

SEQUENCING REGIONAL TRADE INTEGRATION AND COOPERATION AGREEMENTS: DESCRIBING A DATASET FOR A NEW RESEARCH AGENDA

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ABSTRACT. Trade agreements and other international cooperation agreements have proliferated en masse in recent years around the world. Rather than being spurred by exogenous forces alone, the two phenomena are likely to be both path-dependent and endogenous to one another. However, the understanding of their relationship remains nascent. We describe a new dataset on international agreements that can be employed to start mending the gaps in the literature, and to develop a research agenda on the best practices of sequencing trade and cooperation agreements. The data provide grounds for hypothesizing that trade agreements can catalyze further cooperation.

JEL Classification: F13; F15; F5.

Keywords: Trade Agreements; Cooperation; Regional Integration.

RÉSUMÉ. Ces dernières années, les accords commerciaux et autres accords de coopération internationale ont proliféré massivement à l'échelle mondiale. Plutôt que d'être suscités par de seuls facteurs exogènes, les deux phénomènes sont à la fois interdépendants et endogènes l'un à l'autre. Toutefois, la compréhension des liens entre ces accords reste embryonnaire. Nous décrivons une nouvelle base de données relative aux accords internationaux, permettant de développer un axe de recherche sur les meilleures pratiques en matière d'ordonnement des accords commerciaux et de coopération. Les données semblent appuyer l'idée selon laquelle les accords d'intégration commerciale peuvent être un catalyseur efficace pour une coopération plus approfondie.

Classification *JEL* : F13 ; F15 ; F5.

Mots-clés : Accords commerciaux ; coopération ; intégration régionale.

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■ INTRODUCTION

Trade integration agreements and other international cooperation agreements have proliferated *en masse* in recent years around the world.² Rather than being spurred by exogenous forces alone, the two phenomena are likely to an extent both path-dependent and endogenous to one another. Indeed, economics literature has long viewed trade integration as evolving in sequential steps from a free trade agreement (FTA) to a custom union (CU) and further to a common market. Political science, which has explored a wider range of cooperation domains, such as security, the environment and human rights, has provided grounds for expecting that international cooperation can generate Pareto-improving outcomes that encourage states to expand their cooperation. However, the theoretical and empirical understanding of the relationships between agreements forged in different domains of cooperation remains nascent.

The purpose of this paper is to describe a new dataset on trade integration agreements – here, preferential trading arrangements (PTAs) – and other international agreements that can be employed to start mending the gaps in the literature on cooperation, and to develop a research agenda on the “best practices” of sequencing international agreements so as to obtain higher pay-offs from global cooperation. Of particular interest here is the relationship between PTAs and agreements in other domains of cooperation; the data provide preliminary grounds for hypothesizing that PTAs can be a particularly likely catalyst for further cooperation between states.

The first section discusses the motivation for building the dataset in light of the existing literature on the progression of international cooperation. The second section maps out the dataset, and puts forth hypotheses about sequencing of PTAs and other types of cooperation agreements. Section three concludes.

■ A BRIEF SURVEY OF LITERATURE ON TRADE AND COOPERATION AGREEMENTS: TOWARD A RESEARCH AGENDA

Economics literature has long followed Balassa’s (1961) linear notion of the progression of regional trade integration from an FTA to a CU and further to a common market and potentially also a monetary union.³ The more recent dynamic path literature aims to establish

2. “Cooperation” refers here to mutual adjustment of policies by two or more states. Trade integration refers here to cooperation in the domain of trade. International agreements are here understood as a subset of international institutions. We follow Koremenos *et al.* (2001: 762) in defining international institutions as “explicit arrangements, negotiated among international actors that prescribe, proscribe, and/or authorize behavior.”

