EXPLAINING REGIME FORMATION: LIBERAL IDENTITY THEORY & THE WASSENAAR ARRANGEMENT

by

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(Under the Direction of Jeffrey Berejikian)

ABSTRACT

Liberal identity theory is one of several systemic international relations theories explaining the formation of international regimes. While many good qualitative studies help validate liberal arguments, to date no quantitative analysis of the liberal paradigm exists. The purpose of this study is to quantitatively test the explanatory power of liberalism, thus closing a gap in the existing literature. Using OLS regression, the thesis tests the strength of the liberal argument with respect to the Wassenaar Arrangement. While the results generally support the liberal argument, a recurring pattern of failure with regards to the developing world is unearthed. However, a follow on utility test for the developing nations displays mixed results and fails to seriously undermine the liberal arguments. The thesis suggests, that liberal identity theory provides a sufficient explanation for developed states, but fails to adequately explain regime formation among developing nations.

INDEX WORDS: Liberal Identity Theory, Wassenaar Arrangement, International non-proliferation regime, Export controls, Regimes

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CHAPTER 1

INTRODUCTION

Few believe that the end of the Cold War has made the world a safer place. The end of the East-West confrontation has caused many latent conflicts, which in the past have been restricted by the bi-polar "geopolitical straightjacket", to reemerge. Simultaneous to the increasing level of conflict is an upward trend in the proliferation of conventional arms. Many military leaders of major arms supplying states are worried about the increasing proliferation of high technology military items to a growing number of countries, rogue states and non-state entities. Especially worrisome is the rise of global terrorism and the fact that many sophisticated weapons are easily available on the worlds "arms bazaars". For example, the Russian shoulder fired SA series rocket launcher is available on the international black market (Pierre 1-11). This weapon could provide terrorist organizations with the ability to down a civilian aircraft from several kilometers away and inflict massive amounts of collateral damage. On December 29th 1993 security forces at Yemen's Aden airport narrowly averted a disaster, when they were able to intercept a terrorist strike team preparing to launch their shoulder fired RPG-7 rockets at U.S. transport planes (Bodansky 71). The previous examples illustrate the danger of uncontrolled weapons proliferation and the potential risks it posses for the international

community. States recognize these risks and attempt to control and monitor the global arms market by seeking interstate cooperation and building international regimes.

John Ruggie introduced the formal concept of international regimes into international relations theory in 1975 (Smith 256).

> ***Regimes are defined as sets of implicit or explicit principles, norms, rules and decision-making procedures around which actor's [states] expectations converge in a given area [issue] of international relations. Principles are beliefs of fact, causation, and rectitude. Norms are standards of behavior defined in terms of rights and obligations. Rules are specified prescriptions or proscriptions for action. Decision-making procedures are prevailing practices for making and implementing collective choice*** (Krasner, Structural Causes 186).

Regimes deal with a multitude of different issue areas, ranging from monetary issues (the Bretton Woods system), conservation of endangered species and pollution to international arms control and many more (Young 331). Since the 1950's the world has witnessed the evolution and the steady growth of what is known today as the international non-proliferation regime (Nye 16).

The international non-proliferation regime is comprised of formal treaties and informal arrangements between nations in order to monitor and control the flow of nuclear, biological, chemical and conventional arms and technologies from one nation to the next. Formal regimes are legislated by international organizations, maintained by councils or congresses, and monitored by international bureaucracies. Informal regimes are created and enforced by the mutual self-interest of the involved actors and depend

largely upon consensus of their members (Puchala 65). While many of the groups belonging into the later category "do not call themselves regimes…they fall within the definition of a regime offered by Stephen Krasner (Anthony 597)." Embedded within the regime are formal treaties such as the Nonproliferation Treaty (NPT), the Biological and Toxin Weapons Convention (BTWC), and the Chemical Weapons Convention (CWC). Several informal export control regimes, such as the Australia Group (AG), the Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR) and the Wassenaar Arrangement (WA) complement and support the broader international non-proliferation treaties (Strengthening 5).

Even though international regimes have been developing strongly since WWII, the literature and systemic study of regime formation is relatively weak (Young 331). Little systemic analysis on the formation of security regimes, including the international non-proliferation regime has been undertaken, whereas the literature analyzing international economic regimes is plentiful (Smith 253). While several case studies explain regime formation by using existing international relations theories such as realism, liberal identity theory and rational institutionalism, they only explore a small number of cases and the findings are not generalizable.[1] An alternative to the case-study approach is the large n-study, which incorporates larger data sets and can therefore "…be a strong method for exploring international politics if relevant test data is recorded for many cases" (Van Evera 30). To this date no large n-analysis supports the general statements made by any of the regime formation theories. We simply do not know how

[1] An excellent example is Gary Bertsch's "Arms on the Market" study that is referenced in the works cited section.

much these theories explain, if they are accurate and to whom they apply and fail to apply. In an era of massive arms proliferation, rogue states and international terrorism, it is imperative that we understand the mechanisms and motivations underlying states behavior with regard to the international non-proliferation regime.

The literature points to three dominant regime formation theories which are the liberal identity theory, realism and rational institutionalism.[2] These theories offer competing explanations as to why states develop weapons export controls and join components of the non-proliferation regime. The primary purpose of this study is to assess one of these regime formation theories utilizing a large n-analysis in hopes of providing some general results. In the past, many excellent large n-studies of the democratic peace theory have been conducted.[3] Mirroring these works, I measure the explanatory power of the liberal paradigm with regards to the international non-proliferation regime and attempt to find evidence for the liberal identity argument. According to political behaviorists, "liberal democratic governments feel a common bond with other liberal democratic states based on similar normative and institutional foundations (Grillot 9)." The basis for this thought is provided in Immanuel Kant's work "Perpetual Peace," in which he postulates the "foedus pacificum" among liberal states and "…[liberal states] complaisance in vital matters of security and economic cooperation" (Doyle, Ways 258-59). Based upon these liberal ideas, I expect a positive

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2 Different scholars use different names such as: Liberalism, Realism and Neo-liberalism. To avoid confusion I chose the less conventional names. Please note that I use liberal identity theory & liberal paradigm interchangeably.

3 See Steve Chan's article listed in the works sited section.

causal relationship between the "liberal identity", or high level of democracy in a given state, and its membership in the non-proliferation regime.

The secondary purpose of this study is to identify and offer explanations for those cases that cannot be explained by the liberal paradigm. This constitutes an important step, because foreign policy disasters often occur when policy makers apply generally valid theories to inappropriate circumstances (Van Evera 20). It is entirely possible that a state with a well functioning democracy refuses to join the regime for other, more pressing reasons. While large n-studies reveal much in terms of the general variance of the dependent variable, case studies reveal data that is otherwise inaccessible (Van Evera 30). To explain specific cases of compliance / non-compliance I draw on the remaining realist and rational institutionalist expectations and incorporate them into a case study framework.

To facilitate the process and follow a logical order, the paper is divided into five sections. In the introduction I stated the problem, solution and the purpose of the thesis. The next section contains the literature review, in which I provide an overview of the liberal paradigm, the second-order domestic politics approach, and two alternate regime formation theories, namely Realism and Rational Institutionalism. The third section contains the regression model and a discussion of the results. In section IV I challenge the explanatory power of the liberal paradigm with regards to the developing world and develop an alternative set of interest-based hypothesis, which I test via a utility model. In the concluding chapter, I briefly recapitulate the findings and explore the implications of the argument.

CHAPTER 2

LITERATURE REVIEW

Despite the increasing pace of interstate cooperation and the deepening of international institutions since WWII, the literature examining the motivations for state participation in institutions is relatively weak (Young 331). This is especially true for the non-proliferation regimes described above (Smith 253). Still, there is some research that is suggestive. For example, a recent study by the Center for International Trade and Security (CITS) at the University of Georgia (UGA) outlines four theories as to why states develop systems of export controls, of which participation in components of the international non-proliferation regime is a part. The four theoretical approaches utilized by CITS are: Realism/Neorealism, Rational Institutionalism (Neoliberalism), Domestic Politics, and Liberal Identity (Bertsch 3-10). This study borrows from the general framework suggested by CITS' in order to test the motivations behind states' cooperation in the WA. However it modifies that typology by combining the arguments about domestic politics and liberal identity. Previous research has demonstrated that "some" segments of export controls are often "motivated by domestic political factors" (Anthony 630). The argument here is that this is truer in democratic states, *because they are democratic*, and therefore favorably inclined to participation in international agreements. In democracy constituency pressures and liberal identity should combine and thus manifest a systematic influence over state decisions to enter into formal agreements like the WA.

Liberal Identity Theory

Over 200 years ago, Immanuel Kant predicted the "ever widening pacification of a liberal pacific union" among states. He outlined two regularities in this worldview. First, liberal states do not wage war on each other, and second, liberal states wage war against illiberal states. Kant emphasizes republican representation, liberal respect, and transnational interdependence as the causes for these two regularities (Doyle, Ways 287). Contemporary scholars build upon the Kantian view and attribute cooperative interstate politics to a shared identity with others in a community of states (Bertsch, Arms 9). Liberal identity arguments, unlike power oriented realist claims or the materialistic emphasis of rational institutionalism, draws its conclusions about international cooperation from the very structure of states, and thus offers a set of predictions concerning the motivations for cooperation derived from the level of democracy.

By this argument, in order for states to cooperate with one another, especially on security issues, a certain level of trust is necessary. Karl Deutsch finds that states which successfully integrate into security communities share many common factors with one another. Most importantly, states in a security community "share a common way of life." Deutsch defines this as a connection between values, institutions and habits. Familiarity between these factors across states is often "sufficiently effective" in producing a climate of mutual trust and, therefore, cooperation (Deutsch 46-59). In part, this increased cooperation between democracies is a function of greater interaction and experience that is the natural result of shared values. The development of an international security community thus evolves in three distinct phases. First, states desire increased security because of some external threat, second collective identities with regard to security

produce a shared desire for communities, and third these desires are institutionalized thereby reducing the possibility of war (Adler 64-98).

