

Deliberative institutional design & US defense and security agreements: Comparing Canadian agreements to those with key partners and rivals, 1955-2014

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To what extent does the US have a playbook for developing non-treaty defense and security agreements? Kimball (2017) offered original Canadian-US defense and security agreement (DSA) data and tested a theoretical model of agreement institutionalization using arguments drawn from the rational institutional design program. This research examines DSA diffusion through a comparison of US DS cooperation with key rivals and partners for the period of 1950-2005. Non-treaty cooperation via exchanges of diplomatic notes/letters, memoranda of understanding, etc. require legislative notification but not approval. Those arrangements permit a flexibility, speed, and adaptation necessary in defense cooperation are employed in the development and management joint defense products such as NORAD, the Eurofighter, F-35. For states with increasingly limited defense budgets, the bilateral development and production of defense products may be more efficient economically than unilateral provision but risk increases in partnering (entrapment, abandonment, burden-sharing etc.). This research contributes to the rational design literature by studying how the US design DSA portfolios with its continental partner relative to key partners based on a large sample of data. Then it offers recommendations based on data drawn about US DSA links with key rivals in a changing multipolar context. It closes with recommendations for policy makers based on the current state of the US DSA portfolio based on anticipated future changes to polarity and the defense cooperation status quo.

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I. Introduction

International cooperation scholars studying DS are drawn to the study of highly public formal treaty arrangements in order to understand how sovereign states tie themselves in anarchic environments. Formal defense pacts received much attention because their highly public commitment and potential failure to function usually results in war (Smith 1995; Leeds 2003). Other forms of DS cooperation received less scholarly attention despite their diversity and magnitude (Koremenos 2013; Lipson 1991; Kimball 2017). The rational institutional design program contends state cooperate to manage strategic concerns such as the commitment problem, issues about resource distribution, concerns about future behavior or the state of the world (Koremenos et al. 2000). Based on a random sample of agreements drawn for a period of over 50 years, Koremenos (2013) shows provisions within most agreements respond to the strategic problems states face. In other words, states engage in rational agreement design when creating both formal and informal agreements². Kimball confirms this in an examination of the legalization of US-Canadian defense and security arrangements (DSA). This article extends the work of Kimball (2017) examining the rational design informal DSA signed by the United States based on an original dataset of informal agreement contents built from raw data presented by Kavanagh in a dataset including both formal and informal agreements in force (2014).

The US remains a major player on the defense contracting and investment market. The extent to which it contracts with other states in the system and the types of contracts it designs has major implications for system stability. In addition, understanding how the US designs its “defense diplomatic playbook” is important for key partners such as Canada who counts among an elite club of states highly linked to the U.S. by more than 200 DSA including France, Germany, and the UK, having the most at 357 bilateral and multilateral informal agreements (Kavanagh 2014). In contrast, its highest rivals are minimally linked by DSA for instance China has less than a dozen DSA with the US, while Russia has less than 80, two-thirds of which are bilateral (Kavanagh 2014). Under a strategic context of uncertainty about the future, studying the how the US designs its informal DSA and how it links itself with various partners and rivals could help scholars understand future developments in the international system as multiple poles of power emerge.

This research offers two contributions. First drawing on arguments from the rational institutionalist literature, it explores how the US links itself informally using DSA with NATO partners (Kavanagh 2014). This portion of the research draws upon a quantitative dataset of more than 250 cases of United States DSA with Canada and European partners arranged through exchanges of diplomatic letters/notes, memoranda of understanding, general agreements, etc. in the aforementioned regions. Those arrangements result in defense products or goods which are broadly defined to include arms, vehicles, communication/intelligence sharing systems, radar, satellites,

² The distinction being the public endorsement required through legislative ratification (Milner 1997) versus informal arrangements requiring legislative notification, usually to the relevant committee. (Kimball 2017, 2018).

etc.³ Historical, legal and institutional aspects of each arrangement are coded from on an extensive questionnaire developed using a rational institutional design framework (Koremenos 2008, 2010, 2013; Leeds 2003) offered by Kimball applied to a single bilateral-case of 82 agreements (Canada-US, 2017). Second, this article presents data on global firepower drawn from 2016 and the state of DSA portfolios for various partners and rivals in the world. Finally, it reflects upon what a better understanding of the US defense investments portfolios implies for scholars of international security.

II. Rational Defense and Security Contracting

The reasons states decide to create contract arrangements in the realm of DS are numerous depending on strategic context, internal capacities, and political will. A list drawn from major theories in the IR literature might include:

1. Maximize/aggregate/manage defense capacities and capabilities
2. Manage opportunism/threats (i.e. deal with commitment & enforcement problems)
3. Create economic efficiencies (e.g. exploit comparative advantage; create joint production economies, etc.)
4. Protect and encourage key (national) industrial capabilities/bases (encouraging positive or discouraging negative externalities at home)
5. Promote values and ideals (export/codification of norms)

Realists (Waltz 1979, Walt 1987) contend states ally to increase their military capacities and manage threats (reasons 1 & 2). Realist prospects for the viability of cooperation are minimal since states are constantly seeking power and willing to engage in self-help behavior to obtain it, therefore it is temporary and fragile for realists. Liberals put forth that well-designed cooperation between states can create stability and, perhaps, international peace. For that reason, cooperation among states should be common and the outlook for its success is positive. States must commit to a rule-based system that protects and manages assets as well as encourages common goals (defense being just one) within an established framework for action (reasons 1, 2, & 5). Rationalists (Olson 1965, Sandler 2004, Koremenos 2013) contend cooperation decisions take place within an economic cost-benefit framework evoking reasons 1, 3, and 4. Rationalists emphasize the legal and institutional design of a cooperative arrangement as its success are directly linked to design features managing the problem it addresses. Explaining cooperation from a political survival perspective (Bueno de Mesquita et al. 2003, Kimball 2010), which blends rationalist and liberal approaches, would highlight the balance between providing public goods while pursuing foreign policy goals. Finally, constructivists (Wendt 1992) focus on cooperation as a way to create a shared framework to manage potential