3. The earlier academic contestations centered on the respective static welfare effects of FTAs and CUs. See Viner (1950), Meade (1955), Lipsey (1960), Johnson (1965), Mundell (1964), Corden (1972), and Kemp and Wan (1976). Richardson (1994) and Panagariya and Findlay (1996) extend the political economy analysis of PTA formation to looking at welfare implications of endogenously determined PTAs. Several more recent studies have sought to introduce a variable measuring the “depth” of different PTAs in a gravity model. See, for example, Li (2000) and Adams *et al.* (2003).

whether these arrangements could be a sequential step toward multilateral trade liberalization.⁴ Perroni and Whalley (1994) and Whalley (1996) examine another type of sequence – the feasibility for small states to form PTAs with large partners before other states do so. However, the theoretical grounds and empirical evidence remain thin on the sequencing of FTAs, CUs, and other types of PTAs among a pair or a set of states. Political economy studies by Maxfield (1990) and Frieden (1996) who focus on the progression from trade integration to monetary cooperation, and Pastor (2001), who develops an agenda for furthering North American integration on the basis of the EU's integration experience, are among the exceptions.

Political science has brought international politics to the analysis of the evolution of integration and international cooperation. Ernst Haas's 1958 functionalist study of the then-European Economic Community argued that integration would acquire its own logic, claim states' loyalties, and engender "spillovers" – further cooperation and integration in other issue areas. In the 1980s, neo-liberals gave sturdier theoretical bases for these notions, establishing that repeated interactions between states, particularly when conducted in the context of international institutions, can help overcome market failures and Prisoner's Dilemmas inherent to international relations, and thereby spur further cooperation.⁵ The more recent veins of literature have employed a range of strategic factors – beliefs, information, reputation, signaling, and credibility of commitment – to explain the prospects and progression of inter-state cooperation.⁶ Constructivism, which departs from the rational choice-based theories altogether, goes further to view the pay-offs from inter-state interactions as helping to merge states' preferences and identities with those of the collective – which, in turn, should render sequential cooperation among states near-automatic.⁷

The common simple prediction arising from the vast range of literature is that inter-state cooperation, once launched, can both enhance the odds of and condition further cooperation. However, empirical assessments of the pool of hypotheses are still relatively limited and consist largely of qualitative case studies.⁸ Moreover, although there is a vast body of literature examining why cooperation occurs in a given domain,⁹ studies do not usually problematize the choice of the domain – make the domain a continuum. And even though scholars have examined the effects of cooperation agreements on economic and political outcomes in

4. Kemp and Wan (1976), Deardorff and Stern (1992), Baldwin (1993), Wei and Frankel (1995), Bergsten (1995), Frankel, Stein, and Wei (1997), and, on the political science side, Oye (1992) and Kahler (1995), provide grounds for believing that PTAs can be ever-expanding and propel strategic interactions conducive to global free trade. For further works, see Haveman (1992), Bagwell and Staiger (1993), Saxonhouse (1993), Stein (1994), Bond and Syropoulos (1995), Krueger (1997), Krishna (1998), Lawrence (1996), and Bond, Syropoulos, and Winters (2001). In contrast, Bhagwati (1993) argues that reduced protection between PTA members will be accompanied by heightened protection *vis-à-vis* outsiders, with PTAs ultimately undermining multilateral liberalization.

5. See Axelrod (1984), Keohane (1984), and Oye (1986).

6. See, for example, Morrow (1992) and Fearon (1997).

7. See, for example, Wendt (1992).

8. Koremenos (2003), using a large-N study to the flexibility of agreements, is a promising exception.

9. For example, for the determinants of trade agreements, see, for example, Yarbrough and Yarbrough (1992), Nye (1992), McLaren (1997), Milner (1997ab), Ethier (1998), Mattli (1999), and Mansfield *et al.* (2000).

a number of domains (such as the impact of PTAs on the likelihood of interstate disputes or the effects of security alliances on trade flows),¹⁰ little particularly empirical attention has been paid to the endogeneity of different types of agreements to each other.

To our knowledge, there are as yet no genuinely global data and mappings of the various domains and dimensions of international cooperation agreements. The static and dynamic relationships between the domains of cooperation, including the potential complementarity (or substitutability) between agreements formed in different domains, also await analysis.¹¹ Yet, an examination of the types and sequencing of international agreements is compelling in light of the proliferation of PTAs and many other types of international cooperation agreements around the world over the past few decades.

From an analytical point of view, an empirical examination of how agreements are related and sequenced is crucial to capturing both the determinants and the political and economic outcomes of cooperation. Indeed, studies that have encountered causality between agreements in certain domains (such as trade) and outcomes (inter-state disputes) may suffer from an omitted variable bias should the causality travel through another, intervening domain instead (a security cooperation agreement). Moreover, given that empirical studies have focused on relatively limited samples of states and domains, they risk selecting on the dependent variable, and, as such, supporting the authors' theoretical biases.

