sometimes with no success as it happened in 1980, 1990, 1995 and 2005 often because there was no Final Declaration at all (UN, 2010). In this context, resolutions 255 (1968), 984 (1995), 1887 (2009) have expressed the will of NWSs to provide NSAs but without legal connotation. From them, the Resolution 255 issued by the Security Council in 1968, for instance, has emphatically stated: “in case of nuclear aggression or threat of it against an NNWS, the SC permanent members would intervene according to the UN Charter” (UN, 2010).

We could state that to some extent the Treaty on the Prohibition of Nuclear Weapons (TPNW), which entered into force on January 22, 2021, has also been an attempt to reinforce the NNWSs’ purposes of reducing nuclear risk, however NWSs have opposed to it as well¹.

In the context of NWFZs Treaties’ negotiations, the NWSs similarly have not been keen to renounce their nuclear transportation privileges, for example to their transit rights and navigation freedoms on the NWFZs territories (Goldblat 1997). Consequently, the bargaining process for the signature of an NWFZ treaty and its full entry into force may take years, even decades, until one has obtained the acquiescence of all the concerning parties.




Regarding our case study, the negotiations for the approval of the Treaty of Tlatelolco started in 1963, two years after the Missile Crisis in Cuba. The presidents of Mexico, Brazil, Chile, Bolivia and Ecuador issued a letter calling to forbid nuclear weapons in the continent. They counted on the initial support of 17 states, the UN, and the relative sympathy of both superpowers, the US and the Soviet Union. Through the creation of the Preparatory Commission for the Latin American Denuclearization (Copredal, its acronym in Spanish), the Treaty’s blueprint was prepared, and finally, in 1967 it was open for signature. It established a control system and stipulated the foundation of the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL) to ensure that Treaty’s obligations were met. Tlatelolco set

¹ Once the 50 required ratification were met, the Treaty entered into force. Until June 3rd, 2021, there were 54 states parties according to UNODA, Treaties Database: <https://treaties.unoda.org/t/tpnw>.

up a continuous or rolling basis adhesion system. According to article 29, the Treaty should enter into force once: all the countries of the continent have deposited the document, all the concerning third states have ratified both Additional Protocols and every state-party has concluded safeguards agreements with the IAEA. However, this article also stipulates that states have the right to waive these requirements in order to implement the Treaty immediately after the ratification process.

Except for Brazil (Cubillos, 2012) and Argentina (Colombo, Guglielminotti and Vera, 2017), none of the Latin American States had developed an advanced nuclear program until the '60s, in part, due to economic, technological and political constraints.

Table 1. Subcases of study

Country	México 	Brazil 	Argentina 
Position towards Tlatelolco	Promoter	Promoter (until 1964)	Non-promoter
Nuclear (civilian) program starting date²	1956 (CNEN) ³	1951 (CNPq) ⁴	1950 (CNEA) ⁵
Signature of Tlatelolco	1967	1967	1967
Ratification	1967	1968	1994
Entry into force	1967	1994	1994

Elaborated by the author

To some extent, the fact that Brazil and Argentina were involved that early in the development of their own nuclear programs competed with their intentions of adopting the Treaty of Tlatelolco fully, which entered into force in their territories only in 1994. Other latecomers were Chile, Belize, Santa Lucia and Saint Kitts and Nevis, which joined the Treaty in the '90s, and Cuba, which ratified Tlatelolco in 2002.

The treaties at the end of the day are the result of the states' will, therefore, we studied these three subcases: Mexico, Brazil and Argentina. It allowed us to better understand what variables made possible Tlatelolco and why Brazil and Argentina delayed the Treaty's entry into force until 1994. To what extend did the reluctance of

² Here we took into account the foundation of the main institutions in charge of the development of nuclear programs.

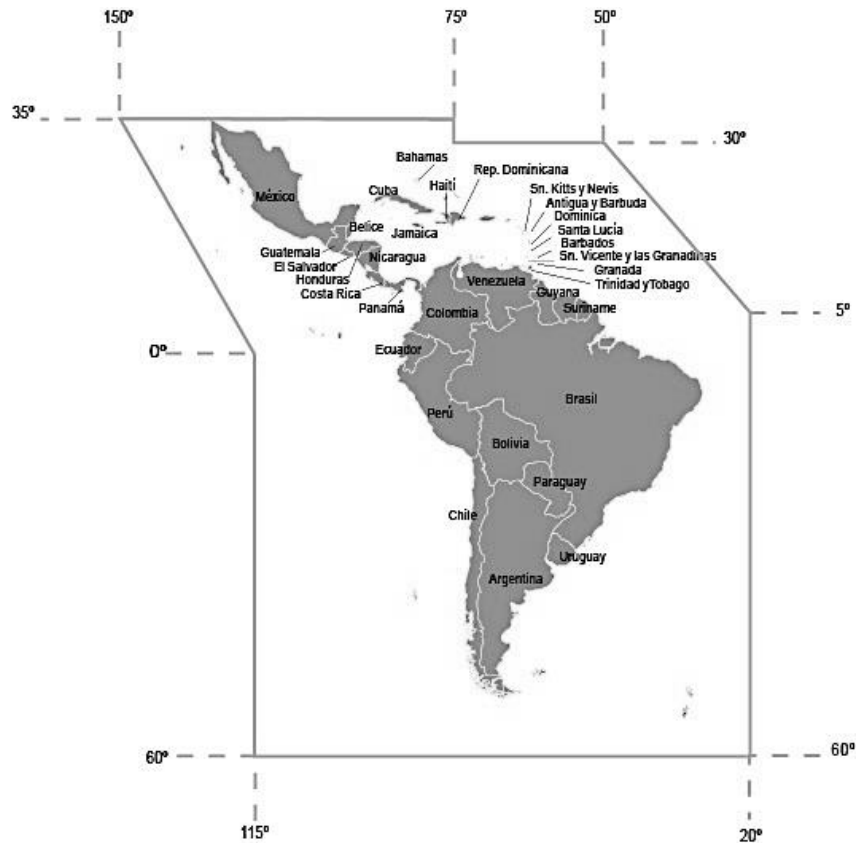
³ CNEN stands for National Commission of Nuclear Energy (currently the National Institute of Nuclear Researches, ININ).

⁴ CNPq means National Council for Research (today the National Council for Scientific and Technological Development).

⁵ The CNEA is the National Commission of Atomic Energy.

Brazil and Argentina to be full states-parties of Tlatelolco impinge the performance and effectiveness of Tlatelolco? It is analytically relevant to the epistemological unity of this dissertation to be able to answer this question where the actors' geopolitical clout matters.

Map 1. Zone of application of the Treaty of Tlatelolco



Source: OPANAL, 2020

Legally, the Treaty of Tlatelolco, prohibits and prevents: the testing, use, manufacture, production, acquisition, receipt, storage, installation, deployment and any form of possession of any nuclear weapon, directly or indirectly, on behalf of anyone else or in any other way. Additionally, the contracting parties should also refrain from engaging in, encouraging or authorizing similar activities.

However, the Treaty does not prohibit transit or transportation of nuclear materials leaving the door open to the States to decide on under their sovereign rights. Nor does it forbid peaceful nuclear explosions (PNEs) and the use of instruments that may be used for transportation or propulsion “if [they are] separable from the device and not an indivisible part thereof”, for instance, nuclear-propelled submarines (OPANAL, 2018).

The Treaty of Tlatelolco also established the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL) to ensure that the obligations of the Treaty are met.

We could point out that the Latin American and -since the 90's- Caribbean NWFZ has been atypical due to two facts: first, despite the region's peripheral condition –mainly in the international security agenda- Latin America was able to set a precedent in the non-proliferation norm-making realm once the Treaty of Tlatelolco was opened for signature. Second, only the Latin American and Caribbean NWFZ Treaty has obtained all the ratifications for both Additional Protocols, an achievement did not reach by the other four NWFZs' treaties⁶.

However, despite this promising picture, the phantom of a Treaty's violation coming from an NWS has persisted over the years. For instance, some NWSs defend their right to transit with nuclear weapons through the zone's territory beyond the concession of sovereign states to do so, and in some cases, namely the US has categorically said that: “[it] understands the definition contained in Article 5 of the Treaty [of Tlatelolco about nuclear weapons] as necessarily encompassing all nuclear explosive devices” (US Department of State, 2009 – 2017:22), which contradicts the definition provided by Tlatelolco and might limit the transfer of nuclear technology.

For the 2020 NPT's Review Conference – postponed for 2021-, Latin American and Caribbean states were able to unify their positions and submit a joint working paper as Tlatelolco states parties enjoining the states parties to additional protocols to the NWFZs' treaties to seek “the solution to existing controversies created by [their] declarations that harm the effectiveness of the zones in order to give full and unequivocal security assurances to the states belonging to [them]” (UN, 2020:3). It seems nor the NWFZs treaties neither the NPT nor the 255 Security Council Resolution have been able to create a robust legal scaffolding to preserve the denuclearized status of NWFZs' states-parties. This leads us to think that the “substantial ” compliance of NWFZs Treaties so far, such as of the Treaty of Tlatelolco, has had to do more with the position of the NWSs about them rather than with the actions of the NWFZ Treaties' states-parties, which jeopardizes the legitimacy of the NWFZs treaties, undercuts the

⁶ Mongolia has obtained from the NWSs only unilateral statements hailing the initiative (1993 – 1994), but not any legal recognition of its status or the required NSAs. Consequently, no Protocol exists so far, although Mongolia is still working to the full institutionalization of its status.

compliance of the NSAs enshrined in the concerning protocols and limits the suitability of the security policies range for the denuclearized states.