Liberal identity theory is therefore quite clear that it is shared democratic institutions, practices and values that promote collective identity, mutual trust and the possibility of peaceful co-existence. The exchange of liberal ideas can even lead to the creation of a shared transnational culture which itself reinforces collective identity, and thereby further promotes the exchange of "people, goods, and ideas" across state borders (Adler 83-84)." While liberal states identify positively with one another, they may distrust non-liberal states (Grillot 9). Non-democratic states are therefore not actively recruited for membership in democratic-dominated regimes.

These arguments should apply equally to all forms of institution, including non-proliferation regimes. We would expect to see a pattern of democratic states forming institutions wherein they agree to restrict the flow of weapons and prevent non-liberal states from acquiring them. (Grillot 10).

Domestic politics and liberalism

Alexander Gourevitch, argues, somewhat cryptically, that "Preferences shape institutions and institutions shape preferences" (Gourevitch, Squaring 351). Therefore, one must not only understand the state's decision (outputs), but also those factors (inputs), which contribute to and are involved in the foreign policy decision-making process. It is widely accepted that state behavior and foreign policy choices of states are a function of various domestic political variables (Grillot 6). However, most theories of international cooperation underestimate the explanatory power of domestic variables, thus limiting their explanatory power and in some cases developing inaccurate models of

international cooperation (Cupitt 6-7). Capturing the dynamic character of international regimes requires researchers to understand not only the bargains struck between states, but also the actors and institutions within states (Strange 354). Typically, scholars adopt one of three competing models of domestic politics.

Pluralism: According to this approach, interest groups pressure governments for policies consistent with their specific preferences (Kegley 4). Interest groups are assumed to be natural phenomena in democratic regimes, which means that they are not unique to the U.S. experience and thus pluralist arguments can be applied to all democratic states (Cigler 2). While the precise impact of interest groups on foreign policy remains a point of contention, research as recently documented an "explosion of lobbying by groups" concerned with foreign policy issues (Uslaner 366). For this study, groups involved in weapons production are particularly important. There is no reason to expect a single relationship between democracy and a system of weapons production. Both private and public defense industries are possible. In cases where the defense industry is a nationalized activity, an interest-based argument proves useless because the state already controls the manufacturing of defense items. However, in cases where the arms industry is privatized, the interest-based approach may help explain state behavior. This difference roughly translates into a distinction between "liberalizing" coalitions and "nationalist" coalitions. While the former prefer less state intervention, hence less export controls, the later seek greater state involvement, hence stricter export controls, in order to protect the state's enterprises from foreign imports (Solingen). This distinction between privately owned export oriented industries and those private industries that produce mostly for a

domestic clientele will contour the domestic political incentive structure for governments seeking multilateral cooperation on weapons proliferation.

Elitism: As Grillot correctly points out; the elite approach to domestic politics focuses on the national decision-makers themselves and sees these actors as the primary force shaping states' behavior (7). When utilizing this approach, it is important to define the character of the elite in question. Two lines of argument developed by Richard Cupitt justify a narrow definition of elite actors with regards to the non-proliferation regime. First, "the adoption of export controls against the preferences of the sitting president contradicts the typical pattern of foreign and security policy-making…in democratic states generally". Second, "In foreign policy, agenda-setting generally mirrors the preferences of…chiefs of government" (Cupitt 15). The elite argument is further developed by Krasner, who argues that policy decisions made by central state actors are not the sum of private pressures or needs, but rather the direct result of decision-makers pursuing a consistent set of goals, defining the "national interest" according to their desires and wishes (Krasner, Defending 5-34). Elite-decision-makers thus not only pursue personal goals, but are also believed to be able to influence and shape the opinions of the masses, which are expressed through interest groups (Kegley 5).

Institutionalism: According to this state-centered approach, foreign policy decisions are highly constrained by domestic institutional relationships that persist over time. This approach assesses the decision-making power of officials who occupy key positions within the political apparatus in relation to a state's institutional framework (Ikenberry 2). Hence, "Institutions are the rules of the game…the humanly devised constraints that shape human interaction" (North 3). Since institutions differ from state to

state, it is assumed that policy instruments available to state officials involved in the foreign policy process differ as well. Therefore, Ikenberry et al. place states along a continuum, which expresses the relationship between state officials and societal forces. On the one hand are "strong" states in which the decision-making process is centralized and state officials enjoy relative autonomy from societal forces, and officials' posses a relative large array of available policy instruments for shaping the states' foreign policy. On the other end of the continuum are "weak" states, in which the decision-making process is fragmented along institutional lines and officials have less authority and available policy instruments for shaping the state's foreign policy (Ikenberry 10-11).

Realism

According to Grieco realist theory encompasses five propositions, which define states' actions in international affairs. The first is that states are the major actors in international affairs. The second proposition follows logically from the first and identifies states as "rational unitary actors" who are "sensitive to costs" associated with their actions. Third, the international system is anarchic in nature and thus shapes states' actions in world affairs. Fourth, states existing in an anarchical order are preoccupied with power and security, thus making cooperation among states even when pursuing common interests difficult. Fifth, the role of international institutions as cooperation fostering devices is minute (Grieco, Anarchy 118-119).

Anarchy in international relations is defined as the absence of legitimate and competent government. Given the absence of a central authority, states exist in a self-help environment and are thus reliant on those means and arrangements, which they can

generate for themselves (Waltz 111-115). Therefore, the central concept underlying the realist paradigm is power (Morgenthau 4-17). States' power in turn is measured in terms of their relative capabilities, such as military strength, size of the economy etc. The realist paradigm differentiates states in the international system only by their power capabilities not by their internal structures i.e. democracy, autocracy etc. (Krasner, Regimes 497-98).

Therefore, the primary interest is survival which in turn can only be guaranteed by the acquisition of power. This implies that states are not only concerned with their own power, but also carefully monitor relative power gains of other states, especially those who pose a potential threat to their security. In order to guarantee self-preservation, states carefully balance the power of other states. The realist balance of power theory outlines two means available to states in order to achieve desired security goals. States can either employ internal or external means. When a state employs internal means it increases its own military, economic and other capabilities in order to offset another states' gains. External means refer to the political games of alignment and realignment, which states play in order to establish a balance of power. Therefore states, in pursuing their self-interest, form alliances and join regimes in order to offset the power gains made by other states relative to their own (Waltz 117-128). It follows logically that states would be concerned with the flow of military weapons and equipments to potential adversaries to the extent to which this would ultimately jeopardize their security position.

As stated previously, the international non-proliferation regime is designed to monitor and control the flow of weapons between states. Furthermore, the regime is an integral part of the weapons export control systems that a state can develop. According to Grillot and CITS, states operating under realist assumptions can be expected to display

four sets of behavior. First, they are concerned with weapons proliferation, as it threatens their own security. Second, they attempt to balance other states' power by searching for ways to control the flow of military goods, equipments and technologies. Third, states are interested in preventing other states from gaining military capabilities. Fourth, the use of export controls (non-proliferation regime included) is used to enhance the states security (Grillot 4). The realist paradigm therefore offers an alternative explanation for the development of the international non-proliferation regime.

Rational Institutionalism

Unlike liberal identity arguments, rational institutionalism emphasizes the material interests that drive states into cooperation. Similar to realism, the concepts of anarchy and power remain central components of rational institutional theory. Both realism and rational institutionalism agree that security and economic issues are important and both have recognized the emergence of international institutions since the end of WW II. But where realists tend to downplay the significance of international institutions and regimes, materialists attribute to them the ability to "mitigate" the restraints of the international anarchic order. While realists subordinate economic issues to security issues, rational institutionalists tend to emphasize and focus on the political-economy (Baldwin, Neoliberalism 7-20). Therefore, while rational institutionalists do not dispute the status of the state as the primary actor in international politics, but they tend to emphasize cooperation among states whereas realists tend to emphasize conflict.

For rational institutionalists, anarchy is not an automatic negation of international society. Cooperation between states can and does take place in the anarchic international

order. Axelrod defines cooperation as the adjustment of an actor's behavior to the preferences of other actors. At the same token, cooperation does not equal harmony, which only takes place when actors' interests are completely identical (Axelrod 85-86). It is States' shared economic interests that create a demand for international institutions and cooperation (Keohane, Power 7-8).

Rational institutionalists consider the strategies of "issue-linkage" and "reciprocity" as effective tools for securing cooperation in anarchic systems. Issue linkage refers to the idea that states gain additional bargaining leverage in other unrelated issue domains. For example, a state can make its membership in a component of the international non-proliferation regime contingent upon economic aid, international trade incentives, or any other kind of beneficial payoff. Reciprocity thus makes cooperation conditional and increases the probability that it will be profitable. In terms of the international non-proliferation regime, states may join the regime in hopes of receiving certain incentives (benefits such as increased trade etc.) and lowered transaction costs when dealing with other member nations within the regime. Also, the idea of "reciprocity" forces states to calculate their non-compliance or "defection" from the regime, which can be very costly if other states decide to retaliate against the defector (Axelrod 99-110).

CHAPTER 3

TESTING LIBERAL IDENTITY

The Wassenaar Arrangement

Of the components of the international non-proliferation regime, the Wassenaar Arrangement (WA) is ideally suited for a large n-study and inquiry into the explanatory power of the liberal paradigm. Several substantive and statistical reasons have lead me to chose the WA over other regime components.