From the policy perspective, an improved understanding the relationships between different types of agreements can help governments sequence their external agendas so as to obtain higher pay-offs from cooperation, including better developmental outcomes than could be attained through unilateral policies alone. The dataset presented here aims at paving the way for such an improved understanding of the optimal sequencing of international cooperation.

■ TWO HUNDRED YEARS OF TRADE AND COOPERATION AGREEMENTS: DATASET AND SOME HYPOTHESES

The section unfolds our dataset on international cooperation. It is divided into five main parts: (1) summary of data and sources; (2) overview of the patterns of global cooperation in 1800-2005; (3) mapping of the main "cooperator" states and their main cooperation partners; (4) mapping of the domains – or issue areas – of cooperation by partners and over time; and (5) a preliminary look at the potential sequences of the domains of cooperation.

10. On the impact of PTAs on disputes between states, see, for example, Mansfield and Pevehouse (2000). See also Russett and O'Neal (2001) for an extensive research on economic interdependence and security. Haffel (2004) examines the effects of different types of regional trade integration schemes, such as schemes with a security policy component, on intramural conflict; however, the paper is not about sequencing agreements in different domain, but, rather, of agreements with divergent dimensions. See, for example, Gowa and Mansfield (1993) and Gowa (1994) on security alliances and trade.

11. The potential relationships between the dimensions and domains of agreements have also yet to be submitted to systematic empirical scrutiny. The few existing empirical studies that problematize the dimensions of agreements are not necessarily generalizable for usually following a case study format and focusing on developed countries.

Summary of data and sources

The dataset encompasses 12,247 international agreements in 1808-2005. 94 percent of the agreements are bilateral (have two parties), while six percent are multilateral (have three or more parties). The total number of country pairs that are members of a common agreement (bilateral or multilateral) is 128,731.

The sample contains a total of 241 states and overseas territories.¹² Their number varies over time given the entry and exit of states in the international system. The maximum number of states and territories per year is 219 (since year 2002), while the minimum is 60 (in 1808) (APPENDIX, FIGURE A1.1). The bulk of the data for states' life spans come from Lake and O'Mahony (2004); the *CIA World Factbook* is employed to complement their data.

The dataset consists of a total of 23 domains of cooperation ranging from trade to investment, customs, infrastructure, and transportation, among others. The domains are listed in TABLE 1. The choice of domains is influenced by the goal of our subsequent research to explore the interactions between PTAs and other forms of cooperation. As such, the sample here centers on domains that could plausibly be relatively immediately related to trade integration. We employ distinct sources for data on PTAs (a total of 1,462 agreements), Bilateral Investment Treaties (BIT) (2,285), and the 21 other domains (8,500), respectively. Data on "modern" PTAs (signed in the post-war era) come from World Trade Organization and Arashiro *et al.* (2005), while data on PTAs signed before World War I come from Pahre (2005), and on PTAs concluded in the inter-war era from Smith (1996), United Nations (UN) (1947), and the US State Department website. Data on BITs are from UN Conference on Trade and Development (UNCTAD). Data on cooperation agreements come from the UN Treaty Series Database (UNTS), which encompasses more than 50,000 international agreements primarily for the post-war era.

Besides classifying each agreement by its domain, we code five dimensions of each agreement: age (year of signature and year of entry into effect); membership (or "exclusiveness", the total number of members); multilateralism (bi- or multilateral); scope (number of issue areas covered); and obligation (agreement's "legal definition", such as convention, agreement, exchange of notes, protocol, and amendment, which are converted into a categorical variable ranging from 1 [least binding] to 6 [most binding]). While not explored here, the dimensions of cooperation agreements will be of analytical interest in further iterations of this paper – and contribute to the growing literature on *how* states structure

12. The data contains both independent states and overseas territories, primarily due to the fact that many preferential trade schemes as well as other international agreements are formed between a colonizer state and its overseas territories. Further iterations can derive the choice of states from theory. For instance, a neo-realist formulation would limit the sample to independent states, while a neo-liberal model might cover a more comprehensive category of customs territories or other units. Also, in this version of the paper, none of the agreements is assumed to have expired.

their cooperation.¹³ The descriptive statistics by domain are included in TABLE 1.¹⁴ TABLE 2 summarizes the categorization of the various legal definitions by obligation.¹⁵

Patterns of global cooperation

FIGURES 1a-1c explore the three main sets of data – PTAs, BITs, and all other cooperation agreements (including other trade and investment agreements obtained from the UNTS). All figures contain both bi- and multilateral agreements.