In this context and taking into account that NWFZs in general have been an underexplored phenomenon in International Relations or as Jeffrey Knopf has remarked “cooperation on non-proliferation has largely flown under the radar of the IR literature” (2016:4), this study has sought to be a first contribution to this field by answering the following research question: **What were the factors that led Latin American countries to achieve consensus on nuclear non-proliferation and which of them have been relevant for explaining the level of effectiveness/ineffectiveness and performance of the Treaty of Tlatelolco?** Through a multidimensional focus, this study proceeds in two stages: first, it explains the sources of cooperation by analysing the period between 1947 and 1967, and second, it analyses the Treaty of Tlatelolco’s effectiveness from 1968 to 1997 approximately, from a contemporary regard. Due to methodological concerns, this research deepened the cases of Mexico, Brazil and Argentina. The three countries have epitomized three different and to some extent complementary perspectives over the non-proliferation problem. At the end of each studied period, we sketched out a detailed interpretation of the results of the OPANAL General Conferences through a domestic, regional and international perspective.

II. Research background and justification

Most scholars agree in assessing Tlatelolco as a successful example of regional non-proliferation, because all the NWSs have ratified both protocols and it has positively influencing the non-proliferation international regime (Redick 1981:106; Kutchesfahani 2010:106; Hamel-Green 2016). However, so far there is no exhaustive study about the results of Tlatelolco for Latin America and the Caribbean and its implications for global security, consequently, this dissertation has attempted to fill this void. To do so, we observed three groups of publications: those related to the phenomenon of NWFZ, those referring to the specific case of the Latin American and Caribbean NWFZ, and those regarding the evaluation of international regime effectiveness.

Specialized literature about NWFZs

In 2018 the Vienna Centre for Disarmament and Non-Proliferation (VCDNP) in a report entitled “Cooperation among NWFZs” stressed the “lack of up-to-date information” in the field as one of the main challenges to enhance the inter-zonal cooperation and leverage their international impact and bargaining power vis-à-vis NWSs. Officially, the first and last “Comprehensive Study of the Question of NWFZs in all its aspects” was conducted in 1976 by the Conference of the Committee on Disarmament and after that, just a few studies elaborated by the United Nations Institute for Disarmament Research (UNIDIR) and other researchers have been released (Gasparini and Cipollone, 1997; Hamel-Green, 2005 and Vignard, 2011)⁷.

In the scholarship realm, most of the analyses have been focused on the history of NWFZs and the political circumstances that made their establishment possible (Redick 1975; Goldblat 1997; Thakur 1998; Mukai 2005; Moorthy 2006; Hamel-Green 2009; Rosas 2017). Another group of authors has analysed the reasons behind the signature and ratification of the treaties for the creation of NWFZs applying a quantitative approach, concluding that states with limited security threats are more prone to establish them (Tago 2006; Fuhrmann and Li 2009).

Latin American and Caribbean NWFZ

Regarding the study of the specific case of the Latin American NWFZ, the bibliography on its formation and history is limited, but some relevant studies exploring possible explanations for its creation have been published (Redick 1981; Serrano 1992; Vargas Carreño 2003; Melet Padrón 2009). Robinson (1970) and Musto (2015) provide extensive accounts on the role of the US, which proved to be crucial for the approval of the Treaty due to its historical asymmetrical relation with the continent particularly amidst the polarised Cold War period. Another group of analyses explores the political consequences of the treaty for the region with divergent conclusions, which range from considering Tlatelolco as a legal and moral reference for other countries (Luddeman 1983; Martínez Cobo 1984; Revista Mexicana de Política Exterior 1996; Román-Morey 1995, 1996; Rosas 2017) to considering it insignificant for its members (Mirek 1986).

⁷ The 37 UNGA period of sessions (1982 – 1983) approved Resolution 37/99F requesting the UN Secretary-General –with the cooperation of the *Ad-Hoc* Group of Governmental Qualified Experts- to carry out a study to review and update the 1976 “Comprehensive Study on NWFZs”. OPANAL participated in the meetings, but the experts concluded that there were no conditions for the creation of other zones elsewhere and therefore; to present a final report in the 1984 UN General Assembly was unfeasible. The UN General Assembly issued Resolution 39/159 B extending the deadline for the report until 1985. Unfortunately, it ended up in failure again (OPANAL, 1985: 16 – 17).

Regime effectiveness

Finally, regarding the study of regimes effectiveness itself, we found that in the field, it has been more common to judge their effectiveness as tantamount to the compliance of the treaties that created them, which often has provided a partial picture of their outcomes. Because of that, we moved towards a more comprehensive and complex understanding of effectiveness taking as inspiration the multifarious methodology applied to other similar studies by Underdal (2002), Miles (2002), Blavoukos (2015) and Hamel-Green (2016) which, from a qualitative and quantitative perspective, they go beyond the simplistic observation of treaties' compliance towards the analysis of their domestic outputs, regional outcomes and international impact on global security. We will explain this in detail in the next section.

Theoretical debates

For this thesis, we considered relevant to complete this background and diagnosis stage by answering the interrogation: what do the main IR theories say about NWFZs and non-proliferation? Are they useful for analysing our case study? We observed that the three mainstream schools: realism, liberal institutionalism and constructivism have tried more frequently to answer the question why do states go nuclear, rather than why do states restraint from developing a nuclear military program?

Clearly no single school have a conclusive answer to the non-proliferation studies bedrock question. For realists, military alliances, nuclear umbrellas and extended deterrence avoid proliferation. For neoliberals, democratization, economic liberalization and free-market policies encourage non-proliferation. Lastly, for constructivists, the creation of international regimes, norms and institutions has proved to be effective at preventing nuclear mushrooming. All these theories have evidence in their favour (See *Chapter 2* of the thesis) and it cannot be denied that all of them provide -from different angles- plausible assumptions to understand the nuclear restraint dilemma, but are not enough to explain other cases especially from the Global South. In the light of this shortcoming, this research applied a multidimensional approach by taking into account the notion of regimes and analysing material and immaterial variables from a national to an international perspective.

Justification

The nuclear non-proliferation and arms control regime is currently in crisis and according to the *Bulletin of Atomic Scientists* “the world is closer than ever to Doomsday” (Mecklin, 2020). In spite of the TPNW’s entry into force, NWSs oppose the Treaty and maintain a staunch defence of their nuclear arsenals. In addition, as we noted before, not all of them, particularly the US, have ratified the Additional Protocols of NWFZs Treaties, except for Tlatelolco, which still faces compliance challenges.

Moreover, as many authors -and ourselves- proved it, the non-proliferation policies have been scantily analysed by well-versed authors on nuclear weapons, and the existent theories are still unable to fully explain the NWFZs phenomenon. Finally, the fact that the last official UN “Comprehensive Study on NWFZs” has been developed in 1976, have motivated us to deepen the study of the NWFZs and their effectiveness/ineffectiveness. It is important to discover the real results of NWFZs beyond statements that congratulate such initiatives. Internationally, Tlatelolco has received recognition, but has it been effective in advancing its objectives? Does the establishment of NWFZs still a plausible response to tackle nuclear proliferation and promote peace in a region? Although, Latin America has been considered since the XX century as a “no-war zone”, and in theory, an NWFZ Treaty in the continent would have fewer obstacles to achieve compliance in comparison to other regions such as the Middle East where there are ongoing nuclear military programs, a painstaking analysis has been needed to identify the variables that encourage and/or impede the development and compliance of an NWFZ Treaty, even in a relatively peaceful region. Even though conclusions and findings in social sciences are often contingent; we expect to shed some light on what factors could help to improve the performance of an NWFZ Treaty.

III. Analytical framework and methodology

Analytical framework

Some studies on non-proliferation have concluded that the decision to proliferate or not depends not only on pure geopolitical and security calculations or economic interests, but also it might be explained by identity factors either at a national or personal level (Sagan 1996-1997; Hymans 2006; Fuhrmann and Horowitz 2014; Way and Weeks 2013). Consequently, to address our research topic we have preferred to build a

comprehensive and multilevel analytical framework encompassing diverse variables and dimensions synergistically and considering the methodologies applied to similar cases of study.

Before describing how we proceeded, it is important to point out that this work introduces widely the concept and theory of regimes elaborated by Stephen Krasner. According to this author, international regimes are the “set of implicit or explicit principles, norms, rules and decision-making procedures around which actors’ expectations converge in a given area on international relations” (Krasner, 2006: 73).

a) Analysis and hypotheses of the regime formation phase

In the first stage, we sought to answer the following part of the research question: **What were the factors that led Latin American countries to achieve consensus on nuclear non-proliferation?** For doing so we took as reference the Krasner’s variables to explain the development of regimes (1982)⁸, the Sagan’s syntheses of the three models to understand proliferation/ non-proliferation (1996 – 1997)⁹ and the framework built by Jeffrey Knopf for explaining cooperation on non-proliferation (2016). For Knopf, the *combined* analysis of actors’ preferences and capabilities may help to better explain non-proliferation phenomena. This author suggests observing the following preference factors: self-interest, US leadership, norms, identity, ideas, learning, transnational networks, outside inducements and domestic politics (2016: 12-14).