³ Kavanagh identifies 138 bilateral agreements in total between the US and Canada regarding DS (2014). The 82 cases selected by Kimball represent over 60% of those agreements (2017). Kimball examines joint defense products/goods, thus excludes purchase and loan agreements (of arms, vessels, material), status of forces agreements, extradition agreements, cooperation for civilian uses, letters of intent, terms of reference pursuant to agreement, international conventions and formal treaties (2107).

negative interactions among states and socialize members as part of a value-based community (reasons 2 & 5). Constructivists examine the text of the arrangements itself as a focal point for how the actors understand an agreement through their shared meaning of the text itself. The content of the agreement becomes less important than if the actors share the same understanding what it means in terms of rights and obligations. That shared understanding by definition is evolving over time and the text itself is just one piece of the process.⁴

Koremenos argues we cannot understand international institutions without understanding the underlying problems they seek to address (2010, 2013). Cooperation problems are the independent factors that shape the design of an agreement. Koremenos identifies them as follows: the enforcement problem (i.e. preventing defection), commitment problem (i.e. tying myopic actors to long-term commitments), distribution problem (i.e. that actors' preferences differ over the possible alternative agreements), encouraging positive externalities, discouraging negative externalities, deadlock, and "other", a category including foreign aid and exporting/codifying norms. There is a notable overlap between the list developed from the major IR theories and the list based on the rationalist tradition provided by Koremenos. This research employs the rationalist approach as well.

Abbott and Snidal identify three dimensions of legalization⁵: the obligations, the precision of the rules, and the presence of delegation to a third party; "each of these dimensions is a matter of degree, not a rigid dichotomy, and each can vary independently" (2000, 401) suggesting legalization is a continuum. An obligation binds states by a rule or set of rules or commitments, whereas precision suggests "the rules unambiguously define the conduct they require" (Abbott and Snidal 2000, 401). Finally, delegation means that third parties are granted power "to implement interpretations and apply the rules; to resolve disputes, and possibly to make further rules" (2000, 401). The authors warn scholars to avoid conflating increasing legalization with increasing compliance (2000, 403).⁶ The goal here is not to classify non-treaty defense arrangements on each dimension; rather it is to present an operationalized measure of legalization accounting for those dimensions. Shaffer and Pollack (2010) argue those dimensions are useful for understanding how states design international commitments, both formal and informal.

The non-treaty arrangements examined in this project create a vast substructure of legalised interactions between states. Lipson argues "the scale and the diversity of such accords indicate that they are an important feature of world politics, not rare and peripheral" (1991, 498). Informal arrangements are identified by their lack of legislative ratification distinguishing them from more public formal treaties. The form these arrangements can take varies but includes Memoranda of Understanding (MOU), Agreements, Joint communiqués, Exchanges of diplomatic notes/letters as well as verbal agreements. Lipson points out that the distinctions between such

⁴ A constructivist analysis employs a much larger corpus of documentation including speeches, statements, national policy documents, etc. to answer the research questions. In addition, it requires the examination of additional actors, notably lobby groups but also industry and academia and is beyond the scope of the current project, which focuses on states.

⁵ The term legalization here is used interchangeably with institutionalization though legalization typically refers to variations from soft to hard law. See Abbott and Snidal (2000) for details.

⁶ The interest herein is the legalization or institutionalization, itself, and not in compliance.

agreements are ignored by international law but that “virtually all international commitments, whether oral or written, whether made by the head of state or a lower-level bureaucracy, are treated as ‘binding international commitments’” (1991, 498). Informal arrangements “underscore the fact that cooperation is often circumscribed and that its very limits may be fundamental to the participants. Their aim is often to restrict the scope and duration of agreements and to avoid any generalisation of the implications” (Lipson 1991, 537). As Kimball states, “there exists a vast substructure of informal DS arrangements, contracted through memorandums of understanding, exchanges of diplomatic notes, agreements, etc.; they are the empirical majority of agreements, particularly among democratic states. The US manages over 450 bilateral formal and informal DS arrangements with its key allies in Europe, and over 700 including key allies in Asia,” (2017, 380). Understanding the rational design of those arrangements contributes to multiple research programs including those on bargaining, institutions, informal cooperation and legalization. In addition, a focus on American DSA behavior permits an appreciation of how the US may use its informal defense investments to shape the international system.

III. US DSA with Canada and NATO partners

Drawing on the works of Leeds (2003 and with co-authors in 2002), Koremenos (2013), as well as data from Kavanagh (2014), Kimball contributes an original dataset of informal DSA arrangements signed between the US and Canada from 1955-2005 drawn from the informal agreements in the Kavanagh dataset (2014). Aside from the dataset, Kimball offers an empirical measure of legalization developed from the literature on rational institutionalization (Leeds 2003; Koremenos 2013) and the law literature on soft law and legalization (Lipson 1991; Abbott and Snidal 2000; Shaffer and Pollack 2010; Fontaine-Skronski 2012). Finally, she presents a theoretical model explaining the level of legalization in US-Canadian DSA confirming cabinet shuffles and unified governments decrease DSA legalization while Democrat presidents and rising military threats increase it. This research extends her work by including additional cases in the measure of legalization and presenting data on total DSA ties between the US and NATO partners (Kimball 2017).

Table 1 offers summary data of Canadian US-DSA compared to an equal number of random cases drawn from DSA with European NATO partners for the period of 1955-2005.⁷ The summary data suggest DSA between the continental partners have higher levels of legalization, than similar agreements with European partners. Moreover, levels of legalization in US-Canadian DSA tend to be uniformly more heterogeneous than agreements with European partners as evidenced by the larger standard deviation surrounding the mean.

[Table 1 here]

⁷ Text of the agreement must be publicly available for inclusion in the data.

Canada-US bilateral DSA based on their level of legalization (Kimball 2017, 393, Figure I) is inserted below as Figure 1 to provide a comparison upon which to evaluate Figure 2 which compares an equal number of randomly selected DSA with European NATO partners.