FIGURE 1a displays the three main waves of regional economic integration. The first wave endures from the early 19th century to the start of World War I, and contains a number of bilateral agreements formed particularly by Great Britain, France, Italy, various Latin American countries both with each other and with the United States, and the web of agreements formed by the German Zollverein founded in 1834.¹⁶ The second, inter-war wave includes primarily a web of bilateral agreements forged by Western European states such as Belgium, Denmark, Finland, Germany, Great Britain, Iceland the Netherlands, Norway, Portugal, and Sweden both with each other and other East European states, as well as by the United States with various Latin American countries, in particular. Most analysts link the US bilateralism to the 1934 passage of the Reciprocal Trade Agreements Act (RTAA), which enabled the US executive to liberalize tariff on a reciprocal basis with various countries and thus presumably overcome the protectionism of the Smoot-Hawley tariff legislation of 1930. The third, ongoing wave surged gained force after World War II mainly at the behest of countries of the Americas and Europe. As we shall discuss below, today the wave has come to claim all regions of the world and also acquired a transcontinental quality, with such pairs as United States and Morocco, Mexico and Japan, and Chile and EU having recently entered into agreements.

Importantly, the waves are not equal, but differ in two main ways. First, while the first two waves carried PTAs of relatively limited issue coverage – generally commerce and navigation – today's PTAs are highly complex and comprehensive in coverage, regulating member states' behavior in such issue areas as services, investment, government procurement, and competition policy. Second, while the inter-war wave in particular was highly

13. A notable example is Koremenos *et al.* (2001), who explore the determinants and interplay of such dimensions of international institutions, such as scope, flexibility, membership, and hierarchy. Among their hypotheses is that scope increases with the heterogeneity of members, which tends to increase with membership; and that states are likelier to enter into binding and long-term agreements when membership grows large. See also Pahre (2001). The rational design-school was preceded by a ground-breaking study by Lake (1999), who problematizes the degree of hierarchy in international security relationships. In another important contribution, Goldstein *et al.* (2000) and Kahler (200) examine the extent of "legalization" of international agreements and institutions.

14. Data on the scope of the third wave of PTAs remains to be built.

15. The degrees of obligation were developed on the basis of consultations with legal scholars, and aim to capture the degree to which an agreement is binding. However, it should be kept in mind that the categorization here is based on the legal definition at the time of signature rather than how the degree of obligation may be interpreted in international adjudication: agreements that are here classified as least binding can in an arbitration be interpreted to be as binding as treaties.

16. See Pahre (2001). For further treatments, see, for instance, Milner and Mansfield (1999), Irwin (1993), and Pollard (1974).