As we specified formerly, to study the regime formation phase we observed the subcases of Mexico, Brazil and Argentina from 1947 to 1967. We identified the approval of the Inter-American Treaty of Reciprocal Assistance (Rio Treaty or TIAR for its acronym in Spanish) signed after WWII in 1947 as a remarkable starting point of analysis. TIAR was one of the first systems of collective defence in history¹⁰. This agreement transformed the entire continent into an American zone of influence,

⁸ According to Stephen Krasner, regimes are developed because of the following factors: egoistic self-interest; political power (in the service of the common good/in the service of particular interests), knowledge, norms, principles, usage and custom (1982). See pages 30 – 31 of the dissertation.

⁹ Sagan summarizes three models of thought about nuclear proliferation: the security model, where tackling international threats would be the main motivation for nuclear mushrooming; the domestic politics model where the acquisition of nuclear weapons would have to do with national or parochial interests; and the norms model, which considers proliferation highly linked to the idea of what is legitimate and appropriate (1996 – 1997). See pages 30 – 31 of the dissertation.

¹⁰ Article 3 constitutes the core of the Treaty, it stipulates that: “The High Contracting Parties agree that an armed attack by any State against an American State shall be considered as an attack against all the American States and, consequently, each one of the said Contracting Parties undertakes to assist in meeting the attack in the exercise of the inherent right of individual or collective self-defence recognized by Article 51 of the Charter of the United Nations”. The full text of the TIAR is available at: <https://www.oas.org/juridico/english/treaties/b-29.html>

conditioning any future security alliance or policy of the Latin American states. In that context, we argued that TIAR might have preconditioned the states' preferences regarding security and nuclear non-proliferation policies according to Washington's purposes. Consequently, following the syntheses of Krasner, Sagan and the factors underpinned by Knopf, we analysed the following group of factors, described in *Table 2*.

Table 2. Treaty of Tlatelolco's regime formation variables

Mexico – Brazil – Argentina (1947 – 1967)		
Variables	Components	
1) Proliferation/ non-proliferation and disarmament systemic transformations /External inducements¹¹		
2) Political power and identity	Type of government	
	Model of development	
	Identity (e.g.: diplomatic doctrine)	
	Foreign policy	
3) Nuclear material and institutional capabilities	Security threats	
	Natural resources exploration (Uranium)	
	Commission of Atomic/Nuclear Energy	
	Development of a military-scientific community	
4) Relations with the hegemon (USA)	Nuclear program	
	Cooperation agreements on security (E.g.: Atoms for peace program)	
	Position at UN (voting, memberships)	
	Position at IAEA (Treaties/ Agreements' support)	
5) Norms and principles: ex-ante nuclear preferences	Position at the Inter- American Nuclear Energy Commission (IANEC)	
	↓	
	General position on the Treaty of Tlatelolco	
↓		
Opening for signature of the Treaty 1967 (Output)		

Elaborated by the author

Hypotheses I

The analysis of the first period incorporated these variables taking into account the following hypotheses:

The opening for signature of the Treaty of Tlatelolco was mostly determined by:

- a. The imminent fear of Latin American states of being involved in a similar event as the Missile Crisis in Cuba (external inducement);

¹¹ *Variable 1* about the Proliferation/ non-proliferation and disarmament systemic transformations /External inducements was included in the introduction of every period given that it cannot be circumscribed at the regional/domestic levels.

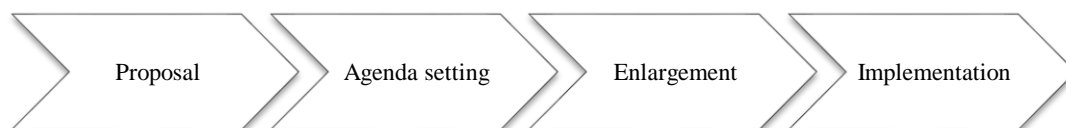
- b. The states' *ex-ante* nuclear preferences, that is: their pre-Treaty predispositions to adopt peaceful and non-military policies in front of the relative absence of conflict and meaningful threats;
- c. The relative support to the Treaty by the states with the most significant nuclear capabilities in the region, Brazil and Argentina; and,
- d. The NWSs' non-strong opposition to the Treaty and in some cases, their sympathy for the idea.

We mean by *ex-ante* preferences, to all those behaviours, decisions, positions and policies implemented by a state before the enforcement of any Treaty. We included this variable as a proxy to observe whether the Treaty's enforcement changed states' behaviour or reinforced *ex-post* their previous patterns and preferences as it has happened with other treaties like the NPT (Fuhrmann and Lupu, 2016)¹².

To complement the analysis of the three domestic sub-cases, we evaluated the Treaty's performance particularly through the Secretaries-Generals' reports submitted to the OPANAL General Conferences, resolutions, minutes and other reports presented by the OPANAL Council. We should underline that we contextualized every case and every period from an international perspective following a double way causality understanding.

The scholar Jeffrey Knopf recognizes that: "much [of the cooperation studies] focuses on treaty ratification rather than on how cooperation itself develops" (2016:11). For that reason, this author proposes to examine cooperation as a process by observing the different cooperation stages, which starts by the proposal's presentation to the Treaty's implementation phase:

Figure 1. Regime formation



Elaborated by the author. Source: Jeffrey Knopf, 2016.

In our case, the observation of this process deserved particular attention because not all three countries here examined Mexico, Brazil and Argentina adopted the Treaty of

¹² The scholars Fuhrmann and Lupu concluded that the NPT has been effective in curbing the spread of nuclear weapons chiefly due to States' *ex-ante* preferences (2016).

Tlatelolco at the same time. While the implementation phase for Mexico started in 1968, in Brazil and Argentina, the Treaty of Tlatelolco entered into force only in 1994. In that context, we analysed the Brazil's and Argentina's positions over Tlatelolco, as well as their nuclear programs.

b) Analysis and hypotheses of the implementation and enlargement phase

Assessing regimes is not an easy task given their intricate ontology of multiple layers of intertwined formal and informal norms. Moreover, their derived outcomes can fall far beyond the mere compliance of their constitutive agreements. Aware of our methodological limitations, we concentrated solely on studying Tlatelolco, the cornerstone of the Latin American and Caribbean non-proliferation regime, which today gathers all 33 states of the region.

Given the narrowness that a Treaty's compliance/no compliance assessment implied, this research moved towards a more comprehensive and complex understanding of effectiveness taking as reference some specialized studies on non-proliferation (Miles, 2002b, Hamel-Green, 2016; Blavoukos, Bourantonis and Portela, 2015), and adapting qualitatively the Arild Underdal's regimes effectiveness analytical framework (2002a, 2002b).

In this phase, we aimed to answer the second part of the research question: **which [factors] have been relevant for explaining the level of effectiveness/ineffectiveness and performance of the Treaty of Tlatelolco?** According to Underdal, the level of cooperation determines regime effectiveness, which is the result of two independent variables: problem's malignancy/benignity and regime's problem-solving capacity (2002a). Malignancy/benignity variable has to do with the contradictions among actors' positions regarding gains, the incongruity/congruity of costs/benefits, the asymmetrical/ symmetrical distribution of benefits and, the cumulative or crosscutting cleavages (2002a: 21). The problem-solving capacity variable is related to the institutional settings, "the distribution of power among the actors involved and the skill and energy available for the political engineering of cooperative solutions" (2002a: 23). In a similar tone, Krasner offers a hint at the moment of evaluating a regime: "If the principles, norms, rules, and decision-making procedures of a regime become less coherent, or if actual practice is increasingly inconsistent with principles, norms, rules and procedures, then a regime has weakened" (1983: 189). To Underdal, an effective regime would produce a behavioural change

among the actors and technical optimization regarding cooperation or common processes (2002a, 37).

Hypotheses II

Consequently, according to the proposed analytical framework and taking into account all the particularities presented above regarding our case study, we proposed the following hypotheses for the second stage:

The achieved level of cooperation by the Treaty of Tlatelolco has predominantly depended on:


- a. The processes of harmonization and dis-harmonization of interests and preferences between the states with significant nuclear capabilities (Brazil and Argentina) and those with incipient or no nuclear capabilities;
- b. The commensurability/incommensurability between the objectives and scopes of the Treaty and its real problem-solving capacity –especially at critical events-;
- c. Its perceived relevance or irrelevance to states-parties in relation with their interests and preferences over time; and,
- d. Its embeddedness capability in the scaffolding of the international non-proliferation regime.

To test these hypotheses, in the second stage we observed the following variables, explained in *Table 3*.

It should be noticed that the purposes of every part are to some extent different. In the first part, we wanted to discover the variables that enabled the adoption of Tlatelolco and in the second part, we aimed to assess the effectiveness/ineffectiveness of the Treaty, therefore some variables like *ex-ante* preferences were not included and others instead were introduced, for instance, the Treaty's implementation variable.

To address this second phase (1967 - 1997), we considered dividing it into two sub-periods of analysis: first, from 1967 to 1985, when Latin American countries adopted the so-called National Security Doctrine, aimed to combat communism and any ideological *internal enemy* through the imposition of repressive civil-military governments in the frame of the Cold War. And, second, from 1986 to 1997 when the security agenda changed in the continent with the return to democracy and the adoption of the neoliberal economic model.