The preoccupation of policy and academic communities with weapons of mass destruction (WMD) proliferation, while important, seems out of touch with the realities of current proliferation trends. The fact is, that over the past fifty years mostly conventional weapons have killed over 25 million people and "Hiroshima can now be achieved with non-nuclear arms (Pierre 2)". Conventional weapons have become the forgotten stepchildren of academia's global arms trade analysis, a sad reality with potentially far reaching consequences (Pierre 1-2). Unlike other regimes, the WA's specific objective is to promote transparency on the transfers of conventional and dual use items and technologies and the exchange of information between participating

members.[4] Testing the liberal paradigm with regards to conventional weapons is further justified by a mid 1990s shift in the focus of export control regimes from recipients to suppliers and the recognition of the fact, that over 90% of the worlds arms trade is centered around very few supplier states (Pierre 377). Export control regimes like the WA serve an important role in denying or delaying access to weapons technologies to rogue states and terrorist organizations (Cupitt 7).

Informal regimes such as the WA focus on supply side market dynamics and should not be compared to the more formal regime components that fail to display such a focus. While membership to formal regimes is almost universal, WA membership "is open on a global and non-discriminatory basis," but strictly limited to supplier states (SIPRI online data). [5] Another crucial difference lies in the consensus based decision framework of the WA, which is absent in formal regimes.

Statistically, several reasons make the WA an ideal candidate for a large n-analysis. First, the WA began operations in September of 1996, which makes it the youngest non-proliferation arrangement within the international non-proliferation regime.[6] This means that the chances of building a complete dataset are much better than those for older regime components. Second, by holding the material interest constant and focusing on conventional weapons, I can include a sufficient number of cases and avoid the exclusive character of WMD regimes. This in turn provides a compelling reason for

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4 The term "dual use item" refers to those technologies that can be used for military or civilian purposes.

5 WA membership criteria are outlined in the text of the WA, specifically paragraph VIII.

6 As of 2001, 33 states are members of the WA (SIPRI data).

separating the regimes from one another, rather than developing an all-inclusive model.[7] Third, the conventional nature of the WA allows the researcher to include many of the developing worlds suppliers, which is impossible for many of the other informal regimes. The liberal paradigm can therefore be measured with regards to the developed and developing world and possible differences can be identified.

Research Question*:* The liberal identity framework argues that liberal states cooperate more often with one another than non-liberal states, especially with regard to security issues. The following sections put this thesis to a straightforward test. The central empirical question is whether or not liberal (democratic) states are more likely than non-liberal (autocratic) states to develop export controls and join the Wassenaar Arrangement. That is, does there exist a positive, causal relationship between the level of democracy in a given state and its membership in the international non-proliferation regime?

Hypothesis*:* I hypothesize that high levels of democracy cause states to join the WA.

Research Design*:* The model will utilize a multivariate cross-sectional research design to measure membership in a component of the international non-proliferation

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7 In the fall & spring of 2001-2002 I created a dependent variable measuring adherence to seven regimes against states' democracy scores. This approach distorts reality and fails to further our understanding of states' regime formation behavior.

regime (dependent variable) against the level of democracy in a given state (main independent variable), while controlling for four additional variables. The statistical test utilizes OLS Regression. [8] The units of analysis for this design are nation-states, of which 63 have been included in the model.[9]

The Variables

Dependent Variable (Y): The dependent variable is membership in the Wassenaar Arrangement (WA). Since this study employs a dichotomous dependent

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8 The use of OLS regression with a dichotomous dependent variable is preferred under certain conditions. In a 1986 study Bingham Powell compares the results of Logit, Probit, and OLS Regression and finds that "…as usually seems to be the case, the solutions are virtually identical…(Powell 27). This proposition holds for models whose cases are almost equally distributed on the dichotomous dependent variable. Since this model has 33 members and 30 non-members, with a mean of .47, it fulfills the general condition (the mean is provided in table 1. of the regression analysis).

9 Three constraints have limited the number of cases. First, data for the developing world is incomplete. Second, states have to "demonstrate a viable interest" in military matters. Therefore, the substantive threshold of military expenditure for this model has been set at 500 million constant 1998 U.S. dollars. Third, only those nations also listed on the 1996 SIPRI list of transfers of major conventional weapons have been included in the model. Therefore, many small tourist economies with very high democracy scores, such as St. Lucia, Monaco etc. have been excluded.

variable, member states will be assigned a value of one (1), all non-members a value of zero (0).

This model utilizes 63 cases. In the models Scatter plots WA members are located on the 1.0 level, non-member on the 0.0 level (see figure 1).

Main Independent Variable: The level of democracy in a given state. All democracy scores are taken from the Polity IV dataset and range from -10 (highly autocratic) to +10 (highly democratic). Polity scores are particularly useful here because they include both openness and autocracy measurements in a single score, thus offering a nuanced measurement of overall democratic participation.[10] In adherence to the rules of causality, a one (1) year time lag is built into the model. Therefore, a state's democracy score is taken one (1) year prior to its entrance into the WA and all non-member states are assigned the latest data (1999). The one (1) year time lag is held constant throughout the model. All independent variables follow the same format as specified by the democracy score. Member-states will remain lagged by one year; non-members are assigned most recent data. The author is aware of the potential risks associated with this relatively short time period. However, research on other components of the non-proliferation regime reveals, that many of the newly independent states signed components of the regime a very short time after gaining independence. Furthermore, the

10 The use of polity scores is justified by the fact that, according to the Polity IV codebook, many social democracies maintain high elements of directiveness over economic and social activities.

time between the first preliminary meeting and the opening of the WA is one year (Comparison of 1995 and 2000 SIPRI yearbook data on multi-lateral export controls).

This model is designed to measure the effect of democracy on WA membership and not visa versa. I am therefore forced to take democracy measures for different states at different times. If I were to take all states' democracy scores in 1995, I would seriously undermine the argument. For example, a state becomes democratic in the year 2000 and joins the WA in 2001. If I measure its 1995 score, I would have to report that an autocratic state has joined the WA, which is a misrepresentation of reality. By utilizing the unorthodox measure and keeping the time lag short, I am in a better position to isolate and observe the impact of democracy on WA membership.

Control Variables

Regime Durability: Besides the democracy score, a variable measuring a state's relative stability is introduced into the model. Often domestic ratification of international agreements is required in order to bring such agreements into force (Stock 726-27). Such ratification could be delayed by a change in the domestic regime. While the WA does not require formal domestic ratification the same logic could apply. Domestic instability and /or political upheaval may influence a government's decision to agree to WA restrictions. The Polity IV dataset includes a "Regime Durability" measure, which is used in this study.[11] I expect states with relatively stable democratic regimes to be more

11 A shift in regime durability is indicated by a 3-point shift over three years in the polity score. The higher the number assigned to a state, the more stability a state displays. Non-members are coded using 1999 data.

inclined to join the WA than those states, whose domestic structures are subject to constant change.

Military Expenditure*:* According to the realist paradigm, states exist in a self-help environment and carefully monitor relative power gains by other states. The military expenditure variable represents a proxy measure for a state's threat perception and states join regimes to reduce the flow of military weapons to potential adversaries, thus reducing the relative threat. To account for these realist explanations of regime formation, I include a military expenditure measure. The data for this variable has been retrieved from SIPRI's military expenditure database and is thus reported in constant 1998 U.S. dollar figures.[12] Military expenditure as percent of GDP is a less valid measure of reality, because many developing nations score higher than Western Democracies, but spend much less in terms of total dollar amount. Since states are the units of analysis and no sources measure military expenditure as a percent of GDP per capita, I exclude this option as well. However, the model provides for two controls. First, the United States is the only remaining superpower and spends much more on its military than any other nation. Controlling for the United States has little impact on the hypothesized relationship. Second, I report the results for military expenditure as a percent of GDP and find virtually no improvement in the model.[13] I therefore conclude that aggregate military

12 Military expenditure is a better measure of a state's threat perception than conflict itself. A variable measuring conflict cannot account for example for the threat perceived by Sweden during the Cold War.

13 U.S control variable: MIV b-score of .041 at .01 statistical significance level; adjusted

expenditure data is best suited to capture a state's threat perception. I expect states with high levels of military expenditures to be WA members.

Trade*:* By definition, international trade involves interactions among states. I include a trade variable as a general measure of a states disposition towards interstate cooperation and its relative openness. Trade in this model is measured as a percent of GDP.[14] As with the military expenditure measure, trade as a percent of GDP captures the essence of the unit level of analysis better than a per capita measure would. I expect states with high levels of trade as percent of GDP to be more positively inclined toward the WA and similar international arrangements.

GDP*:* As indicated by rational institutional thought, states establish and join the WA in order to secure their wealth and power in the future. WA membership, based upon the previously discussed mechanisms of reciprocity and issue linkage, brings with it certain incentives such as lowered transaction costs and increased trade with regime members. These lowered costs coupled with the simultaneous rise in trade lead to increased state wealth. Since GDP is a measure of a states' relative wealth, it is an

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^2 of .461. Model with military expenditure expressed as a percent of GDP: MIV b-score of .040 at .01 statistical significance; adjusted r^2 of .443.

14 Since GDP is a measure of a nation's relative wealth, it makes sense to measure trade a percent of wealth, thus offering a better reflection of the importance a state gives to inter-state cooperation. Trade data is taken from the World Bank/ IMF CD-ROM project and reported in 1995 constant U.S. dollar values. Non-members are coded using 1999 data.

appropriate measure for the control variable and thus accounts for the rational institutionalist approach (Boyes 439).[15] I expect states with relatively high levels of wealth to be more inclined to join the WA than those states, which are relatively poor.

15 GDP data for this model is aggregate level data using the World Bank's constant 1995 U.S. dollar Index. All Non-members are coded using the latest available data (1999).