[Figures 1 and 2 here]

Figure 2 offers a scatter plot of comparison of the 80 plus cases of US-Canadian DSA (represented by squares) and transatlantic DSA (represented by triangles). The figure indicates cooperation between both regions appears to follow the same pattern with some concentration in the early years of the cold war though a decent distribution of data points throughout the time-period. Additionally, it appears as though US-Canadian cooperation is more highly institutionalized though nothing can be confirmed without calculating legalization index mean values and comparing them via a t-test. Table 3 presents a summary data for the US-Canadian legalization index (the dependent variable used in the models above) versus the Transatlantic index based on the random subsample. The data suggest that US-Canadian non-treaty defense cooperation is on average more institutionalized and that the difference of means is significant. A T-test explores the hypothesis that the mean level of institutionalization of non-treaty defense cooperation in North American is equal to that of Transatlantic cooperation. A P-value of .0003 suggests that only .03% of the time such a large difference is due to chance providing strong support against the null hypothesis and in favor of the claim that North American non-treaty defense cooperation is more institutionalized than transatlantic cooperation. Thus, this subsample of data does appear to support the claim there is something “different” or “distinct” about US-Canadian informal DS cooperation though further data is required.

[Figure 3 here]

Figure 3 is the number of US multilateral and bilateral DSA with NATO partners since the partner entered the organization, excluding the UK which would appear with the bloc of states on the right at the level of 357 (Kavanagh 2014)⁸. Many of the additional agreements in the US-UK dyad are on nuclear defense cooperation and intelligence sharing. Among partners, Canada has the second most reflecting the continental closeness on DS matters out of necessity given the geographic position of the US's largest strategic rival for the most of the cold war. The US and Canada also share DS interests in the Arctic and the Pacific distinguishing the continental relationship strategically from the transatlantic one. Germany and France round out the top partners for US DSA among NATO allies. Iceland among original partners is the least linked to the US by DSA with 54 agreements relative to Poland's position as top partner among new allies with 49 agreements.⁹ Among NATO partners Slovakia's relationship is the most multilateral at 75%, while Canada's is the least multilateral at 41% followed by the U.K.'s at 46%. The information presented in this figure suggest the heterogeneity among NATO partners regarding US DSA

⁸ Also excluded Montenegro (joined in June 2017) and North Macedonia which signed accession protocols in February 2019.

⁹ These data end in 2014, recalling Poland has signed multiple agreements since relating to the deployment of the European phased adaptive approach for ballistic missile defense as a NATO partner.

is not linked to when states entered the alliance. The evidence presented here supports claims of a special relationship among the Anglo dyads, US-Canada and US-UK, regarding DSA cooperation.

Kimball contends the US and Canada have a special DS relationship but upon mutual trust and recognition of sovereignty and policy autonomy (2017). The data presented here offer support to those claims, as Canada is not only linked more consistently to the US than most partners, with the exception of the UK, but also maintains more strongly legalized links, on average based on this data, and has more variety in the levels of institutionalism in its bilateral DSA with the US.

IV. US DSA with in a global context

Exploring USA DSA behavior with partners permits a comparative baseline for understanding US DSA in a global strategic context. Table 2 offers data on US multilateral and bilateral DSA with the top 25 most powerful states in the world based on the 2016 global firepower index.¹⁰ The index calculated from 55 different indicators of firepower including both quantity and quality of arms where 0.0000 indicates a perfect power index. It offers a more transparent image of which states the US considers regular DS partners on a reasonable comparative spectrum, those with which the credibility of the signal of the defense relationship is clear (UK, Canada, France, Germany and Italy all have over 150 DSA with the US). Japan, Australia, and South Korea constitute a second group of partners with more DSA than any rival competitor with the US. Those almost entirely on the outside of the US DSA defense investment game include China and North Korea. This table also reflects underinvestment by the US in various states such as Australia, Poland, Brazil, and India.

[Table 2 here and Figure 4 here]

Figure 4 presents (fire)power weighted circles on the continuum of US DSA for the top-twenty five states in the world.¹¹ Thus, the size of the circle represents the states the magnitude of their power and the position left to right the number of DSA a state has with the US. The figure shows the divergence between states with higher levels of DSA and those with lower levels, states located in the upper left quadrant are powerful states with few links to the US. Those located in the lower left quadrant represent possible future risk to the extent they are the US underinvests in them and they are rising in power, e.g. Brazil, Indonesia and Poland. India and Turkey are powerful states which the US underinvests in currently, particularly India. In an effort to understand how the US deploys the playbook with key partners with whom the relationship has evolved over time. The types of DSA signed with Australia, Israel, and Japan during different periods appear in table 3.

[Table 3 here]

¹⁰ See www.globalfirepower.com

¹¹ Excludes the UK whose highly linked position, see Table 2, skews figure.

The DSA patterns of selected partners of the US are considered due to the observed heterogeneity of DSA with those partners and their important role in their respective regions. This examination compared total DS agreements, the number of agreements signed from 1950-60 versus after 2000, as well as the percent of the total agreements which are multilateral.¹² Australia is the most integrated of the cases into the multilateral system though still less than US partners such as the U.K. and Canada. There was a significant increase in engagement after 2000. Examining the first decade of commitments provides some signals as to the types of strategic problems most pressing during the initial years of the partnership. Australia was seeking guarantees (commitments of future engagement) to build a relationship and legal/administration (so implementation and enforcement promises) agreements. Israel's partnership with the US was built upon economic needs (funds for training, equipment assistance, settling financial claims) and was developed during the Cold War (from 1960-1999). Nine out of ten agreements between Israel and the US is bilateral, whereas American DS relations with Japan are highly bilateral, with only 3% of agreements being multilateral. Japan sought mostly materiel goods (equipment transfer/sale, construction of facilities, military force training/assistance) in the initial years of its partnership with the US suggesting its main concerns related to reconstruction after the war. Further comparative analysis is necessary to understand the parameters of the US strategy with respect to how the partnerships were incrementally legalised over the years by examining the institutional design of each agreement systematically. Still, with an understanding of the environmental contexts of each partner with the US, some generalisations are possible. First, seeking future cooperation is how to engage states with few concerns about sovereignty (Australia), whereas states in insecure regions seek materiel goods. Second, the data also show that legal/administrative concerns are often a second concern of many agreements, thus implementation and enforcement issues are central to DS cooperation. Finally, opportunities exist for further engagement of key states into critical multilateral DSA. For example, Germany, France and Japan have begun working on an institutional framework to link themselves formally as the "plus 3" to the "Five-Eyes" intelligence-sharing network which began informally working as the "Five-eyes plus 3" in 2018 to develop a joint strategy towards Chinese cyber activities (Wada and Akiyama 2019).