Table 3. Treaty of Tlatelolco's regime effectiveness variables

Implementation Mexico (1967 – 1997) Brazil and Argentina (1995 – 1997)	Enlargement Brazil and Argentina (1967 – 1994)
1) Proliferation/ non-proliferation and disarmament systemic transformations	
2) Political power and identity	
<ul style="list-style-type: none"> • Type of government • Model of development <ul style="list-style-type: none"> • Foreign policy • Security threats 	
3) Relations with the hegemon (USA)	
<ul style="list-style-type: none"> • Nuclear cooperation agreements • Positions towards the Nuclear Non-Proliferation Act (1978) 	
4) Implementation of the Treaty (Output)	4) Nuclear and non-proliferation preferences
Institutional level	Development of the nuclear civilian program
<ul style="list-style-type: none"> • Ratification process/ Enter into force • Domestic institutional changes 	
Operational level	Positions towards the NPT and the non-proliferation regime
<ul style="list-style-type: none"> • Consequences over the nuclear civilian program • IAEA Safeguards implementation • Compliance with Tlatelolco's control system 	Positions towards Tlatelolco
<div style="text-align: center;">  Outcome and impact </div>	
Overall evaluation of the Treaty according to OPANAL General Conferences:	
<ul style="list-style-type: none"> • Enlargement • Protocols enforcement • Control system compliance • Crisis management • International Cooperation • Future agenda 	

Elaborated by the author

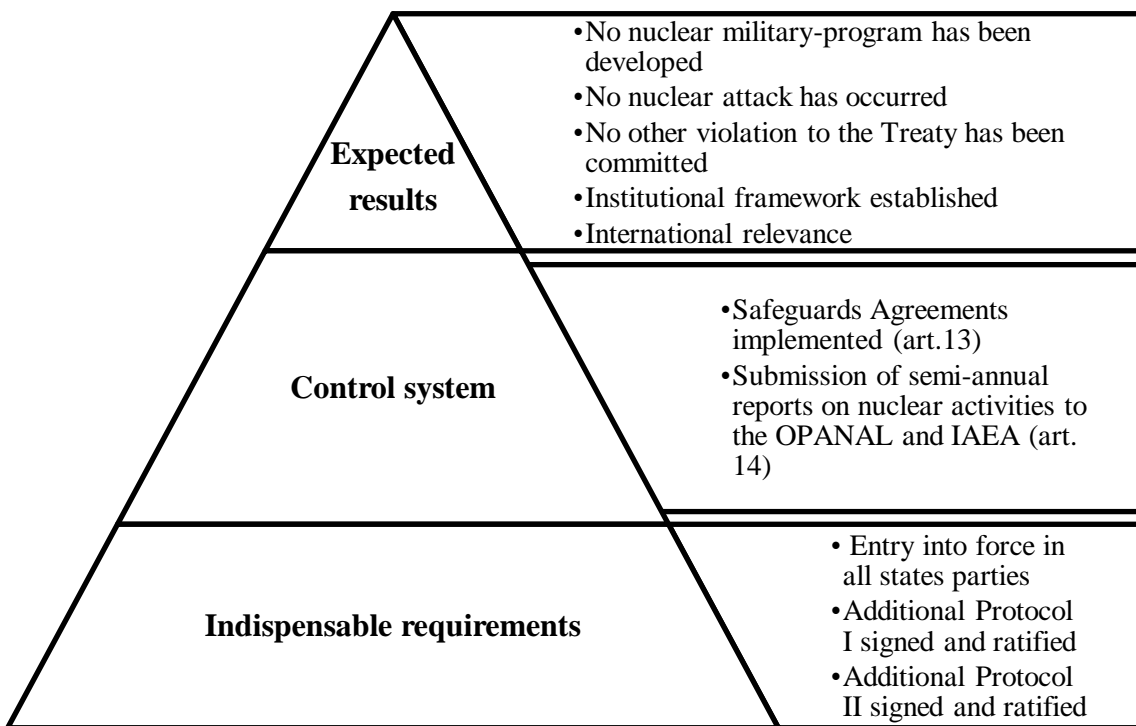
We consider that the observed period has been satisfactory to test our hypotheses and answer our research question. We should warn that we developed this research from a contemporary perspective, where the last events around Tlatelolco and the non-proliferation regime are explained and debated since their roots and possible causes. This renovated reading has enabled us to establish a smooth and multidimensional dialogue between past and present.

c) Conceptualizing effectiveness in the Treaty of Tlatelolco context

To establish a plausible concept of effectiveness, first of all, we examined painstakingly the text of the Treaty of Tlatelolco particularly those articles about the main states-parties obligations and responsibilities. Secondly, we took into consideration the above-mentioned Underdal’s regimes effectiveness analytical framework. As a result of this contrast process, we proposed an analytical set of “effectiveness requirements” (as can be seen in *Figure 2*).

Finally, we formulated the following definition: NWFZs’ effectiveness is the result of the compliance process of the *indispensable* and *control system requirements* by a group of states parties and its associated states parties. An NWFZ is optimally effective when the indispensable conditions for its existence have been satisfactorily met, and the purposed control system has been successfully implemented by states-parties providing a collective optimum in non-proliferation-related areas.

Figure 2. Regime effectiveness requirements (applied to the Treaty of Tlatelolco)



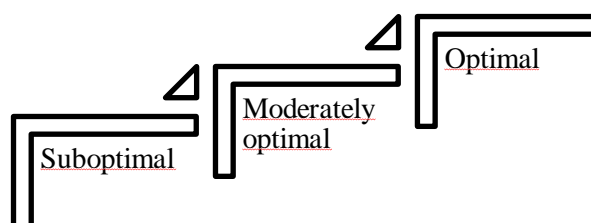
Elaborated by the author

Not all these requirements are equally important and that is why we elaborated a hierarchical figure to observe clearly what factors should be considered *sine qua non* conditions for the smooth implementation of the Treaty. For instance, some variables such as the Treaty’s recognition by NWSs are decisive for the creation of an NWFZ.

Without the NWSs' signature and ratification of Additional Protocols, the implementation of any Treaty is practically infeasible.

We also elaborated a scale to assess every period on its own logics appropriately. Our scale contemplated three levels: suboptimal when only a few effectiveness requirements have been met; medium/moderately optimal if the half or more significant aspects have been accomplished and optimal when the majority of significant aspects have been implemented. The scale estimation was carried out thoroughly and buttressed by empirical evidence, and according to the political clout of the different actors and variables.

Figure 3. Regime effectiveness scale



Elaborated by the author

Methodological approach

a) Process-tracing method

To test out our hypotheses we applied the process-tracing method and given the novelty of the topic and the scarcity of sources, we performed archival research. For single cases of small-N problems, the process-tracing method has proved to be a useful tool to find causes and understand patterns. As Beach and Brun Pedersen summarize:

Process-tracing in social science is commonly defined by its ambition to trace causal mechanisms (Bennett 2008a, 2008b; Checkel 2008; George and Bennett 2005). A causal mechanism can be defined as “a complex system, which produces an outcome by the interaction of a number of parts” (Glennan 1996: 52). Process-tracing involves “attempts to identify the intervening causal process – the causal chain and causal mechanism- between an independent variable (or variables) and the outcome of the dependent variable” (George and Bennett 2005: 206–7) (2013: 1).

In our case, the dependent variable is the effectiveness level of the Treaty of Tlatelolco, while preferences and capabilities are the independent variables aimed to explain the concerning phenomenon. The interaction of all these factors or variables has allowed us to understand what enabled the cooperation among the studied states and what has been the degree of effectiveness achieved.

b) Data collection and research techniques

This study performed *archival research*. We analysed particularly the national development plans of Mexico, Brazil and Argentina from the 60s' onwards; the final reports of presidents from three countries and their most relevant speeches; the concerning laws; the OPANAL secretaries-general's reports and OPANAL General Conferences' resolutions, minutes, among others.

We accessed to this material predominantly through online platforms and digital archives, such as: the OPANAL's digital archive opanal.org, the National Security Strategy Archive <http://nssarchive.us/>, the National Security Archive <https://nsarchive.gwu.edu/>, the Wilson Center's Digital Archive <https://digitalarchive.wilsoncenter.org/>, the Mery Ferrell Foundation Archives https://www.maryferrell.org/pages/Main_Page.html, the CIA's archives <https://www.cia.gov/library>, the Diario Oficial de La Federación of Mexico <http://dof.gob.mx>, the International Relations Digital Library of Mexico <https://acervo.sre.gob.mx/index.php/biblioteca-digital-de-relaciones-internacionales>; the Daniel Cosío Villegas Digital Library <https://biblioteca.colmex.mx/index.php/recursos-electronicos>, the Archives of the Federal Senate of Brazil <https://www25.senado.leg.br/web/atividade/legislacao>, the Brazilian Digital Library <http://memoria.bn.br/hdb/periodico.aspx>, the Center of History and Diplomatic Documents of Brazil <http://www.funag.gov.br/chdd/>, the Historical Archives of the Ministry of Foreign Affairs of Argentina <http://desclasificacion.cancilleria.gob.ar/>, the Institutional Collection of the National Commission of Atomic Energy of Argentina <https://www.cnea.gob.ar/nuclea/page/about> and the Open Archives of the Ministry of Defence of Argentina <https://www.argentina.gob.ar/defensa/archivos-abiertos>, among others. We examined with particular attention the OPANAL Secretary-General bi-annual reports.