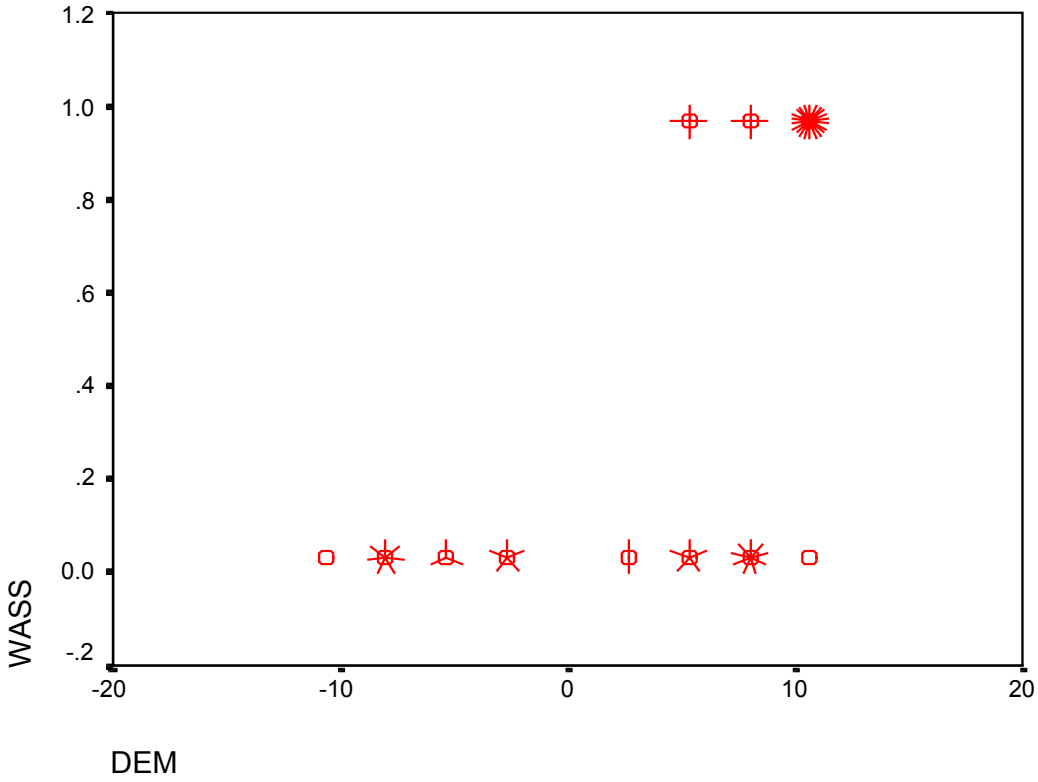

Figure 1. Satterplot of the full model:[16]

16 There is no difference between WA and WASS. The shortened convention is applied in the paper in order to conserve space, but both indicate the Wassenaar Arrangement. Please note that all members are located along the 1.0 margin. All non-members are located in line with the 0.0 value. Many numbers in the second scatter plot or not legible, but "fringe" cases such as 27 and 46 can be identified. The close proximity of several cases to one another prevents me from displaying them in a legible manner.

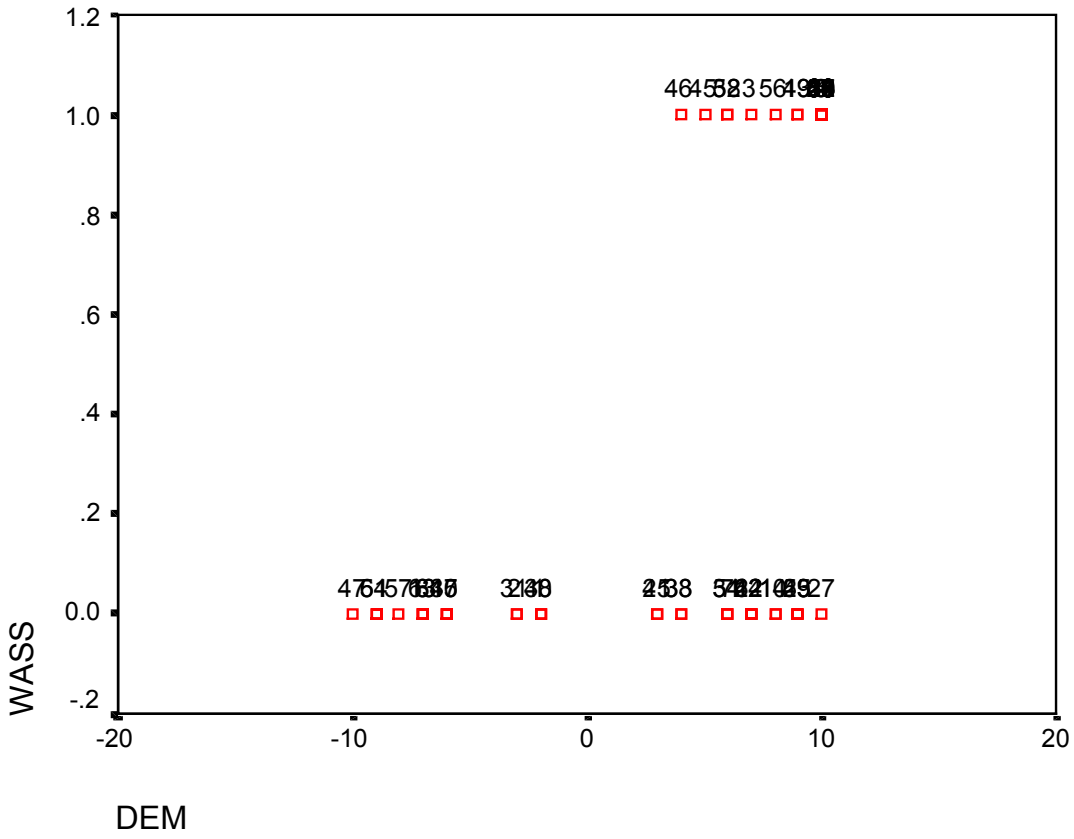

Figure 2. Case-label Scatterplot

Correlations

		WASS	DEM	REGDUR	MILEXP	TRADE	GDP	Standardized Residual
WASS	Pearson Correlatio	1.000	.652**	.446**	.214	-.134	.292*	.715**
	Sig. (2-tailed)	.	.000	.000	.092	.295	.020	.000
	N	63	63	63	63	63	63	63
DEM	Pearson Correlatio	.652**	1.000	.349**	.141	-.161	.237	.000
	Sig. (2-tailed)	.000	.	.005	.269	.207	.061	1.000
	N	63	63	63	63	63	63	63
REGDUR	Pearson Correlatio	.446**	.349**	1.000	.284*	.032	.297*	.000
	Sig. (2-tailed)	.000	.005	.	.024	.801	.018	1.000
	N	63	63	63	63	63	63	63
MILEXP	Pearson Correlatio	.214	.141	.284*	1.000	-.189	.862**	.000
	Sig. (2-tailed)	.092	.269	.024	.	.139	.000	1.000
	N	63	63	63	63	63	63	63
TRADE	Pearson Correlatio	-.134	-.161	.032	-.189	1.000	-.248	.000
	Sig. (2-tailed)	.295	.207	.801	.139	.	.050	1.000
	N	63	63	63	63	63	63	63
GDP	Pearson Correlatio	.292*	.237	.297*	.862**	-.248	1.000	.000
	Sig. (2-tailed)	.020	.061	.018	.000	.050	.	1.000
	N	63	63	63	63	63	63	63
Standardized Residu	Pearson Correlatio	.715**	.000	.000	.000	.000	.000	1.000
	Sig. (2-tailed)	.000	1.000	1.000	1.000	1.000	1.000	.
	N	63	63	63	63	63	63	63

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 1. Correlation Matrix

Variables	b-score	Beta	t-score	Sig.
Democracy	4.131E-02	.543	5.187	.000
Regime Durability	3.594E-03	.233	2.201	.032
Military Expenditure	-4.60E-07	-.035	-.184	.855
Trade	-3.30E-04	-.032	-.320	.750
GDP	5.093E-08	.116	.598	.552

Adjusted R Square (adjusted r^2): .443

Table 2. Regression results

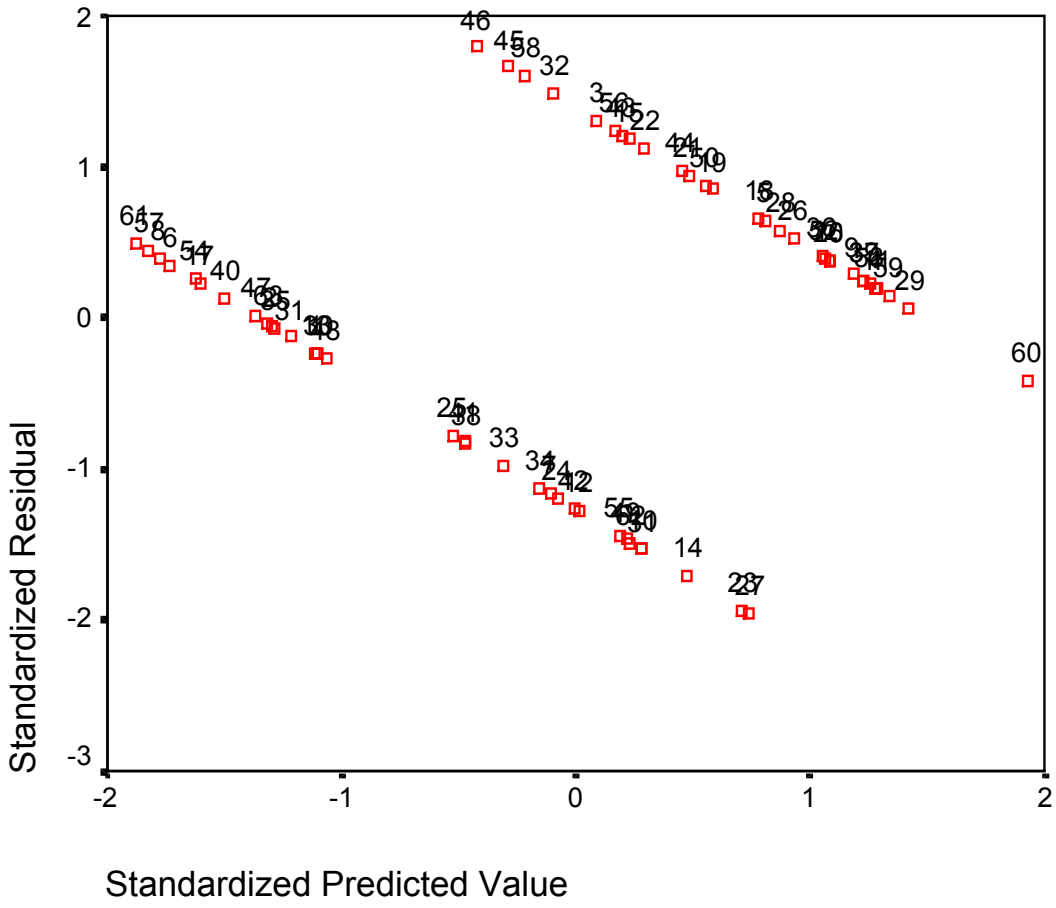

Figure 3. Residual vs. Predicted Values

Interpretation:

The two scatter plots provide a first inclination about the nature of the relationship between WA membership and democracy. According to the graphs, the relationship between the variables is clearly positive. Judging form the sunflower plot, over ¾ 's (25) of WA member states have democracy levels of 10. The remaining eight WA members have democracy scores ranging from four (Russia) to nine (Poland). Therefore, no state with a democracy score below four is a current WA member. This finding implies that membership is not diverse and mostly states with very high democracy scores are WA

members i.e. Western Industrial States. The 30 Non-member states seem to fall into two basic categories. First, there are those with democracy scores below zero. Second, there are those states with seemingly comparable democracy scores to those displayed by member states. The possibility of leverage points must be acknowledged, however. Four member-states have democracy levels below those displayed by the majority of non-member states located in the lower right hand corner of the plot. In addition, eight non-members have relative high levels of democracy, and case 27 ranks alongside the top 25 member-states. [17] The scatter plots thus reveal the existence of three groups of states: Non-democratic non-members, democratic non-members and democratic members.

An examination of the correlation matrix gives moderate support to the hypothesized positive causal relationship between WA membership and democracy (r = .652; sig. .01). The hypothesis is further supported by the data in the simple bivariate regression model. According to this model, a state whose democracy score is one unit higher than that of another state, has an almost 5% higher probability of being a WA member (b-score: .0496 at .01 statistical significance.).[18]

After having reviewed the preliminary evidence, I now turn to the full model and the evidence presented therein. Judging from the adjusted R^2 score, roughly 44% of the

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17 The top 25 are all western democratic states. The four "left" cases in the upper bar are: Romania, Russia, South Korea, and Ukraine (democracy scores: 4-7). Case 27 is Israel; the 8 others are Brazil, India, Colombia, Mexico, South Africa, Philippines, Venezuela, and Thailand (democracy scores: 7-9).

18 b-scores are interpreted as percent (probability), due to the dichotomous nature of the dependent variable.

variance of the dependent variable is explained by this model. The model thus explains a significant amount of the variation among states in terms of their WA participation. In the final, multivariate model the b-score of democracy tells us, that a one-unit difference in a state's democracy scores translates into a 4.1% difference in WA membership. Therefore, a state with a democracy score of 10 is 82 % more likely to be a WA member than a state with a democracy score of -10. The b-score is statistically significant at .01 levels. Importantly, the Beta-weight for the democracy variable is more than twice as large than any Beta-weight of the control variables, suggesting that democracy has the strongest impact on WA membership.

Several supplementary tests verify the robust nature of these results. A good indication that the model does not suffer from multi-collinearity is the observed stability of democracy's b-score as controls are added to the model.[19] While the correlation matrix reveals the existence of high collinearity between two control variables, no multi-collinearity involving democracy is detected.[20] The examination of Tolerance and VIF scores confirms the observations in the correlation matrix. A final R^2 test on the independent variables confirms the absence of high multi-collinearity involving the main independent variable.[21]

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19 The b-score shifts slightly from .049 (bivariate regression) to 0.41 (full model), but statistical significance remains at .01 levels.

20 Military expenditure and GDP are correlated at .862 levels. This high correlation, although expected and unavoidable, does not have a substantial effect on the main independent variable, democracy.

021 R^2: .179 MIV tolerance: .821 MIV VIF: 1.218

In addition, the results for a test of extreme residual points (outliers) are promising. All points outside two standard deviations and/or those, which fall outside the observed pattern, are considered outliers or extreme residual points. However, not all outliers have a negative impact on the model. Generally, researchers differentiate between "benign" and "malignant" outliers. To identify a "malignant" extreme value, the suspected point is removed from the model and the model is analyzed without the outlier. If the model's results remain generally unchanged, the outlier is considered "benign" and is re-added to the dataset. If the model differs significantly or collapses, it must be assumed that the entire model is constructed around and driven by the "malignant" outlier. A "malignant" outlier will severely impact the model's slope, thus causing errors in the results, i.e. the model may show a positive causal relationship between two variables, where in reality, there is none. To avoid these kinds of errors and subsequent misinterpretations, I test the WA model's extreme points. Judging from the residual statistics table, none of the data points in the WA model are located outside two standard deviations. However the residual vs. predicted value plot helps identify six points outside the general pattern.[22] Each point is tested separately, and then all six are simultaneously

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22 14, 23, 27, 45, 46, 60: Colombia, India, Israel, Romania, Russia, USA. In all cases democracies b-scores and adjusted r^2 values shift only slightly: b-Scores fall between .040 and .043, adjusted r^2 values fall between .46 and .47.
Israel also shows up as a possible leverage point on the model's Scatterplot (lower right hand side).

excluded from the model. Since Democracy's b-score remains very stable, I conclude that the model is not constructed around these points; hence they are "benign".

Discussion:

While the evidence suggests the importance of democracy in explaining membership in the WA, there are reasons to be cautious about these results. First, by definition, regression analysis contains assumptions that may not apply to the relationships studied here. For example, a plausible counter- argument is that the causal relationship between democracy and WA membership should be reversed. According to Grillot, regular interaction with the liberal community carries with it the potential of democratization (10). In other words, a non-liberal member state could become more democratic as a result of its membership in the "liberally dominated" WA. A cross-sectional regression design cannot account for a two-way causation, nor capture change in a state's democracy score, thus the current findings would have to be confirmed by subsequent, and more sophisticated analysis. The current study strongly suggests the need for such analysis. Neither can regression account for possible indirect influences of variables on each other. Therefore, while a cross-sectional design and OLS regression are a good first pass toward providing evidence for the hypothesis, a more complex statistical method is needed to present a stronger and more convincing case.

Second, even though the evidence supports the model's underlying liberal arguments, we cannot completely dismiss alternative explanations. It is possible that the data employed for measuring complex regime formation theories do not accurately represent the ideas embedded within these paradigms. In addition, we cannot draw

conclusions about the relative explanatory power of alternative theories because only the liberal paradigm is examined here.

Third, the liberal argument fails to explain the actions of certain states.[23] From the Scatterplots one can observe, that Russia and Ukraine, while displaying relatively low levels of democracy, are signatories to the WA. The case for Russia and Ukraine is easily made. When the Soviet Union collapsed, "the West feared that Russian exporters…would sell anything…to earn desperately needed funds…(Beck 31)." Furthermore, Russian and Ukrainian development of export control systems is largely a function of a desire for market access and other side payments (Jones 58).[24] Therefore, the rational institutionalist argument is probably the best explanation for these cases. However, Israel also proves to be difficulty for identity theory because it lies well outside the explanatory realm of the liberal identity argument. According to signatory lists, Israel has only signed one (1) component of the non-proliferation regime, but displays democracy scores equal to those of most Western Industrial countries. I believe, that realism best explains this case, due to the fact that Israel is in a constant state of war and WA adherence could seriously undermine its defense policies.

While the above three cases fall outside the normal pattern of the observed data, they do not constitute a serious threat to the explanatory power of the liberal paradigm.

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23 While I only mention a few cases, the above theoretical arguments are applicable to most.

24 A detailed discussion of the Russian case is found in Beck's work (see work cited). An excellent review of the Ukrainian case can be found in Jones' section of the same book (see work cited).

However, while a few exceptions to the norm are expected and tolerated, recurring patterns of deviation are not. It is precisely these recurring patterns to which I have dedicated the next section of this paper.

CHAPTER 4

THE LIBERAL PARADIGM CHALLENGED

The Puzzle

The weakness of the liberal paradigm becomes apparent when viewing the graphical depiction of the data contained within the model's Scatter plots. According to the graphs, WA membership is largely comprised of Western Industrial Countries (WIC), the Newly Independent States (NIS) and some democratic developing nations such as Argentina and South Korea. While the liberal paradigm can explain WA membership for these final two cases, it cannot explain the lack of participation of certain other democratic developing nations such as Brazil and India, which are located in the lower right portion of the Scatter plot. An analysis of the data reveals, that of these four states, India, which displays the highest level of democracy, is not a WA member. Ironically, Argentina, with the lowest score, is a WA member. Finally, Brazil and South Korea, whose polity scores are identical, represent a member and non-member state respectively.[25] This evidence is compounded by the fact, that all four nations are listed as ABC-

25 The Polity scores for the four cases fall between 7 and 9.

nations, which means that they have some of the most powerful defense industries in the developing world, hence all four are prime candidates for the WA (Ross 95).[26] While Ross lists a total of eight states as having ABC capabilities, I will only utilize the above four cases for the subsequent research, since neither Israel nor Taiwan should be categorized as developing nations and Egypt's polity score is too low (-6).[27] South Africa is also a candidate for further analysis, but two nations with similar criteria are already included in the model.[28] The diversity of the initial four cases with respect to the dependent variable is enough to launch an inquiry into the seemingly unexplained behavior of democratic developing nations with regard to the WA.