At a system level, the distribution of US DSA provides information about which states have credible unambiguous signals of DS links to the US, as well as which states appear firmly outside of the US DS diplomatic game. States in the middle of the distribution such as Turkey and Brazil that are likely to increase in capacity deserve greater attention from the US. Arms transfers between Turkey and Russia increased in recent years, including recent criticism over its purchase of a Russian S-400 missile system, indicate Turkey may be shifting further out of the sphere of US defense investment influence and could be subject to sanctions (Inhofe et al. 2019). Notably, Turkey does not contribute to NATO's enhanced forward presence operations in the Baltics and has not contributed to air policing in the region since its contribution of 80 troops and four F-16s over a four-month rotation in 2006. Shifts

¹² Includes agreements with 30 partners or fewer.

in power among key states could result in instability as states compete for influence in the regions bordering NATO and the EU, specifically Ukraine, Georgia, where along with the arctic; Russia has shown a willingness to challenge the territorial status quo. China also maintains multiple territorial disputes under active tension. Disputes in the Pacific and Arctic regions include important economic dimensions worth considering as well.

V. Institutional challenges, US DSA investments, and future uncertainties

Rational institutionalists contend contracts properly designed should withstand the vagaries of international relations because they are designed to manage strategic problems and, therefore, adapt to new strategic contexts (via flexibility), manage uncertainty about the future (obligations and provisions), and protect partners from the externalities of collective action (managing the adjudication of conflicts and determining burden sharing aspects). Shifts in the distribution of military power in the future offer considerable uncertainty about the future state of the world. Uncertainty about the future behavior of states includes not only rivals, such as Russia and China, but also partners such as the US under a Trump administration (Gould 2019; Martill and Sus 2018, 857) as well as key European partners after Brexit (Martill and Sus 2018).

Challenges faced by Transatlantic and European institutions despite US DSA overinvestment

The credibility of the US commitment to NATO is at risk due to differing interpretations of the automaticness of article V as, “naturally the CEE countries, fearing Russia, emphasize the language that seems to support the automatic response, while the US and Western countries tend to stress the language implying discretion,” (Wiarda 2002, 179). NATO has played a key role in managing strategic issues in Europe since its inception. Future stability may well depend on its capacity to adapt as an institution. But it faces serious challenges; for example, the future of NATO may well rest on “the degree to which allies agree on matters of policy and how they go about the process of implementation” (Dunn and Webber 2016, 476). Alliance cohesion is at risk from the externalities of UK’s exit from the EU and the effects of NATO enlargement. Increasing club size runs the risk of inefficiencies due to uncoordinated individual behaviors and because allocative efficiency becomes increasingly difficult (Sandler 2004, 33). If group heterogeneity is related to endowments, less endowed partners can increase capacity by bandwagoning with endowed partners, coalescing with other small partners, seek bilateral support from endowed partners though any of those behaviors would affect cohesion. Enlargement brings substantial risks to the level of provision of the club’s goods as well as the efficiency of its provision. New club partners reduce collective capacities to the lowest effective individual level affecting institutional effectiveness (weak-link hypothesis). Differences over policy quality/level and endowments among partners can result in inefficiencies even in homogenous groups, i.e. where partners share identities. As Dunn and Webber contend, “coherence in its social meaning arises when a group is bound together by a shared sense of belonging, inclusion and identity” (Dunn and Webber 2016, 476). The political and security community built in Europe for decades rests upon integration and using the institutions to manage disputes. Brexit challenges the foundations of integrationist identity and to the

extent NATO is intertwined in that identity, it will be affected by British withdrawal from the EU. Those involved have sunk political capital, reputations, resources, etc. in what has now become a protracted bargaining process but issues of non-excludability (of economic markets), asymmetric bargaining power, U.K. internal politics and patience (by the EU) contribute to continued bargaining failures (Barkin 2004). Despite differences in institutional mandates (collective defence, economic integration) and differences in perception of their zones of action NATO's engages in war, while the EU manages crises (Smith and Timmins 2000, 85; Martill and Sus 2018, 857), there is cooperation between the institutions. Martill and Sus point out inter-EU dynamics will pull France and Germany closer after the U.K. exit (2018). A bilateral closeness between the continental neighbors with increasing distance across the channel will affect NATO, particularly if the Franco-German couple accelerates defence cooperation within the EU (Hadfeld 2018, 179; Martill and Sus 2018). The defence economic effects of Brexit remain unknown but given the U.K.'s central role in European defence (acquisitions, participation in operations, R and D partnerships etc.), Hadfeld concludes its "role as a European defence provider and as security underwriter will increase, not decrease" (2018, 179). Underwriting the defence of partners and training partners is one way more endowed partners contribute without directly allocating military aid. For example, Canada just renewed its International Military Education Training program deployment to train police forces in Ukraine until March 2022 (Brewster 2019).