As a complement, we applied the *discourse analysis* method especially to observe variations in the speeches addressed by presidents, ministers of foreign affairs, ministers of security/national defence, presidents of atomic energy commissions, and other relevant actors. We understand that there are at least three tiers to assess policies: the speech level, that is the enunciation of a policy; then the level of policymaking itself when a plan is elaborated and finally the full implementation or operationalization of the policy. We went through these three levels to evaluate every country and period.

IV. Relevant findings

Can nuclear weapons confer a meaningful increase of strength to developing countries? If several nuclear attacks would occur, the country that would survive would be the one that until the ‘doomsday’ has still some infrastructure and social tissue in place. In that sense, to have nuclear weapons implies more than the mere fabrication of nukes and their delivery systems. In human security terms, the possession of nuclear weapons by developing countries might be meaningless if other urgent and structural problems such as poverty and social inequality are not well addressed previously or simultaneously. The Latin American leaders who proposed the Treaty of Tlatelolco in the ‘60s seem to have been imbued by this rationale.

a) Regime formation and enlargement phases

We formulated in our hypotheses that from all the factors, the Missile Crisis in Cuba, the states’ *ex-ante* nuclear preferences predominantly peaceful in front of the relative absence of inter-State conflicts, the relative support to the Treaty’s proposal by Brazil and Argentina (states with significant nuclear capabilities) and, the NWSs’ non-strong opposition to the Treaty were the most relevant variables to the approval of the Treaty of Tlatelolco. To test them up we included a wide range of factors, such as the domestic political and economic dynamics, foreign policy, the nuclear capabilities, the non-proliferation preferences, the role of the US, and the systemic changing conditions. The state-level analysis was complemented by an overall assessment of the Tlatelolco system at the regional and international level in an organic manner. This two-level (and sometimes three-level) analytical exercise enabled us to provide a more accurate response to our research question unveiling the following findings and conclusions:

- As we assumed in our hypotheses to explain the origin of the LAC-NWFZ, the imminent fear of Latin American states of being involved in an event like **the Missile Crisis in Cuba was a relevant external motivation particularly for those states without or incipient nuclear capabilities or close to the US, but it proved to be irrelevant to those countries with advanced nuclear programs underway and relatively far from the epicentre of the conflict, we refer Argentina and afterwards to Brazil.** In the case of Mexico, its proximity to Cuba and particularly to the US, a neighbour who several times had invaded the country, rendered the Missile Crisis a vital issue for its security beyond its considerations about its own nuclear program. Simultaneously, non-proliferation and disarmament issues became a question of national interest. The US – Mexico complex interdependence and its geographical location turned Mexico into a collateral target in a hypothetical nuclear conflagration. Mexico had a sort of “finlandized” relation with the US, that is, it tried to keep certain leeway in its international positions but not affecting the US main interests. Mexican presidents publically and domestically addressed very nationalistic speeches, and they applied for a long time (since 1917 until the beginning of the ‘90s) the Estrada Doctrine of foreign policy, which was the political and legal backbone to avoid any break off diplomatic relations with Cuba after the Missile Crisis in 1962¹³. In that sense, to find a mechanism to keep that autonomy and prevent any direct engagement with one side (presumably with the US) turned out to be an overriding preoccupation for the government. Thus, Mexican president Adolfo Lopez Mateos proposed the denuclearization of the region. This solution would not only disengage Mexico from any nuclear confrontation, but it would also preserve its autonomy before further US pressure for instance, regarding its relations with Cuba and it would allow it to assuage concerns about its nuclear civilian program. Concurrently, the López Mateos’ initiative carved out Mexican internationalism. Mexico became a leading actor in non-proliferation in the region and afterward in the world. Therefore, it is not an overstatement to suggest that **the Treaty of Tlatelolco worked as Mexico’s preventive declaration of neutrality amidst the Cold War.**

¹³ The so-called Estrada Doctrine (Doctrina Estrada) was crafted by the minister of foreign affairs Genaro Estrada, under the government of Pascual Ortiz Rubio. The Doctrine is based on the non-intervention principle and the right to self-determination of peoples as means to achieve peace among nations (See page 45 of PhD Thesis).

- We should remember that before the five-president proposal, Costa Rica and Brazil had proposed to denuclearize the continent, but Mexico had shown no interest in those initiatives -as the majority of the region-, therefore, **the Missile Crisis was determinant for the timing when Mexico and the other four countries (Brazil, Bolivia, Ecuador, and Chile) launched the LAC-NWFZ proposal** and a first 17-state group approved the Treaty.
- **Notably the fact that Argentina and Brazil counted on advanced nuclear capabilities and did not share their borders with an NWS was a disincentive for adhering to Tlatelolco.** Different geopolitical circumstances compelled Mexico to prioritize its non-proliferation policy advocacy over its own nuclear program. The Mexican nuclear civilian program was fundamentally led by the UNAM's¹⁴ and IPN's¹⁵ scientific communities, and the government, which protected the exploitation of radioactive minerals and built specialized institutions such as the CNEN in 1956. The program was relatively weakened in the presidency of Lopez Mateos who prioritized the promotion of the Treaty of Tlatelolco. In the cases of Brazil and Argentina, their nuclear projects were not discontinued because of the political turnabouts and they were "protected" since their inception by the military branch. In the case of Argentina, for example, the navy did it since 1952. While social, political and economic policies changed with every new government, democrats and dictators, leftist and right wing politicians continued the development of their nuclear programs, considered a fundamental part of their national interests.
- Concerning **Mexico's, Brazil's and Argentina's previous disarmament and non-proliferation preferences at international arenas** (such as the UN and the OAS) **were consistent with their positions over the Treaty of Tlatelolco.** We must underline that **although Argentina and Brazil participated actively in disarmament institutions, this didn't persuade them or compelled them to advance on their formal and legal engagement with Tlatelolco or the NPT.** Mexico, as we explained it, was a salient actor and advocate of non-proliferation and disarmament causes, deeply involved since the very beginning in the creation of disarmament institutions and in the approval of the NPT, hence, **Mexico's promotion and adhesion to Tlatelolco buttressed its outstanding**

¹⁴ Autonomous University of Mexico

¹⁵ National Polytechnic Institute

international actorness and reinforced its previous preferences. Brazil like Mexico participated in the Eighteen Nations Disarmament Committee (ENDC) and **until the presidency of João Goulart (1961 -1964) it had prominent advocacy on non-proliferation issues.** The main concern for this country in the international forums was the nuclear knowledge transfer to Latin American countries and the unequal nuclear order that the NPT aimed to establish. **The neutrality of Argentina during most of the II WW often isolated the country and that might explain that it was relatively absent of the incipient disarmament bodies' construction.** The existence of the Treaty did not provoke a radical change in the preferences of Brazil and Argentina and in the case of Mexico it reinforced its previous behaviour, therefore, their pre-Tlatelolco non-proliferation preferences were a consistent hint to predict their possible initial stances towards Tlatelolco.

- Although the Missile Crisis in Cuba did not have a homogenous effect over all the countries of the region, and it was irrelevant for the enforcement of the Treaty in Argentina and Brazil, other systemic factors, namely **the transformations of the world order particularly in the non-proliferation and disarmament domain proved to be relevant for the enforcement of Tlatelolco in both states.** Brazil and Argentina shared the perception that the international nuclear non-proliferation regime and more precisely the NPT was discriminatory and this common stance led them to cooperate bilaterally. They criticized the NWSs' lack of commitment with their disarmament tasks meanwhile the rest of the countries were obliged to disarm or keep disarmed. In their understanding, this double standard enshrined in the NPT relegated them to a "second-class position". Moreover, the restrictions to export and transfer nuclear materials imposed by the US and other nuclear suppliers fuelled their reluctance to adopt full safeguards, the NPT and to some extent Tlatelolco. The visit of Brazilian president Figueiredo to Argentina in 1980 is considered the official starting point of nuclear cooperation between both countries, but we can suggest that **at the OPANAL General Conferences, both countries began to recognize their common positions in nuclear issues, for instance, their advocacy of peaceful nuclear explosions (PNEs) even before the '70s.** In that sense, OPANAL worked as an arena that enabled states parties to identify positions and contradictions to organize their collective action. It was clear that

the convergence of Argentina and Brazil about PNEs was crucial for the introduction of article 18¹⁶.

- If the exigencies of Brazil and Argentina (non-prohibition of PNEs) were included in the Treaty, then why were they reluctant to adopt fully Tlatelolco? We could state that **the most significant factors that discouraged Brazil and Argentina from engaging fully with Tlatelolco were out from the Treaty scope** and the fact that they changed their positions only after the end of the Cold War lead us to think that systemic forces mattered considerably to their shift on non-proliferation policies. The mutation of their perceptions about security threats as well as of their assessments of disarmament responsibilities distribution at the international level had a substantial influence on their behavioural change towards Tlatelolco. **The signature of the US- Russia Strategic Arms Reduction Treaty (START I) helped to loosen the positions of Brazil and Argentina because the argument that they had held for years that NWSs were not accomplishing with the NPT mandate started to be – yet slowly- reversed.** According to the analysed documents, this was undoubtedly a systemic variable that stimulated the cooperative standpoints of Argentina and Brazil to allow Tlatelolco’s full entry into force in their countries.
- Although the nuclear cooperation between Brazil and Argentina would deserve a thesis apart, this research has inserted this *sui generis* case into the evolvement of Tlatelolco’s system. **In a two-way process, this example of bilateral cooperation was also a variable that intervened at the moment of the full adoption of Tlatelolco.** Probably, if Argentina and Brazil would have persisted in their rivalries and they would have perceived a “nuclear regional deterrence” policy as a suitable norm for their security, their incorporation into the Tlatelolco’s system might have been unattainable. Additionally, **the flexibility of the Tlatelolco’s adhesion process (stipulated in article 29), the introduction of the right to carry out PNEs and to build nuclear-propelled submarines and the active diplomatic collaboration of the OPANAL Secretaries-General to outline a better Safeguards Agreement between the**

¹⁶ Article 18 of the Treaty of Tlatelolco establishes that “Contracting Parties may carry out explosions of nuclear devices for peaceful purposes – including explosions which involve devices similar to those used in nuclear weapons – or collaborate with third parties for the same purpose [...].The Contracting Parties intending to carry out, or to co-operate in carrying out, such an explosion shall notify the Agency and the IAEA, as far in advance as the circumstances require, of the date of the explosion and shall at the same time provide [a detailed] information [about it]”.