The Background

The end of the cold war has profoundly changed the international security environment and has substantially affected the volume and terms of conventional arms trade. The end of superpower dominance is coupled with an ever-diminishing degree of influence of the two former alliance leader's over important arms suppliers. And, in general, the existing system with a number of new states has simply become "increasingly complex, dynamic and difficult to forecast" (Anthony, Conventional 15-

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26 ABC: Across-the-board-capability: refers to a states ability to produce aircraft, armored vehicles, missiles, ships, small arms and ammunition.

27 Taiwan is not recognized as a nation and Israel is normally not considered a developing nation.

28 States are selected based upon three criteria: 1) democracy score of 6 or higher 2) developing 3) ABC status.

17)." The depiction of a system increasingly complex and difficult to manage is particularly true with respect to the arms trade with the developing world's most advanced nations. While arms exports of developing nations have certainly not reached the levels achieved by their developed counter-parts, six developing nations (Brazil, China, Israel, North & South Korea, and Pakistan) make the 1994 list of the leading twenty-five exporters of conventional arms (SIPRI). The Congressional Research Service identifies four nations (China, Israel, North Korea and Brazil) as major weapons and technology suppliers to the developing world (Ross 99-100). While not all of the above mentioned developing nations are democratic in nature, it must be noted that Brazil meets this criteria and is thus a subject of inquiry. Recent data gathered from SIPRI databases (1996-2001) support these earlier findings and place the four democratic states (Argentina, Brazil, India, South Korea) onto the supplier list of major conventional weapons. In sum, "whereas several decades ago there were only a handful of states offering dual use technology [and weapons], there are now several dozen international suppliers", which represents the latest trend in weapons & technology proliferation (CITS, Strengthening 9).

While some developing democratic nations such as Argentina and S. Korea are members of several or all of the export control regimes, Brazil and India choose to adhere to only some or none of the export constraints (CITS, Strengthening 16)[29]. In contrast to the stable pattern of democracy and cooperation observed above among economically developed democracies, there is considerably more variation among democratic states with developing economies. Major weapons suppliers of the developing world do not

29 Brazil is a member of the MTCR and NSG; India displays complete non-membership.

universally accept the WA, suggesting that their decision to develop export controls and join is a function of factors beyond those described in the liberal identity argument.

Introducing a new model

In order to explain adherence or non-adherence to the WA, it is necessary to focus on those interests that are instrumental in shaping the export policies of sovereign democratic states of the developing world (Sprinz 78). Richard Cupitt states that: "Export Controls…stand at the juncture of high and low politics, of military and economic security, of power and plenty (8)." While arms exports can provide a good source of revenue for the supplier nation, controls may be essential in safeguarding a nation's national security by preventing potential enemies from gaining advanced weapons technology (Hofhansel 17). In evaluating this statement it becomes clear, that export controls represent costs in terms of commercial interests and benefits in terms of security interests. The two key factors states consider when contemplating the adoption of national export controls and subsequent WA membership are commercial interests and security interests.

In terms of commercial interests, export controls are similar in function to sanctions and costs are concentrated upon the exporters of dual-use and weapons items. Richardson identifies "export controls as the single largest impediment to U.S. economic interests."[30] Furthermore, it is estimated that export controls cost the United States upward of $30 billion in 1989, while at the same time providing "diffuse and indivisible…security benefits (Cupitt 3-16). While the previous example is based upon

30 In Cupitt page 3

U.S. data, the general idea can be transposed upon any actor who displays a strong commercial interest in weapons exports and is less worried about the security ramifications of an arms sale. With regards to security interests, the diffusion of military technology can pose a serious threat to a nations security and "effective export control policies serve an important role in denying and delaying access to those items (Cupitt 7)." Unlike commercial costs, the benefits of denying an adversary weapons technology are more widely disbursed, not easily devisable and much less tangible. However, nations that are concerned about an external threat to their security adopt export controls in order to diminish the threat via the control over weapons and technology flows (Grillot 4).

Regardless of which interest states value more highly, the competitive relationship between the two interests cannot be denied. This competitive relationship denies the direct use of realism and rational institutionalism as effective alternative explanations for the behavior of the four states in question. A closer examination of the cases reveals, that while Argentina and Brazil live in a rather benign security environment, India and South Korea inhabit two of the most volatile regions of the world (Pierre 89-131). The expectation is, that those states living in the benign regions will not be WA members and those facing serious threats will opt for WA membership. In terms of export control behavior, realism explains South Korean membership and rational institutionalism explains Brazilian non-membership. Both have difficulty explaining the behavior of Argentina and India, which are member and non-member respectively.

Since the individual success rate of systemic arguments in explaining these cases seems poor, a new approach is utilized. For the purpose of this study, a unit level analysis offers distinct advantages over more systemic approaches. Besides allowing for

significant differentiation among actors, the method allows the researcher to study states' in depth and make valid comparative generalizations between and among them. Systemic arguments run the risk of overly homogenizing nations within the international system, thus making it harder to make causal arguments about a given relationship (Singer 82-83). For example, systemic arguments posit, that nations with dissimilar internal characteristics behave in similar fashion if positioned similarly in the international system (Sprinz 78). While this proposition may indeed hold true for some developing countries, a review of the developing worlds data with regard to the four cases suggests something rather different. For example, India and South Korea, both confronted with an external threat, display significant internal differences with regards to domestic institutional defense structures but act differently with regards to international export control regimes (SIPRI data)[31]. In light of these initial findings it seems only appropriate to employ unit level analysis in order to account for national and sub-national differences among nations. Unlike Waltz and other authors, I agree with the notion, that systemic and unit-level analysis are not in competition with one another, but are complimentary in that both possess strengths and weaknesses and increased explanatory power is achieved when the approaches are combined (Wendt 11). The ultimate goal is therefore to link unit-level analysis with systemic analysis and thus develop a better understanding of the real world phenomenon in question.

31 While India's defense industry is public, South Korea's is both public and private (Ross 106).

The Utility Model

To expand the explanatory power of the systemic theories, I borrow form the literature on international environmental and economic policy and develop an interest-based utility model to specifically address the non-proliferation puzzle with regard to the developing world. An interest-based explanation of international politics on weapons proliferation "focuses on domestic factors [and considerations] that shape a countries position" with respect to informal export regimes (Sprinz 78). As with the Sprinz / Vaahtoranta article, upon which this framework is based, an interest based framework seeks unit-level explanations of international politics as opposed to reductionist systemic explanations, such as liberalism, realism, etc. However, by simultaneously focusing on states' security and commercial interests, the model incorporates assumptions of realism and rational institutionalism. The fusion of competing assumptions into one model could prove useful in explaining states' export control behavior.

Before outlining the actual framework, a few words about the impending model must be said. The interest-based model is a derivative of a basic two-player game, which assumes that one is dealing with rational self-interested actors. While I uphold this basic assumption with regards to the states involved, the players in the new model, which originally are states, have been replaced by the two dominant interests i.e. security interests and commercial interests. According to the rules of this type of game, the relationship between commercial interests and security interests is dichotomous or negative. Therefore, a state which values security interests above commercial interests or visa versa, chooses to elevate one interest while reducing the value of the other, hence a

zero-sum game is played (Quandt 69-76). Graphically the model takes on the following format:

		Commercial Interest	
		LOW	HIGH
Security Interest	LOW	(1) Leaners	(2) Shuners
	HIGH	(3) Pushers	(4) Wafflers

Table 5. The Utility Model

Explaining the model

The combination of commercial interests and security interests allows the researcher to categorize the developing states into four types: (1) Leaners, (2) Shuners, (3) Pushers, (4) Wafflers. For a better understanding of the different types, let us recall the reasoning behind export control adaptation or non-adaptation. Export controls function like sanctions and states with high commercial interests are expected to shy away from becoming WA members. In turn, states facing formidable security threats are expected to be WA members in order to prevent the flow of weapons and technologies to their adversaries. Let us now apply this framework to the model:

Type (2) Shuners: All states falling within this category display high commercial interests and low security interests. I hypothesize that low security interests, coupled with high commercial interests, cause states to avoid (shun) the WA.

Type (3) Pushers: The states in this category display high interest in security matters and a low commercial interest in the arms trade, which should lead states to push for export control adherence. I hypothesize that high security interests and low commercial interests cause states to push for export controls.

Types (1 & 4) Leaners and Wafflers: While it is relatively easy to create hypothesis concerning both archetypes (types 2 & 3), the same cannot be said for those nations falling into category 1 & 4.With regard to "Leaners", one can expect them to be slightly more inclined toward regime adherence, due to low commercial costs associated with WA membership (Sprinz 81). I therefore hypothesize; that low commercial and security interests cause states to lean towards the WA. While certain basic expectations can be made with regards to type 1 states, the same cannot be said of type 4 states. Clearly the most difficult cases are those, which are classified as type 4 Waffler nations. In these instances, nations may live in a volatile security environment, coupled with a large export oriented military-industrial complex; hence they "waffle" between the two interests. Unfortunately the literature gives no clues concerning type (4) behavior and thus I am not able to formulate a hypothesis concerning these cases. I now introduce the important variables, which determine states commercial and security interests.