Positive externalities of Brexit for NATO are possible. For example it "could become a platform for cooperation, since it offers an elegant solution to combine British independence from the EU with the necessity of close collaboration in the face of security challenges...NATO may act as a bridge between Brussels and London" (Martill and Sus 2018, 857). Since Germany and France are accepting a larger role in the EU with the departure of the UK, the externalities for NATO are uncertain but likely include less political resources and possibly less financial and defence resources as well. British reticence for advancing an independent European defence is frequently blamed for the failure of the defence collaboration aspects of the EU (Martill and Sus 2018; Dunn and Webber 2018). In contrast, the U.K. is likely to focus more on NATO, particularly because the Vote Leave campaign was favorable to NATO suggesting the EU duplicated key functions of the alliance and undermined it (Dunn and Webber 2018, 472). NATO could receive increased political attention in the U.K. as well as become an outlet for a frustrated U.K. in post-Brexit discourse internally. The U.K. could ask for more NATO defence burden in a type of moral hazard doubling down. Due to shared membership in the institutions, it will be difficult for the Franco-German couple to argue U.K. resources "freed from EU budgets" should not go to NATO (Kimball 2010). "It will be difficult in the short to medium term to prevent Brexit-induced squabbles from spilling over into NATO, thereby risking further diminution of alliance solidarity and credibility," (Martill and Sus 2018, 857). The negative effects of Brexit on cohesion of the collective agent, NATO, combined with enlargement risking the credibility of collective defence are compounded by rhetoric in Washington. The risks of agent slippage and inefficiency increase when there is heterogeneity within a collective agent, as is the case with a potentially divided NATO. An opportunist Russia is motivated to push in the grey zone when confronted with a possibly divided NATO, as

uncertainty about a defender's pledge causes rivals to behave more dangerously due to endogeneity and selection (Leeds 2003).

Though NATO partners previously benefitted from strong clear informative signals of support from the US, the current administration prefers invoking uncertainty to motivate action by partners. Trump's noise filled signals to partners include calling NATO obsolete in 2016 and talking U.S. withdrawal in 2019 going to the very core of the reassurance commitment of the US. Also in 2016, he "implied that U.S. protection of Estonia, Latvia and Lithuania was contingent upon each countries financial contributions to NATO" (Ubrico 2017). Partners with insecurities have no choice but to trust the U.S. commitment because the alternative (going it alone or in smaller groupings) is too costly economically and regarding risk from Russia. When bargaining states often consider the best alternative to the negotiated agreement (BATNA), but here there is no alternative available, but NATO. Trump's transactional approach (Wolf 2017, 107) to international politics results in greater demands for budget resources from partners to shift burden away from the U.S. and rectify the "investment" balance. Despite struggling in the polls, it is too early to prognosticate an outcome for the 2020 U.S. presidential election though pragmatists focus on the short term, but are savvy enough to plan for the uncertainties of the long-term (i.e. Trump until 2024). Trump's relationship with Russia does not facilitate signalling credible commitment to partners either. Despite substantial sources of uncertainty, partners are unwavering in their willingness to make defensive commitments and defensive investments together.

If the collective defence provision called upon from an "armed attack" to a partner and partners fail to honor commitments, then logics explaining most scenarios depend on the severity of what happened and the certainty of its source. The strategy used by Russia relies on dissimulating the source of the attack and expansion by stealth combined with a hybrid strategy relying on low-level tension/aggression aimed at indirectly achieving strategic objectives (Fryc 2016, 53). Collective response is complicated by the absence of an attributable attack source. Despite openly hardening its defence in the regions bordering the alliance, including the important Kaliningrad region (Fryc 2016; Kuhn and Péczeli 2017), Russia is unlikely to risk an open armed attack on a NATO ally, its pressure is applied in the grey zone (in non-partner states). Despite opening doors with Ukraine and Georgia, NATO partners have no commitment to defend the territorial integrity of those states from Russian incursion because they are not NATO partners. Individual partners signal the credibility of their commitments to collective defence by maintaining national capabilities, participating in exercises/missions, contributing 'brick and mortar' assets and sharing the financial burden as promised. There is little chance of alliance disintegration even with the challenges presented by Brexit and Trump, but Russian activities in the near regions and the strategic uncertainties associated with the recent American withdrawal from the INF nuclear treaty (Borger 2019) will maintain pressure on partners. Partners have placed themselves in tripwire positions with deterrence/reassurance signaling deployments in the Baltic troops (Enhanced Forward Presence includes 4 battlegroups led by UK, Canada,

US, Germany), reassuring partners but raising risks for all partners. Entrapment by sinking costs and tying hands are effective signals and NATO is working diligently to clarify 'noisy signals of credibility' by putting lives in the balance.

Institutional challenges in the Pacific region given US DSA underinvestment

The strategic challenge in the Pacific differs due to the lack of a firm defense commitment by multiple partners to the main strategic partner in the region, Japan. The US maintains mutual defense agreements with both South Korea and Japan in strongly bilateral partnerships; over 96% of the DSA signed by both states with the US are bilateral, while Australia's relationship contains fewer agreements with nearly one-third being multilateral (Kavanagh 2014). The signals of US DS links in the Pacific are less strong and as a result, the Chinese have increasingly challenged the status quo (see appendix 1) and the partners have struggled with preventing proliferation by North Korea. Since its withdrawal from the Non-Proliferation Treaty in 2003, stakeholders face challenges developing an institutional framework including verifications and monitoring agreeable to all parties. The strategic issues range from the credibility of commitments to issues of monitoring/compliance and dealing with violations of any agreement. The absence of US DS investment in the region is reflected in the comparative number of DSA in the entire region is less than 700 agreements versus the over 2500 signed with NATO partners (Kavanagh 2014). The US failure to sign and ratify the Trans-pacific partnership only exacerbated matters as it left a place for China to play a strong role in negotiating the trade space in Asia and fortified its strategic advantage gained by negotiating stronger intellectual property rules in the TPP than the WTO (Chow, Sheldon and McGuire 2019).

VII. Conclusions

This article presents information about the relationship between US DS behavior, institutionalism, and comparative state capacity based on firepower for several sets of states. It offers novel insight about the comparative institutional design of US DSA with Canada versus all NATO partners. Anglo partners enjoy special relations with the US, while key European partners enjoy strongly signaled commitments. US partners with smaller numbers of DSA face greater regional insecurities, such as Israel, Japan, and South Korea. Powerful states with low numbers US DSA include China and India. India represents a potential market for DS investment by the west. Institutionalists agree design matters, representing an opportunity for greater data collection about the content of the thousands of agreements identified by Kavanagh (2014) and a subset was examined by Kimball concerning US-Canada relationship (2017). Evidence here confirms a significant difference between continental DSA versus DSA among states representing key NATO partners based on a similar sized sample, though the data potential. Future data collection and analysis is required to shed light on how the US ties itself lightly to others through less legalized agreements and what effects that has on the credibility of its commitments to the defense and security of its partners.