IAEA and both countries eased the conditions for Argentina's and Brazil's denuclearization without hindering their nuclear civilian programs.

- Among these systemic factors that enabled the constitution of the Tlatelolco's regime, we should mention the equidistant positions held by the NWSs. Conversely to the NWSs opposition to the establishment of NWFZs in Central Europe, the Balkans, Scandinavia and in the Middle East more than a decade before Tlatelolco, they **did not thwart the negotiation process of the LAC-NWFZ Treaty although they, especially the US, influenced deeply on the limits of Tlatelolco's final mandate.** Thus, the US impeded any regulation of transportation or transit of nuclear materials by Tlatelolco. Under those premises, the US supported the proposal. However, as we observed in the cases of Puerto Rico and Cuba, the US military presence there threatened the compliance of the Treaty. As for the Soviet Union and France, the states that had the most critical positions about Tlatelolco, they did not frustrate the project although they perceived it, to some extent, as a US geopolitical gamble. The Soviet Union changed this assumption over time, showcasing a more cooperative stance and ratifying the Treaty's Additional Protocol II in 1979. Consequently, we should admit that **the scope of Tlatelolco was as radical as the NWSs' interests allowed it. It is conspicuously paradoxical that the creation of the Zone, which was intended to demonstrate independence and neutrality in front of superpowers, was made under their conditions and guidelines.**
- From all the NWSs, **the US influence on Tlatelolco's development was decisive.** Hardly the Treaty of Tlatelolco would have been approved if the US had opposed its adoption. The militarily asymmetrical relation between the US and its Latin American and Caribbean neighbours demanded a clever political move to offset at least legally the almighty US nuclear arsenal. In a hypothetical scenario of nuclear conflagration, the military vulnerability of Latin American nations would have devastating consequences for its citizens, even worse if the US would decide to attack nuclearly any state below its southern border. As we already said, in the case of Mexico, its relations with the US proved to be persuasive to propose and promote the Treaty. Since the enactment of the Estrada Doctrine, Mexican administrations strove for placing the country in the world as leader of the Global South through a peaceful and mediating identity.

This behaviour granted Mexico important assets from the US, such as nuclear materials and technical advice for its nuclear program. Consequently, **for Mexico's interests being part of Tlatelolco and promoting non-proliferation norms might have brought to it more benefits than costs.** It's still no clear if the US influenced directly president Lopez Mateos' proposal for creating the zone, given that the original idea had been already suggested in the '50s by the US Secretary of Treasury, Robert B. Anderson. Additionally, after the Missile Crisis in Cuba, **Tlatelolco resulted desirable for the US security interests and for its international purpose of building a nuclear non-proliferation regime and preserving its nuclear supremacy.** A question that remains to be answered in future is Who benefited the most from Tlatelolco: Latin American and Caribbean states or the US?

- Brazil was a special case. Since the 1964 coup d'état, **Brazilian presidents of the dictatorship period shared the US anticommunism ideology and at different moments they were very cooperative with its northern neighbour, but this ideological convergence did not influence either the Brazilian critical position on the non-proliferation regime or its intention to advance its nuclear program.** Although the US recommended several times Brazil elites to join the non-proliferation regime and adopt full safeguards, the Brazilian military elite shielded the nuclear civilian program from external interference and from domestic disputes and changes. Itamaraty, the bureaucratic heart of Brazil's foreign policy, in this case, followed the military guidelines of not recoiling on its non-proliferation positions. **Hence, the influence of the US on Brazil's decision to allow the entry into force of Tlatelolco was only indirect.**
- The opposite happened **in Argentina**, where **the role of the US was determinant to persuade Menem's government to abandon Argentina's traditional reluctance to adopt fully the NPT and the Treaty of Tlatelolco.** Argentina historically had an independent foreign policy from the US influence, and often it had difficult diplomatic relations with its northern neighbour, even during the ideologically anti-Communist dictatorships. From the three cases, Argentina had a long-standing anti-NPT position. Conversely to Brazil, Argentina did not participate in the group of five presidents who proposed the Treaty of Tlatelolco, despite its political clout in the region and internationally

was significant. Argentina's enduring dispute with the UK over the sovereign possession of the Malvinas/ Falklands Islands was also an obstacle to ratifying the Treaty. Additionally, the role of OPANAL regarding the 1982 War between Argentina and the UK did not satisfy Argentina's government discouraging it from adopting the Treaty integrally. In this scenario, the overt US support to the UK even breaching the Inter-American collective defence treaty (TIAR) only contributed to fuel their mutual distrust. Notwithstanding, the debt crisis, the difficulties of Argentina's transition to democracy and the new American-led world order led Menem's government to re-assess its foreign policy mainly its ties with the US in the '90s. Argentina's deep financial vulnerability and increasing economic dependence on the US fuelled the influence of this latter on Argentina's foreign policy. Menem built closer relations with the United States in a way that none of its predecessors did it. In this scenario of fragility, the US conditioned the transfer of strategic technology and debt alleviation to Argentina to its full adherence to the non-proliferation regime, including the ratification of Tlatelolco. Under US political and economic pressure, Argentina finally ratified the Treaty. But as we explained it, the ratification process of Treaties in Argentina implied the role of other actors as the Congress, therefore, **even though the US growing influence on Argentina's foreign policy helps to explain the timing and Menem's initial political moves to the full adhesion to the LAC non-proliferation regime, domestic gambling affected also the decision of adopting Tlatelolco in 1994.**

- We stated that in Latin America, including in Mexico, Brazil and Argentina, the domestic factors are often more relevant than those international ones when it comes to shaping foreign policy. But what seems more accurate to say is that **there are areas where externally linked factors are more substantial than those related to domestic variables.** The continuity of non-proliferation and disarmament policies that Mexico, Brazil and Argentina demonstrated over 40 years regardless of the type of government and the political party in power lead us to question the level of relevance of domestic politics at least in this area. To avoid any spurious conjecture, it is necessary to point out what had been observed throughout this research. First of all, the type of regime or type of government resulted irrelevant to explain the discontinuities in their non-proliferation policies, nonetheless, **in the case of Argentina and Brazil the**

transition to democracy helped to solidify their nuclear cooperation and contributed to their eagerness for promoting new non-proliferation initiatives although unrelated to Tlatelolco. Moreover, the fact that their nuclear civilian programs were under the military guard increased the legitimacy of **non-proliferation and disarmament norms considered more democratic in opposition to the military governments.** The adoption of the neoliberal model, where the state role is meant to be minimalistic accentuated this approach epitomized in the nuclear industry dismantlement, often portrayed as an unnecessary expenditure, which contributed to increase the importance of being a non-proliferator country.

- In the light of the overall findings of the origin of the Treaty of Tlatelolco, the thesis of Ramesh Thakur that states with minimal security concerns are more prone to establish NFWZs seems to be plausible. **The relative absence of inter-state conflicts in the region coupled with the securitization around the Missile Crisis in Cuba, the political willingness of the majority of Latin American nations to establish an NWFZ and the absence of regional and international opposition to the proposal converged to the birth of the Tlatelolco system.**

b) Regime implementation

The second part of our research focused on the results, performance and effectiveness of the Treaty of Tlatelolco from 1967 to 1997. We aimed to answer the question: which factors have been relevant for explaining the level of effectiveness and performance achieved by the Treaty of Tlatelolco? We proposed that the Tlatelolco's effectiveness level predominantly depended on: the processes of harmonization and disharmonization of interests and preferences between the states with significant nuclear capabilities (Brazil and Argentina) and those with incipient or no nuclear capabilities; the commensurability or incommensurability between the objectives and scopes of the Treaty and its real problem-solving capacity –especially at critical events-; the states-parties perception about the relevance or irrelevance of Tlatelolco to satisfy their interests and preferences over the time; and, the Tlatelolco's embeddedness capability in the scaffolding of the international non-proliferation regime.

For this section, we analysed similar factors to those examined in the first part, except for the implementation aspect. The purpose of this phase was to detect any *ex-*

post change/non-change in the states' behaviour and therefore to infer the attained level of cooperation and effectiveness of the Treaty. Due to methodological concerns, we observed two sub-periods only: from 1967 to 1985 (approximately) and from 1986 to 1997 covering an analysis of 50 years in total (1947 – 1997). **We concluded that in the first subperiod, the enforcement of the Treaty of Tlatelolco was suboptimal effective and the second period was characterised by a moderately effective performance regarding non-proliferation regional concerns. If we evaluate the overall performance of the Treaty until the last observed period we could state that it has been moderately effective.** Unfortunately, most of the problems and difficulties exposed persist until nowadays, therefore, our study far from being out-dated, it is a picture whose interpretation is still valid. Here we will present the findings and reasons that justify our final diagnosis and prognosis.