The Variables

To help determine a state's disposition towards the competing interests and thus place it within the typology, I chose several variables for each interest. To determine commercial interest I utilize the size of the arms industry, and weapons transfer data. To determine a state's security interest, I choose actual conflict data and the state's

disposition towards its defense institutions. Besides the general variables, I also rely heavily on case specific evidence and incorporate it wherever possible. Unless stated otherwise, all data can be retrieved from the Stockholm International Peace Research Institutes database section. Finally, in keeping with the original model, I continue to utilize lagged data for Argentina and S. Korea.[32]

Determinates of commercial interests:

Employment in the Arms industry (Employment (1000's)): This variable is designed to measure the size of the arms industry within a given state. While a sizeable arms industry could be an indicator of a state's high commercial interest, it is only a first step. More important than size is the market, for which the industry is producing.

Weapons exports (CWT $1000): To establish the direction of arms transfers, I focus on the estimated dollar figures of major conventional weapons transfers (CWT). Use of the data allows for a direct comparison between states, independent of other factors.[33] Furthermore, the measure helps determine if a state's arms industry is producing for a domestic clientele or if it is export oriented. A large export oriented defense industry is almost certainly an indictor of a state's high commercial interest.

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32 Both states joined the WA in 1996 and when possible 1995 data is utilized. With respect to the other two cases, I intend to always utilize the newest data available. Please note that in terms of data collection years Argentina. & South Korea (1995, 1997) and Brazil. & India (2000, 2001) form identical pairs.

33 Due to SIPRI's use of trend-indicators, arms trade as a percent of GDP cannot be shown.

Determinates of security interests:

Defense Institutions (# Military Personnel) (M. Exp $m. constant 1998): A states disposition towards security matters can be measured in many different ways. The first measure I employ is the actual size of a state's armed forces, which will be given in 1000's. Second, I measure the actual money spent on military expenditures. For a more accurate account I utilize two sets of data: Actual dollar figures and military expenditure as a function of GDP[34]. In general, military expenditure is "an easily identifiable measure of the scale of resources absorbed by military activities" (SIPRI online). By employing both measures, I avoid potential bias toward richer nations, who can spend more money on arms. A state, which displays high numbers with regards to the three measures, is potentially considered as having a high security interest.

Conflict: A state in conflict with another state, be it in an active war or a military stand off situation, will naturally have a high interest in security matters. For this study, I provide a list for each state's active and recent conflicts.[35]

The following table is designed to provide the reader with an overview of the four cases and the different measures used. For Argentina and South Korea I attempted to collect data one year prior to WA entrance (1995) or as close to those years as possible. Before incorporating two post WA measures (1997), I studied world financial indicators for the mid 1990's and consulted historical texts. Through this research I have come to the conclusion that between 1995 and 1997 no major changes regarding these measures

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34 Percent Of GDP appears below the dollars figures in the table.

35 Data for conflicts can be retrieved from the Correlates of War database or onwar.com. Recent conflicts are all those that have taken place in the last decade.

take place. All data for the years 1995-2001 reveal a strong consistency on all measures thus no major changes in the general picture can be observed. The discussion section incorporates table content as well as case specific data, which cannot be placed into the table.

	Employment (1000's)	CWT (US $m.)	# Military Personnel	M.Exp. US $m 98	Conflict
Argentina	8000	0	73.000	4433 1.7%	None
Brazil	16.000	55	288.000	10734 1.3%	None
India	250.000	1	1.200.000	11793 2.4%	Pakistan China
S. Korea	50.000	25	670.000	9309 2.9%	N. Korea

Acknowledgements: Due to data limitations, employment and number of military personnel for both Argentina and South Korea are 1997 based. In the following section, I address the variables for each case and acknowledge the year of measurement. However, all data have been studied in terms of trends through 2001 and no major numerical changes can be observed in the years for which data is available.
All measures follow the state in the same order as depicted in the table and are separated by comma.
Argentina: 1997, 1995, 1997, 1995, 1985-1995.
Brazil: 2000, 2001, 2000, 2000, past 10 years.
India: 2000, 2001, 2000, 2000, past 10 years.
South Korea: 1997, 1995, 1997, 1995, 1985-1995.

Table 6. Overview

Having presented the preliminary data, I shall now continue with a detailed discussion of each individual case.

Making the case

Argentina

Of the four developing states, Argentina has by far the smallest number of personnel employed in its arms industry (8000) and in the year prior to becoming a WA member, Argentinean weapons exports are virtually none existent. Data retrieved from the 1996 & 1999 SIPRI yearbooks indicates a lack of Argentinean presence among the worlds leading suppliers of major conventional weapons for the years 1991 through 1998,

which are all the years covered by these editions. In 1990 domestic production accounts for 95 percent of Argentina's total arms acquisition, with the remaining 5% coming from weapons imports (Ross 109).[36] The industries domestic orientation, coupled with its relative small size and the state's absence from the list of world suppliers of major conventional weapons justifies categorizing Argentina as having a low commercial interest in weapons exports.

As with commercial measures, Argentina's displays by far the lowest value with regards to its armed forces, which number 73000 in 1997. Population wise, Argentina has roughly 10 million less people than South Korea, which constitutes a roughly 25 percent difference in total population numbers[37]. However, in terms of military force structure, Argentina's total military strength is 10.8 percent of South Korea's (CIA). Furthermore, Argentina's Military expenditure throughout the 1990's (1990-2000) is usually less than half that of its S. Korean counterpart.[38] Finally, conflict data reveals, that Argentina occupies a relative conflict free region of the world. In fact, the state has not been involved in a conflict since the Falkland war in 1982. Judging from the evidence, Argentina faces no security threat and must thus be categorized as having a low security interest. Overall assessment: Low/Low.

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36 This number includes indigenous as well as licensed production.

37 South Korea offers a good comparison, since both states joined the WA in 1996 and are comparable in size.

38 Data supplied by SIPRI in constant 1998 U.S. dollar figures. Argentina: 3604 - 4433 South Korea: 7530 -10016

Brazil

In 2001 Brazil sold 55 million dollars worth of conventional military equipment bringing the total number of arms exports between 1997-2001 to 98 million dollars. While 55 million dollars in 2001 are considered low, the numbers could be misleading.[39] Several pieces of evidence clearly point to Brazil's "high" interest in the international arms trade. First, Brazil has been on the SIPRI list of the top 30 leading suppliers of weapons since the 1980's. Brazil is 23rd on the list of major world exporters between 1991 and 1995 with total military sales reaching 228 million US dollars (SIPRI 1996). [40] Second, unlike Argentina's arms industry, Brazil's 16000 strong military industrial complex is also export oriented. Between 1983 and 1993 Brazilian exports exceed imports and arms trade is conducted with 35 states. Between 1990 and 1994, the Congressional Research Service lists Brazil as the number 10 leading supplier of conventional arms to the developing world (Ross 100-112). Third, Brazil's recent slump in arms exports is a function of an overall downward trend in world military spending and increased competition due to an influx in supplier numbers (Pierre 102). [41] "Despite

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39 SIPRI annually lists the major suppliers of conventional weapons. For a nation to be on the list, a 5 year aggregate sales amount of 100 million US dollars is required. (Footnoted in SIPRI Yearbook 1999 p. 424).

40Between 1997-2001 Brazil is ranked 28th.

41 SIPRI Yearbook 1996 (325): "Aggregate world military spending continues to decline in 1995."

SIPRI Yearbook 1999: See figure 11.1 (page 422) outlining declining conventional arms trade 1984-1998.

the continuing difficulties confronting Brazilian producers", I believe that the evidence is strong enough to categorize Brazil as a state with a strong commercial interest in the arms trade (Ross 110).

Unlike India and South Korea, Brazil "is situated in a relatively benign security environment" (Ross 115). This statement is supported by data, according to which, Brazil's last armed conflict ends in 1964 (On War).[42] While the numbers for Brazil's military force are higher than Argentina's, they roughly reflect the difference in population size between the two South American nations. In fact, Brazil's population is approximately four times larger than Argentina's and its military slightly exceeds the 4:1 ratio (CIA). [43] While 10.7 billion dollars spent on military activities sounds like much, the impact on Brazil's GDP is only 1.3 percent. By contrast, South Korea, whose GDP is roughly 2/3's of Brazil's, spends more than twice as much on its military (World Bank/IMF)[44]. Overall, there exists no evidence, which warrants placing Brazil into a state of high security. Therefore the overall assessment for this case is: High / Low.

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42 The Brazilian military revolt of 1964 is not considered an extra-territorial conflict.

43 While data for both countries are taken from different years in the table, same year census and military employment data lead to the same conclusions.

44 Average GDP 1995-1999 in 1995 U.S. dollars: Brazil: 725 billion / South Korea: 530 billion. The military expenditure claim is supported by SIPRI data 1995-2000. Averages are as follows: Brazil: 1.38 percent / South Korea: 2.9 percent

India

Striking about the Indian case is the fact, that its arms industry is 5 times larger than that of South Korea.[45] According to 2000 SIPRI data, India's Ordnance factory, with respect to employment, is ranked as the 9th largest arms producing company in the world. Furthermore, India is the only state in the data set, which is represented on the list of top 100 largest arms-producing companies. While India's arms industry is one of the largest in the world, no data that would support an export-oriented direction can be found. Between 1997 and 2001, India is ranked as the 43rd largest supplier of major conventional weapons. In 2001 India is listed as transferring 1 million dollars worth of arms. The only other year India is listed as transferring arms is in 2000, with total sales reaching 16 million dollars. However, that same year SIPRI lists India as selling 1.9 billion dollars worth of military equipment. Since this number includes domestic sales as well as exports, less than 1% of India's military products are exported in the year 2000. Clinching the argument is the fact, that India only transfers 17 million dollars worth of arms between 1997 and 2001. For these reasons I categorize India as having a low commercial interest in arms exports.