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Table 1: Summary data on US-Canadian versus selected Transatlantic DSA legalization

	DSA legalization Mean	Range	Standard Deviation
US-Canadian	14.82	0 - 37	9.52
Transatlantic	10.52	0 - 27	5.65

Table 2 appears on next page

Table 3: Selected cases of US bilateral DS cooperation

State	Total DS	1950-60 # (%)	% type 1950-1960	Post-2000 # (%)	Multilateral # (%)
Australia	88	10 (11%)	70% Guarantee or Legal/Admin	41 (47%)	32 (36%)
Israel	41	4 (10%)	75% Financial	9 (22%)	4 (10%)
Japan	116	27 (23%)	55% Materiel	32 (27%)	3 (3%)

Table 2: US DSA in top-twenty five states according to Global Firepower Index (2016) & Kavanagh (2014)

State	GPF rank	GFP (2016)	D/S Agts w/US	Multilateral Agts	Total Agts
USA	1	0.0897			
Russia	2	0.0964	58	21	79
China	3	0.0988	3	2	5
India	4	0.1661	12	7	19
UK	5	0.2164	194	163	357
France	6	0.1993	77	128	205
Japan	7	0.2466	104	3	107
Turkey	8	0.2623	42	55	97
Germany	9	0.2646	97	111	208
Italy	10	0.2724	64	93	157
S. Korea	11	0.2824	87	3	90
Egypt	12	0.3056	16	5	21
Pakistan	13	0.3246	19	6	25
Indonesia	14	0.3354	13	2	15
Brazil	15	0.3359	32	18	50
Israel	16	0.3591	39	4	43
Vietnam	17	0.3684	9	4	13
Poland	18	0.3909	20	29	49
Taiwan	19	0.3958	35	2	37
Thailand	20	0.4068	18	8	26
Iran	21	0.4071	17	1	18
Canada	22	0.4192	138	95	233
Australia	23	0.4209	66	31	97
Saudi Arabia	24	0.4335	12	1	13
North Korea	25	0.4442	0	1	1

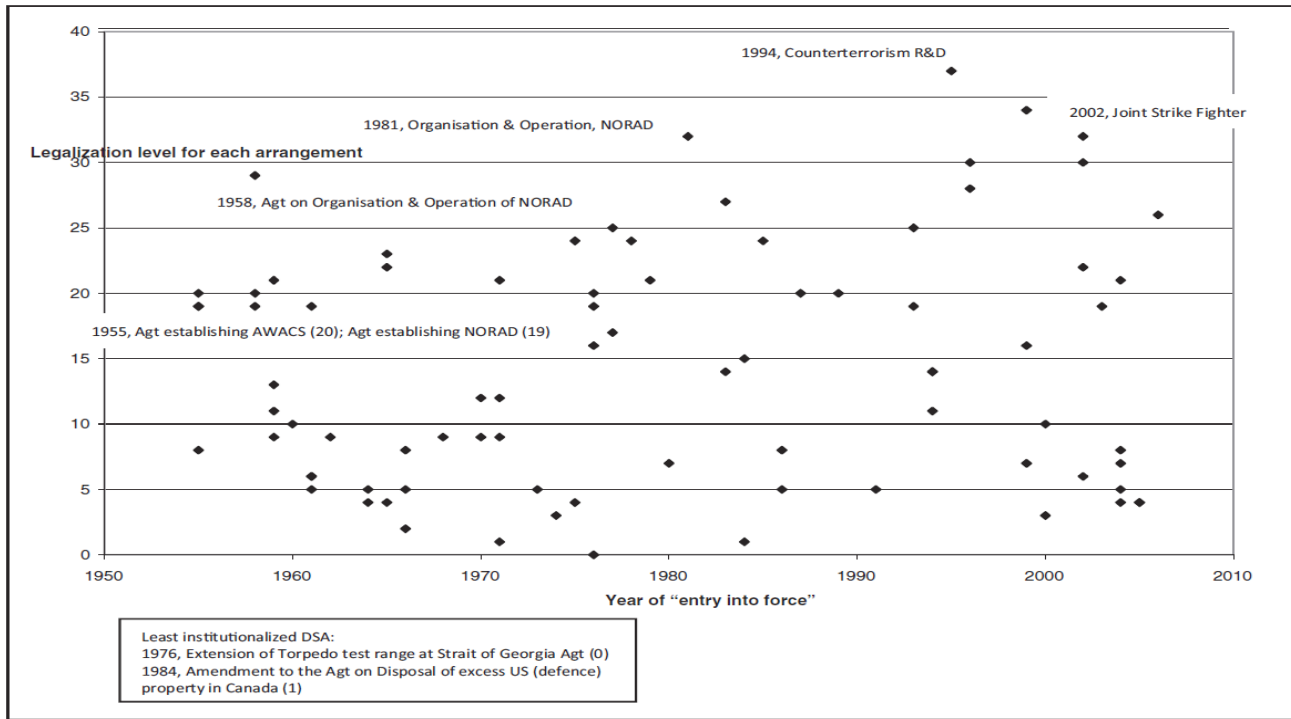


Figure 1. Legalization level of individual Canadian–US defence and security arrangements.