- In the first studied subperiod (1968 to 1985), Tlatelolco achieved a considerable significant membership of 23 states-parties, both Additional Protocols were signed and ratified, except for France that did not ratify the Additional Protocol I and the control system began to be accomplished by the signatories. To some extent, the indispensable requirements and the control system requirements were met, however Brazil, Argentina, Chile and Cuba were reluctant to adopt the Treaty and **the formal compliance of Tlatelolco by all the rest of the states proved to be not enough to tackle critical situations satisfactorily.** The 1982 Malvinas/ Falklands Islands conflict when Argentina accused the UK of introducing a nuclear-armed submarine was the first important challenge to the Treaty. OPANAL as the agency in charge of the Treaty's enforcement issued a statement expressing concern about the incident but it was legally unable to take further actions. Simply, within the limits of the Treaty's mandate, there was (is) no clause or article about the process to follow in case of a presumable violation of the Treaty by an NWS or other external actors, because it only stipulates the actions to take in case of a contracting party's violation (article 21¹⁷) or in case of disputes concerning the interpretation or application of the Treaty by states-

¹⁷ According to article 21: "The General Conference shall take note of all cases in which, in its opinion, any Contracting Party is not complying fully with its obligations under this Treaty and shall draw the matter to the attention of the Party concerned, making such recommendations as it deems appropriate. If, in its opinion, such non-compliance constitutes a violation of this Treaty, which might endanger peace and security, the General Conference shall report there on simultaneously to the United Nations Security Council and the General Assembly through the Secretary-General of the United Nations, and to the Council of the Organization of American States. The General Conference shall likewise report to the International Atomic Energy Agency for such purposes as are relevant in accordance with its Statute".

parties (article 25¹⁸), defined as such in article 2¹⁹. Consequently, this legal vacuum in the Treaty made predictable the inability of OPANAL and the General Conference to address this kind of conundrums. Additionally, the aforementioned 255 Security Council Resolution was not invoked. As we stated, if the Treaty's draft would have contained an article addressing third-party or NWSs violations, NWSs simply would not have approved it. Nonetheless, as we explained it, the Malvinas/Falklands Islands issue was not an isolated case, but it was and it is part of an overarching problem: the persistent and disputed legacy of colonialism limits the enforcement of the Treaty of Tlatelolco despite concerning states have ratified the Additional Protocol I. The denouncement submitted by the Puerto Rican Bar Association since 1985 to OPANAL about the emplacement of US nuclear weapons on the Island was another example that even the most "institutionalized" NWFZ Treaty could be unable to preserve its denuclearized status in every territory, particularly where an NWS is still the ruler authority. Other forms of foreign presence, for instance, the US military base of Guantanamo proved to be also a source of mistrust hindering Cuba's adoption of the Treaty of Tlatelolco by decades, although OPANAL worked diplomatically to bring the Caribbean country closer to the system. Unfortunately, **the persistent legacy of colonialism and other forms of foreign presence are still crucial challenges to the denuclearized status of the Latin America and the Caribbean NWFZ. Moreover, the particular interpretations by NWSs regarding the freedom to navigate on the high seas and the transit rights with radioactive material is a stumbling block from then to now for the effective compliance of Tlatelolco.** Beyond that, from a technical and geographic perspective, in a hypothetical scenario of superpowers' all-out nuclear war, where the US would be involved, hardly Latin American and the Caribbean would remain safe due to its proximity with the northern country. In such an apocalyptic context, the Treaty of Tlatelolco would become a dead letter. Hopefully, such a scenario will not happen, at least in the short term.

¹⁸ Article 25 establishes that: "Unless the Parties concerned agree on another mode of peaceful settlement, any question or dispute concerning the interpretation or application of this Treaty which is not settled shall be referred to the International Court of Justice with the prior consent of the Parties to the controversy".

¹⁹ Article 2 stipulates: "For the purpose of this Treaty, the Contracting Parties are those for whom the Treaty is in force".

- Consequently, after analysing the empirical evidence we can prove the plausibility of our hypothesis (II b) where the incommensurability between the Treaty's objectives and scopes and its real problem-solving capacity – particularly through OPANAL- was an important challenge to build a robust zone and advance on its cooperation level. But we should warn that **the concerning incommensurability was (and is) mainly externally configured by geopolitical circumstances where the power of NWSs is unbeatable**, rather than by the result of sheer institutional insolvency.
- Nonetheless, OPANAL was 'victim' of its own pioneerism because **since the NPT entered into force in 1970, many of its monitoring and compliance tasks were reassigned to the IAEA, minimizing the Agency's role** and provoking eventual functions' overlapping. States parties should sign Safeguards Agreements with the IAEA and not with OPANAL, which transfers to the IAEA the surveillance, control and verification tasks. Accordingly, **OPANAL became above all a body for channelling political and diplomatic tasks**, assisting states parties to achieve compliance and promoting international cooperation on disarmament and non-proliferation. For instance, OPANAL mediated diplomatically between those states with border disputes such as Venezuela and Guyana to help this latter to become a state-party, although in the first period observed OPANAL did not have success.
- **OPANAL's constant financial difficulties were and are still an example of longstanding and non-solved problems, which has limited its activities and has unveiled to what extent states-parties were and are interested in the course of the Agency.** If we take this aspect into account, we could say that OPANAL is not relevant for its states-parties or at least it seems it does not have the importance that security-related institutions usually have.
- Since the 60s', development began to be the main preoccupation for Latin American states leaving in the background the external security agenda. As we explained it, during military governments the national security doctrine was imposed but since the mid-80s' with the return to democracy, the internal security agenda lost momentum and the role of military branches was submitted to civilian control. This new political turn accentuated the lack of importance of security issues. We exposed how the nuclear threat became considered almost inexistent by the presidents of the neoliberal wave, leading them to reassess their

own definitions of sovereignty and security. Hence, **the perceived gradual loss of importance of the nuclear threat also contributed to diminishing the significance of Tlatelolco.**

- In the second analysed period, all the 33 states of the region became states-parties of Tlatelolco including the most reticent ones: Brazil, Argentina, Chile and Cuba, which contributed to the Treaty's universalization. The completion of **the decolonization process mainly in the Caribbean delayed the application of the Treaty in all the territory**, but it did not impede its full entry into force afterwards. France, which had been reluctant to ratify the Additional Protocol I, reversed its position as well. Despite these legal and institutional accomplishments, Tlatelolco's states-parties were unable to transform these adhesions into political victories. For instance, they did not update or expand the Treaty's mandate nor they boosted the OPANAL's role. **Paradoxically, the entry into force of Tlatelolco in all the Latin American territory brought about a conspicuous institutional existential crisis, and to some extent, it unleashed an ossification process of OPANAL, menacing its survival.** In the 90s', the fact that key states-parties of Tlatelolco namely Mexico, Brazil and Argentina coincided in not expanding the Treaty's mandate towards the regulation of nuclear waste or towards nuclear energy cooperation echoed in other states' unwillingness to re-orient the Tlatelolco's institutional future, limiting the role of the Agency to the accomplishment of diplomatic and cooperation tasks and to the eventual organization of scientific outreach activities.
- Furthermore, **the nuclear proliferation problem has been a sporadic and not a lingering preoccupation in Latin America because a proliferator has not emerged sharply**, even if Cuba hosted the Soviet Missiles in 1962 and Argentina and Brazil at certain moments in the '70s and '80s seemed to have ambiguous purposes with their nuclear programs. Consequently, if nuclear proliferation has not been a longstanding threat in the region, the solution, that is the Treaty, has constantly run the risk of losing momentum. Therefore, over time, Tlatelolco became perceived as relatively irrelevant to their states-parties, as our hypothesis (II c) had pointed it out.
- In this daunting context for the Tlatelolco system, the Regional Cooperative Arrangements for the Promotion of Nuclear Science and Technology in Latin

America (ARCAL) and the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) emerged to cope with the nuclear energy cooperation regional needs and the nuclear materials' control and verification activities required by Argentina and Brazil. Although unintentionally, **the establishment of both institutions reinforced the loss of relevance of OPANAL and institutionalized the different nuclear agendas** of Brazil and Argentina and of the rest of the countries mostly with incipient or no nuclear capabilities, as we suggested in our hypothesis (II a).