While Brazil and Argentina are located in rather benign regions of the world, India faces two formidable opponents, thus placing it in a "…high-threat technologically sophisticated military environment…" (Ross 115). Of the four cases, India is the only case, which is engaged in a "hot" war via the Kashmir insurgency, which is an ongoing

45 In both cases 1997 & 2000 numbers are identical.

event since 1988 (on war). [46] Furthermore, India's standing army is almost five times as large as Brazil's and India utilizes almost twice the percent of its total wealth to support its armies. I must therefore assign a high security interest to India. Overall assessment: Low / High.

South Korea

In 1997 South Korea employs more than six times as many people in its arms industry than Argentina. SIPRI arms trade data indicates, that South Korea's 1995 conventional weapons trade exceeds Argentina's by a factor of 25. The comparison of these numbers is a first indicator, that South Korea may display characteristics of an export oriented arms industry. This initial suspicion is confirmed by an analysis of SIPRI Yearbook 1996 data, according to which S. Korea is ranked 24th among major conventional weapons suppliers between 1991 and 1995, with exports totaling an estimated 184 million US dollars. This makes South Korea the third largest exporter of the developing world, only superseded by 23rd ranked Brazil and 6th ranked China.[47] These facts indicate that, "…Brazil and other defense industrializes, especially […] South Korea, were quick to take advantage of export opportunities" (Ross 117). For these reasons, I believe that South Korea has a high commercial interest in the arms trade.

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46 I refer to the India-Pakistan conflict over Kashmir as a "hot" war, since India is engaged in frequent military action against either Insurgents or regular Pakistani military.

47 Between 1991 and 1995 Brazil sold 228 million dollars worth of military equipment. This Data is available in the SIPRI 1996 Yearbook p. 465.

The fact that South Korea "…still faces a seemingly implacable N. Korea", is also evident in the numbers contained within the table (Ross 115). South Korea's armed forces are nearly 10 times as large as Argentina's and of the four cases, South Korea spends the highest amount of GDP on military expenditures. Expressed as a percent of total population, S. Korea's 670.000 strong armed forces far exceed the ratio of the three remaining cases.[48] In summary, the data qualify S. Korea as having a high security interest. Overall assessment: High / High.

Having completed the case analysis and located it within the typology, I present the complete utility model and a final discussion of the most important findings.

Discussion

		Commercial Interest	
		LOW	HIGH
Security Interest	LOW	Argentina	Brazil
	HIGH	India	South Korea

Table 7. The Complete Utility Model

Let us recall, that I hypothesized, that states with low scores in both interest fields lean towards the WA. While the Argentinean case confirms the hypothesis, I admit, that

48 Percentage figures: South Korea: 1.38 Argentina: 0.19 Brazil: 0.16 India: 0.11

the hypothesis concerning type (1) states is rather elastic and future research may show, that the Argentinean case is an exception rather than the rule. Furthermore, the Argentinean case can be at least equally well explained by the liberal paradigm. Speaking strictly in terms of explanatory power as it pertains to this case, the utility model, due to its elastic expectations seems to be the weaker alternative.

While the liberal paradigm can explain Argentinean export control behavior, it cannot explain Brazil's absence from the WA. However, the interest-based model is able to bridge the existing gap and provide a plausible explanation. Brazil, due to its high interest in the international arms trade, coupled with a relatively low threat security environment, chooses not to subjugate itself to the WA's stringent export controls. The Brazilian case confirms the hypothesis concerning high commercial / low security scenarios and the interest-based argument succeeds where the liberal argument fails.

Before discussing the Indian case, let us recall the hypothesis. I hypothesized that states with low commercial interests and high security interests would push for WA membership. According to the data, India clearly falls under the type (3) typology, but fails to confirm the hypothesis. Therefore both the liberal paradigm and the interest-based argument seem inadequate in explaining the Indian case. However the following argument provides at least some support for the interest based hypothesis. According to Dr. Srivastava India has had strong export control policies since the 1950's.[49] Furthermore, India follows WA guidelines to a large extent, but high cost considerations

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49 I am grateful for the insights provided by Dr. Anupam Srivastava during a lecture for POLS 8270. Dr. Srivastava is a senior research associate at the University of Georgia and works at the Center for International Trade and Security (CITS).

keep the state from adopting the most stringent national export controls, thus India excludes itself form WA membership. However, while India is not an official WA member, it displays a set of compliant behavior, which in a round about sense confirms the hypothesis. The important lesson learned from this case is, that type (3) states may actually display export control behavior, but that this behavior may be overlooked, because our models use western standards to measure this behavior. Therefore, while I cannot accept the hypothesis, I also wish not to categorically reject it.

While no hypothesis for type (4) cases could be developed, South Korea presents an extremely interesting and somewhat disturbing case. In a previous section, I present evidence that South Korea between 1991 and 1995 trails Brazil in terms of total arms sales and sells 184 million dollars worth of equipment. Since then South Korea has not only joined the WA (1996), but has surpassed Brazil on the major suppliers list and has moved with total sales of 216 million dollars into 22nd place.[50] Therefore, it is possible, that WA membership can actually improve a developing state's arms transfers, thus turning hypothesized costs into real world benefits. The Korean case therefore inverts the relationship between costs and benefits, thus undermining the interest-based utility argument.

50 Data according to SIPRI 1997-2001 online.

CHAPTER 5

CONCLUSION

In closing, it is useful to separate the more substantiated findings of the regression analysis from the less firm evidence provided by the utility model. The regression model reveals a 4.1% increase in regime membership per one point increase in states' democracy scores. Therefore, a state with a democracy score of ten is 82 percent more likely to join the WA than a state with a democracy score of negative ten. Based on the relatively robust evidence provided by the regression model I accept the original hypothesis and conclude that high levels of democracy are generally associated with WA membership. The substantive findings with regard to the developing world are not as straight forward. Of the four cases examined, only Brazil and Argentina confirm the hypothesis. The utility model provides evidence, that Brazil's non-membership may be attributed to a relatively low security interest coupled with a penchant for weapons exports. The Argentinean case reveals, that states with low security and low commercial interests are inclined to join the WA. However, the interest-based model cannot explain Indian non-compliance or South Korean WA membership. The substantive evidence suggests, that actions taken by developing states cannot be as easily explained as those taken by their developed counterparts, who are highly democratic and members of the WA.

It is evident, based upon the substantive analysis, that the liberal paradigm has difficulty explaining the behavior of developing states. These findings suggest that the liberal paradigms explanatory power may be influenced by socio-economic factors, which determine a state's position within the international system. Several theoretical implications with varying degree of validity can be drawn from these findings. First, due to the robust regression results, the universal character of the liberal identity argument is reaffirmed and unexplained cases could be treated as outliers. This implication is supported by the fact that liberalism continues to explain 50 percent of the utility model's cases. Second, the weakness of the paradigm with regards to the developing world is implied by the Satterplot analysis. According to the graphical depictions, WA variance takes place among the world's developing democracies. Third, the utility approach suggests, that WA membership may not be a function of a state's level of democracy, but of its position in the international system. This final implication seriously undermines the liberal argument and essentially strips the theory of its explanatory power. Due to the narrow focus of the thesis, I can neither confirm nor disconfirm any of the above implications. However, I view the theoretical implications as starting points for future research on regime formation.

As with the theoretical implications, it is difficult to draw conclusions about the policy implications of this study. Judging from the South Korean case, it seems beneficial to join the WA; instead of restricting the transfer of arms, the opposite seems to be taking place. Given this finding, it is possible, that democratic entities may not share the postulated common interest. Policy makers should therefore not simply look at a states internal composition and its relative level of democracy, but also at its non-proliferation

and export control behavior. With regard to WA effectiveness, this thesis argues neither in favor of nor against the WA. The findings suggest that WA membership is largely the domain of democratic developed states. This implies that WA policy is mostly focused on and caters to the needs of these countries. Current WA policies seem to fail in enticing certain democratic and non-democratic weapons exporters to join the WA and control the flow of conventional weapons to third parties.

While the model provides the reader with certain theoretical and policy-making implications, it leaves some questions unanswered and subject to future inquiry. First, the model focuses only on the WA and not the entire non-proliferation regime. It is therefore difficult to draw general conclusions about the explanatory power of liberalism with regards to regime formation. However, by providing certain narrow insights, the way for future testing of the liberal paradigm and other arguments may have become easier. Second, the model cannot explain why the liberal identity argument has a tendency to be less effective in the developing world. It will also be the task of future investigations to tease out the reasons for this phenomenon. Third, the model falls prey to the shortcomings of OLS regression, in that it cannot measure the effect of WA membership on state actors. It is possible, that one is dealing with a two-way causal argument, according to which WA membership promotes democracy and visa versa democracy promotes WA membership. Fourth, the model does not address the effectiveness of WA membership with regard to controlling the flow of conventional arms. It is possible, that democratic states are less effective than non-democratic states in controlling the flow of weapons to third parties.

Finally, the model may provide researchers with ways of testing other non-proliferation regimes and/or regimes in general. Let us recall that I selected the WA, because it is considered to be more universal than other informal regime components and governs the flow of conventional arms as opposed to weapons of mass destruction. Since some informal regimes are not open to universal membership, the same test cannot be used in all cases. The testing of formal regimes via the employed methods is also of little practical value; because states must not demonstrate compliant behavior to become members and no membership criteria exist. While the testing of other non-proliferation regime components seems difficult, testing of environmental or economic regimes via similar models could yield very interesting results. Future studies into regime formation will hopefully resolve the discrepancies of the liberal identity argument with regard to the developing world and distinct patterns of the success or failure may emerge. The key to controlling weapons proliferation lies in our understanding of the mechanisms, which drive state behavior. Knowledge of the exact mechanisms will help future political actors make the right decisions and hopefully curb the world's illicit arms trade.

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