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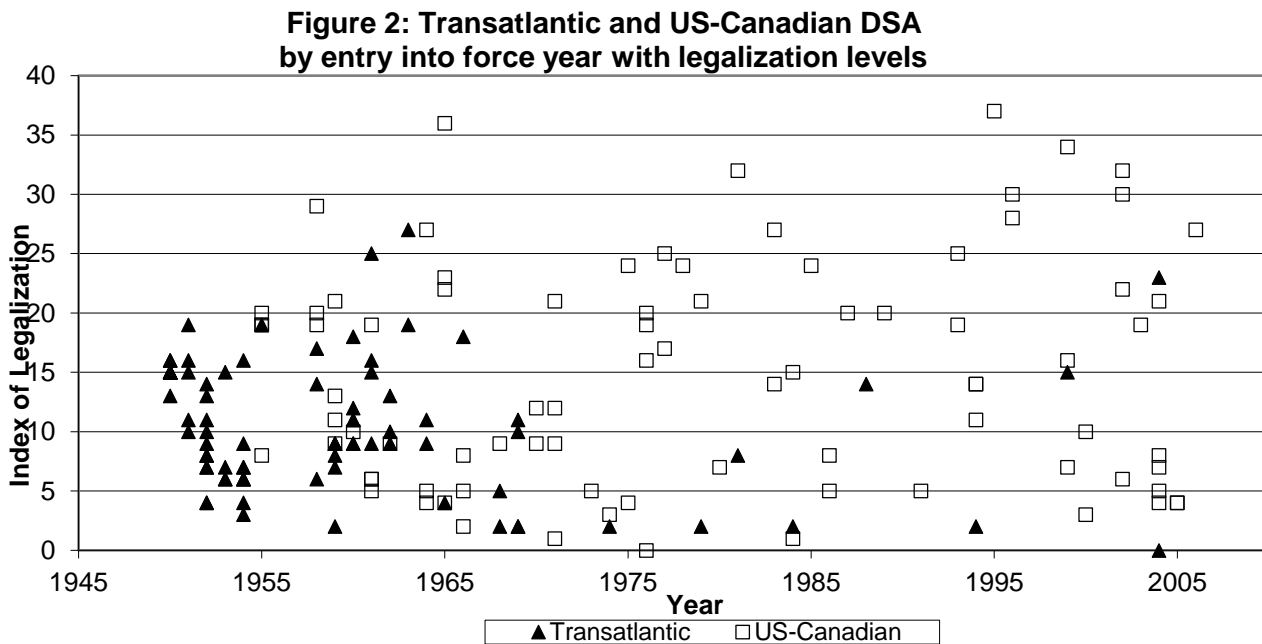