- Before the Tlatelolco's inception, the nuclear asymmetries between Brazil, Argentina and the rest of Latin American and Caribbean countries were already visible, also the contradictions of their interests and preferences. Brazil and Argentina were more interested in developing their nuclear programs, than in fostering a nuclear non-proliferation regional regime because as we explained it, they perceived this restraint as a discriminatory measure and as an action in benefit of NWSs' supremacy. Moreover, they did not want to include India as an NWS or as a candidate to sign an additional protocol as Secretaries-General prescribed it. Additionally, they demanded to the OPANAL General Conference a constant assessment of the compliance of the Treaty including the role of NWSs. Their critical and sceptical attitudes regarding the effectiveness of Tlatelolco got accentuated **after the 1982 Malvinas/Falklands islands war**, pushing them outwards to find new bodies or institutions to satisfy their positions. To this respect, it can be noticed that **Argentina preferred to promote its nuclear and non-proliferation stances by building up ties with emergent countries or similar pairs, for instance through the "New Delhi's group of six", and the ABACC; and Brazil, privileged the expansion of its zone of influence towards the South Atlantic through the establishment of the South Atlantic Peace and Cooperation Zone (SAPCZ), but also by strengthening its cooperation with its Plata Basin's neighbour and its pairs through the 1996 "New Agenda Coalition" (NAC) towards complete disarmament.** Despite their scepticism about Tlatelolco's efficacy to tackle potential nuclear threats coming from NWSs, they did not impede the Treaty's implementation process. Nevertheless, **their reluctance to enforce the Treaty in their territories was a political token that undermined the Tlatelolco's legitimacy for a long time. Also, this reluctance turned them for some**

decades the target of Western suspicion, which considered they were proliferating militarily.

- Therefore, **the combination of systemic factors** -such as the superpowers' signature of START I and the US financial and political pressure, especially over Argentina during Menem's government- **and domestic variables** -such as the neoliberal presidents' new understandings about state and security- **explains the shift of Argentina's and Brazil's non-proliferation positions allowing the entry into force of Tlatelolco in their territories.**
- We should underline that **the changes in Brazil's and Argentina's non-proliferation postures were implemented by their governments as a mean to obtain certain immediate rewards (debt renegotiation, technological transfer).** Similarly, **the new conceptualization about the state and the deepening of Mexico's interdependence with the US affected Mexico's internationalism clearly linked to non-proliferation and disarmament, prioritizing trade and the fight against bi-national threats such as illegal immigration and drug trafficking.**
- If we gauge the overall performance and effectiveness of Tlatelolco we can estimate that it achieved a moderate effectiveness level. Notably, the Treaty obtained universality with its full acceptance by the 33 Latin American and Caribbean states, and it gained international legitimacy through the ratification of the Additional Protocols by all the extra-continental countries, that even negotiated with the IAEA their safeguards agreements. **According to the OPANAL Secretaries-General's reports, states parties have accomplished considerably with the requirements of the control system (See Annexes 2 and 3) and none of them has violated Tlatelolco since its enactment.** Although, the Treaty's mandate and OPANAL could not be modernized according to the new threats (e.g.: nuclear radioactive waste) and the new states-parties' demands (e.g.: nuclear energy harnessing), OPANAL focused on: assisting states-parties in their compliance tasks, cooperating with other international entities and extra-continental states, particularly for the establishment of new NWFZs and, promoting non-proliferation, especially the Latin American experience through scientific and academic outreach activities. Notably, **the role of Mexican diplomacy until the 90s was paramount for the**

“export” of the Tlatelolco model and the promotion of non-proliferation and disarmament international norms.

- The **OPANAL’s** high-intensity diplomacy inwards and outwards coupled with the perceived absence of an immediate nuclear threat fuelled a long-standing inter-State peace in the continent and concurrently **fostered a regional nuclear taboo**, which was reinforced once Brazil, Argentina, Chile and Cuba adopted fully the Treaty. **Non-proliferation is one of the few areas where Latin American and Caribbean countries of the region have had a stable and unified position for almost half a century.**
- To some extent, the “export” of the ‘Tlatelolco model’, and **the OPANAL’s proposal of developing a standing forum of NWFZs’ states-parties to galvanize collective action and undertake common initiatives, proved the OPANAL’s embeddness ability in the scaffolding of the international non-proliferation regime**, as we claimed in our hypothesis (II d). Undoubtedly, the establishment of the LAC - NWFZ was a paradigmatic case and an international reference for the creation of other NWFZs and for the NPT itself. This **international recognition has been until nowadays an important political capital to explode by OPANAL to keep alive the Agency and Tlatelolco.**
- However, until now several challenges have remained unchangeable. **NWSs’ interpretative declarations persist, and an eventual denunciation of the Treaty cannot be discarded either.** Over the last decade, some declarations and resolutions have been issued addressing the problem of NWSs’ interpretative declarations, namely: the 2013 Declaration of Santiago of the first CELAC Summit, which in its 44 numeral “[called] upon the nuclear powers to withdraw their reservations and interpretative declarations to the Protocols to the Treaty, and to respect the denuclearization status of the Latin American and Caribbean region” (CEPAL, 2013:8); the 2014 CELAC proclamation of the region as a “Zone of peace”, which reinforced the denuclearization of the continent; the 2016 UN General Assembly Resolution 71/27, which “[encouraged] once again States parties to Additional Protocols [...] to review their interpretative declarations thereto, [...], reaffirming and recognizing the legitimate interests of the States that comprise the [LAC NWFZ] in receiving full and unequivocal security assurances from the NWSs” (UNGA, 2016:3); and lastly, the 2019 OPANAL General Conference’s resolution CG/Res.12/2019

adopted on November 7, which decided to continue with the diplomatic good offices before the Russian Federation and France, which currently do not recognize the Treaty's zone of application, and before the US, the UK and Russia due to their hypothesis that a state-party commits a military aggression with the support of a NWS or in support of a NWS (OPANAL, 2019a: 3; OPANAL, 2019b: 1).

- Moreover, **from the 2015 Review Conference of the parties to the NPT until the recent 2020 Review Conference, Latin American and Caribbean states have been able to unify their positions and submit two working papers as Tlatelolco state-parties** encouraging the ratification of CTBT's annexe 2 as well as the urgent adhesion to the NPT, and the fulfilment of its article VI, but most importantly, enjoining the states parties to additional protocols to the NWFZs' treaties to give full Negative Security Assurances (UN, 2020:3).
- **The legal advantages that Tlatelolco may have conquered in the past are at the moment incommensurable in political terms.** In the years to come, the tri-polar world order will be a defy to Tlatelolco given that the continent is now considered by the US Southern Command (SOUTHCOM) as "the front line" in its clash with China (Seldin, 2021). With all these obstacles a couple of questions remain to be answered in the future: ¿who did benefit the most from Tlatelolco: the Latin American and Caribbean states or the NWSs, particularly the US? Will the compliance of Tlatelolco deteriorate in front of the new geopolitical order? It seems that this latter is likely to happen.
- To conclude, and reassessing this thesis holistically, we can underline that **it has contributed to sketch out a basic reference to evaluate the effectiveness of an NWFZ Treaty by intertwining domestic, regional and systemic dimensions** and by incorporating material and immaterial variables in a heterodox theoretical framework. It had sketched out a concept and understanding of effectiveness in the context of a NWFZ Treaty and has showcased the persistence of their limits. Are they still stepping-stones towards the construction of a Nuclear-Free World? The case of Latin America and the Caribbean suggests that without the commitment of NWSs and nuclear-capable states, the desired Nuclear-Free World can be a mere Panglossian objective.

V. References²⁰

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²⁰ Here we enlisted only the sources mentioned in the summary. The complete list of references can be found in the dissertation.

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VI. Publications by the author on the topic

- 2021 **“The effectiveness of Nuclear-Weapon-Free Zones: Exploring the Latin American Case” Chapter 12.** Valeria Puga Alvarez, in: Radomir Compel and Rosalie Arcala-Hall (eds.). *Security and Safety in the Era of Global Risks*, pp. 215 – 239. London: Routledge. (To be published in June). Available at: <https://www.routledge.com/Security-and-Safety-in-the-Era-of-Global-Risks/Compel-Arcala-Hall/p/book/9780367651879>.
- 2020 **“América Latina y sus aportes al régimen de no-proliferación nuclear” [Latin America and its contributions to the nuclear non-proliferation regime]**”, Valeria Puga Alvarez, *Acta Hispánica (Szeged University)*, Supplementum II, pp. 65 -75. Available at: <https://doi.org/10.14232/actahisp.2020.0.165-175>.
- 2019 **“Latin America and its contributions to the nuclear non-proliferation regime”**, Valeria Puga Alvarez, *Conference proceedings, The 1st International PhD Conference of the IR Multidisciplinary Doctoral School of CUB*, 31 May, Budapest, pp. 127 – 130.
- 2019 **“Desarmar al bárbaro: Occidente y la cruzada contra la proliferación nuclear en Oriente Medio” [Disarming the barbarians: the West and the crusade against nuclear proliferation in the Middle East]**”, Valeria Puga Alvarez, *Relaciones Internacionales (Universidad Autónoma de Madrid)*, N° 42 “Repensando el MENA desde lo internacional”, N° 42, pp. 197 – 217. Available at: <https://revistas.uam.es/index.php/relacionesinternacionales/article/view/relacionesinternacionales2019.42.011>
- 2018 **“Functional peace? The “first wave” of Nuclear-Weapon-Free Zones”**, Valeria Puga, *Grotius, A Budapesti Corvinus Egyetem Nemzetközi Tanulmányok Intézetének Tudományos Folyóirata*, 9 June, Budapest: Corvinus University of Budapest, 25 (p). Available at: <http://www.grotius.hu/publ/displ.asp?id=HRMOKQ>.
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- 2017 **“Students on the Cold War. New findings and interpretations”**, Csaba Békés and Melinda Kalmár (eds.); Lucia Pereszleányi, Valeria Puga, Tsotne Tchanturia and Tőke Márton (assistant co-editors), December, Budapest: Cold War History Research Center, Available at: http://www.coldwar.hu/main_pubs/Students_Cold_War.pdf.