Figure 3: Number of DSA with NATO partners since joining, exc. UK

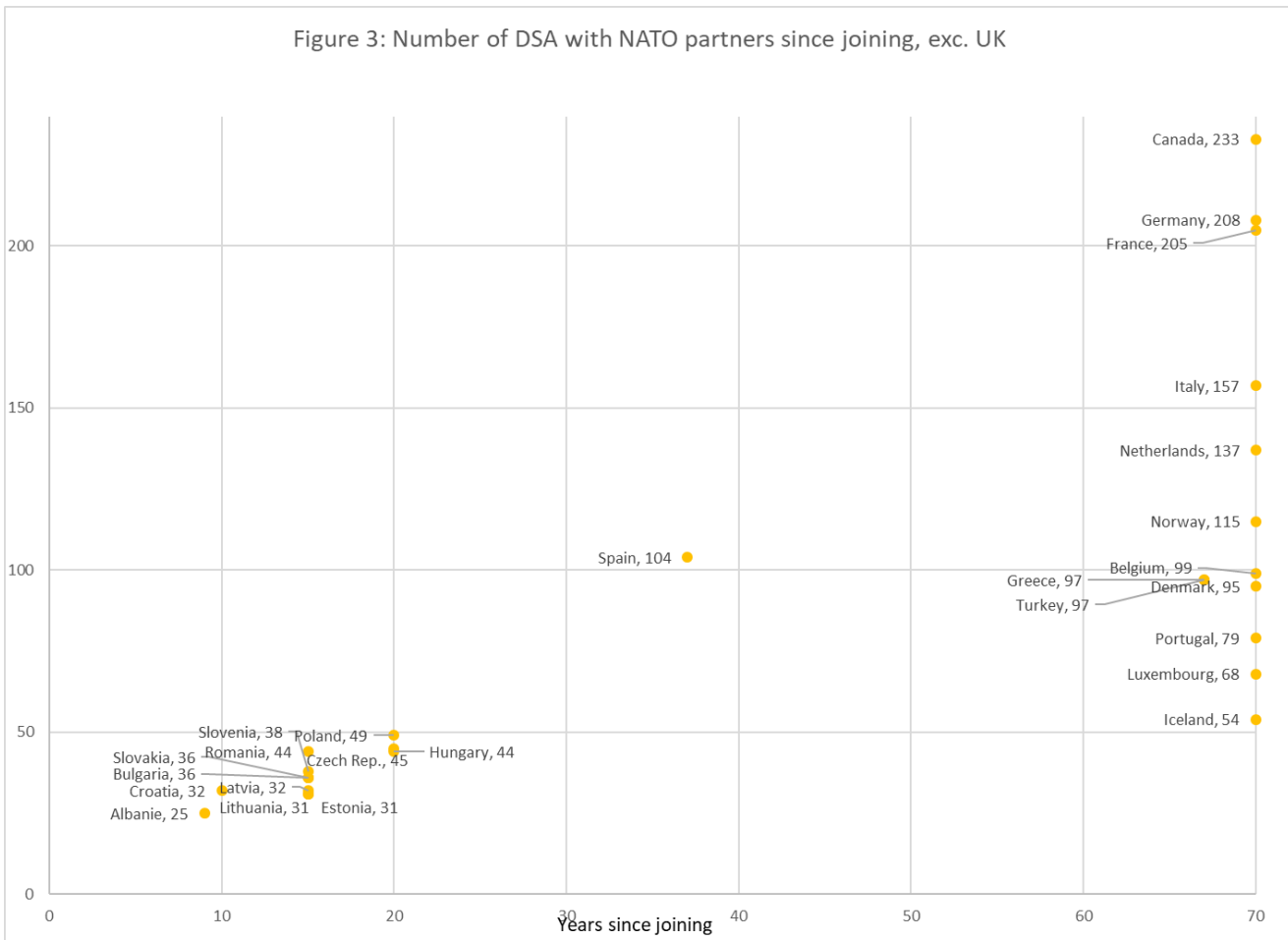
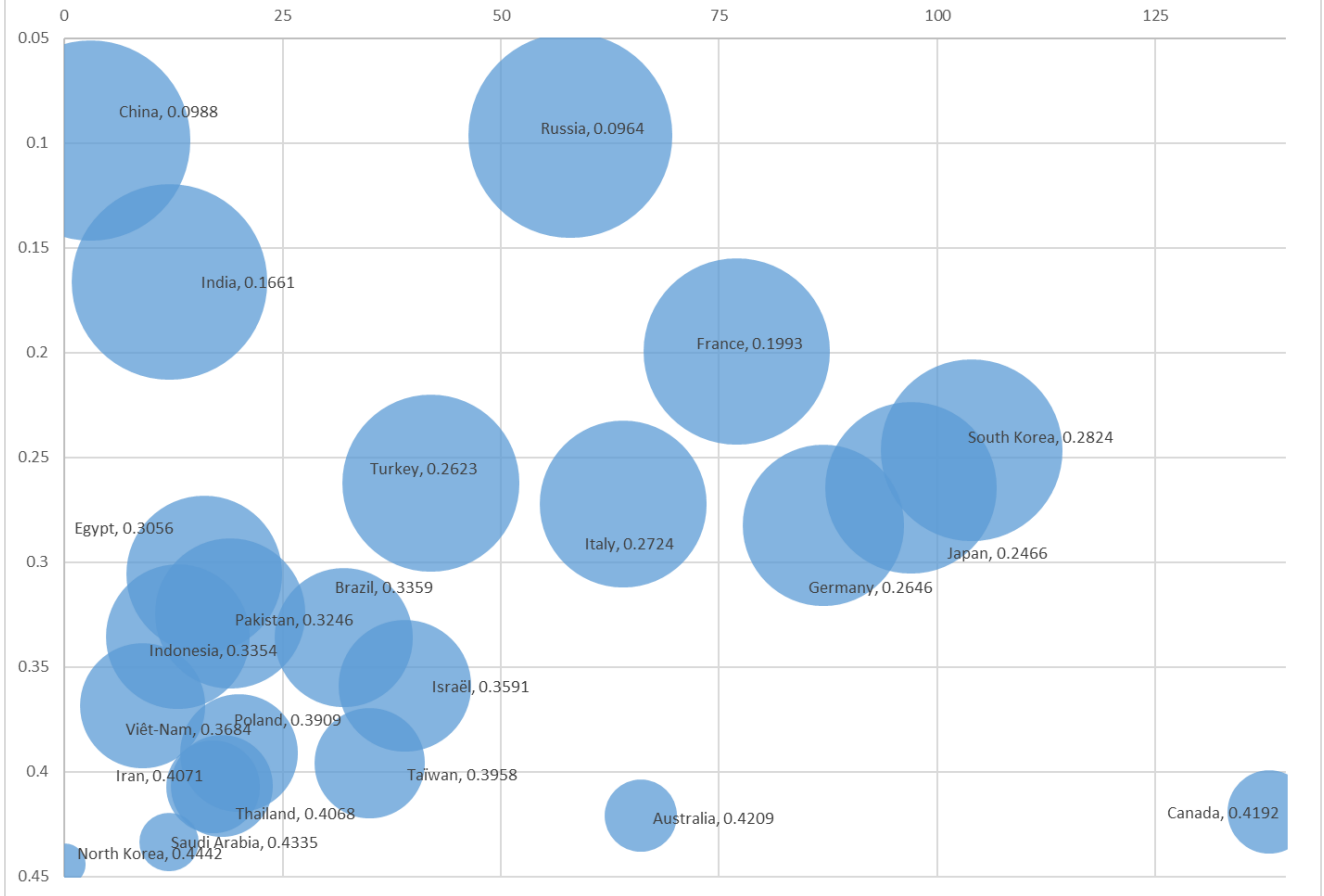
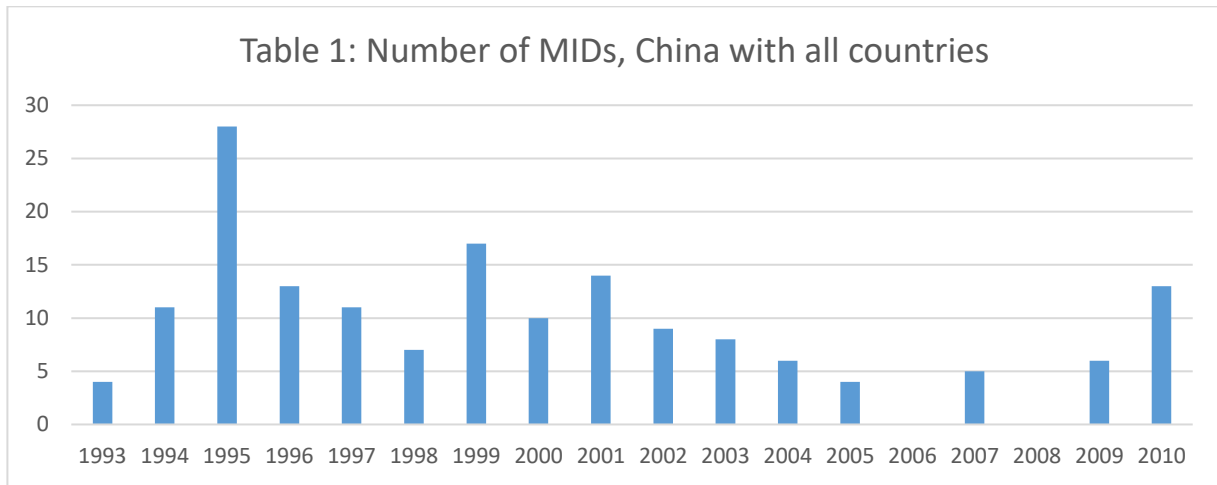


Figure 4: Global Firepower Index (2016) and number of bilateral USA DSA (2014)



Appendix 1



Source: Correlates of War, Militarized Interstate Dispute dataset (MIDs), v. 4.3, (Palmer et al. forthcoming)