Table 1 - Descriptive statistics by domains and dimensions

Domain	Total % of		Year Signed			Year of Entry			Number by Type			Number of Parties			Scope			Obligation						
	No.	Total	Min.	Max.	Std.Dev.	Mean	Min.	Max.	Std.Dev.	Mean	Min.	Max.	Std.Dev.	Mean	Min.	Max.	Std.Dev.	Mean	Min.	Max.	Std.Dev.	Mean		
Trade (General)	4,685	38.3	1808	2002	42	1944	1808	2002	42	1948	4 360	325	2	134	4.9	2.7	1	1.4	2.5	1	6	0.7	5.1	
PTA Modern (1960-2005)	315	2.6	1957	2004	10	1994	1958	2005	10	1995	243	72	2	78	6.8	4.1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
PTA All (1808-2005)	1,462	11.9	1808	2004	53	1909	1808	2005	52	1908	1 383	79	2	78	3.3	2.5	1	5	0.9	1.9	2	6	1.0	5.4
Subtotal: All_Trade	5 000	40.8	1808	2004	42	1947	1808	2006	42	1951	4 603	397	2	134	5.1	2.8	1	1.4	2.5	1	6	0.7	5.1	
Investment (General)	267	2.2	1922	2002	14	1974	1923	2003	15	1979	249	18	2	78	5.6	2.6	1	8	1.2	2.1	3	6	0.2	5.0
BIT	2,285	18.7	1905	2005	9	1993	1962	2005	8	1992	2 285	0	2	2	0.0	2.0	1	1	0.0	1.0	6	6	0.0	6.0
Subtotal: All_Investment	2,552	20.8	1905	2005	11	1991	1923	2005	11	1989	2 534	18	2	78	1.8	2.1	1	8	0.5	1.1	3	6	0.3	5.9
Customs	17	0.1	1925	1983	15	1962	1928	1993	16	1967	2	15	2	78	18.1	21.1	1	4	1.1	2.6	5	6	0.2	5.1
Energy	111	0.9	1949	1997	10	1978	1941	2002	15	1976	103	8	2	11	1.3	2.3	1	9	1.4	3.6	2	6	0.5	4.9
Infrastructure	516	4.2	1920	2001	15	1974	1911	2001	15	1977	504	12	2	7	0.4	2.1	1	8	1.2	2.9	2	6	0.3	5.0
Visas	834	6.8	1927	2000	15	1966	1929	2002	16	1969	809	25	2	11	0.6	2.1	1	6	1.0	1.7	3	5	0.1	5.0
Immigration	60	0.5	1926	1995	14	1971	1933	1998	14	1976	51	9	2	63	10.9	4.7	1	6	1.5	3.2	2	6	0.7	4.8
Frontiers	474	3.9	1866	2003	16	1973	1869	2003	17	1977	443	31	2	55	3.8	2.4	1	10	1.3	2.6	2	6	0.5	5.0
Air Transport	1 383	11.3	1875	1995	13	1965	1875	2003	13	1966	1 343	40	2	121	6.2	2.7	1	7	1.1	2.6	3	5	0.2	5.0
Passenger Transport	55	0.4	1945	1995	10	1976	1945	1995	10	1978	48	7	2	27	6.6	4.1	2	8	0.9	4.1	4	5	0.1	5.0
Merchandise Transport	67	0.5	1952	1994	9	1975	1952	1994	9	1976	61	6	2	27	4.2	3.0	2	6	0.6	3.2	3	5	0.2	5.0
Road Transport	148	1.2	1939	1994	9	1970	1947	1994	9	1972	124	24	2	45	6.7	4.2	1	9	1.0	2.5	2	6	0.3	5.0
Rail Transport	4	0.0	1950	1952	1	1952	1951	1956	2	1953	0	4	6	21	6.4	11.8	2	6	1.8	4.0	2	5	1.5	4.3
Economic Assistance	131	1.1	1942	2001	12	1964	1942	2001	12	1965	128	3	2	9	0.8	2.1	1	7	1.2	2.5	2	5	0.3	5.0
Financial Assistance	272	2.2	1942	1992	7	1974	1942	1992	7	1974	272	0	2	2	0.0	2.0	1	7	1.0	2.5	5	5	0.0	5.0
Technical Assistance	107	0.9	1943	1993	11	1970	1943	1993	11	1970	106	1	2	3	0.1	2.0	1	9	1.4	3.3	3	5	0.5	4.8
Industrial Cooperation	194	1.6	1954	1994	7	1977	1954	1994	7	1978	187	7	2	5	0.4	2.1	1	10	1.3	4.4	2	6	0.4	4.9
Educational Cooperation	189	1.5	1945	1996	13	1970	1945	1997	13	1971	185	4	2	9	0.5	2.1	1	9	1.9	4.1	2	6	0.4	4.9
Arms	31	0.3	1914	1985	19	1969	1942	1997	14	1973	29	2	2	4	0.4	2.1	1	6	1.1	3.1	3	6	0.5	5.0
Weapons	45	0.4	1954	2002	13	1972	1954	2002	14	1973	37	8	2	112	24.8	10.6	1	7	1.7	3.1	3	6	0.8	4.9
Non-Proliferation	5	0.0	1968	2001	13	1991	1970	2002	13	1992	3	2	2	110	46.8	28.2	2	5	1.3	3.5	5	5	0.0	5.0
All Agreements	12,247	100	1808	2005	33	1965	1808	2006	33	1965	11,572	675	2	134	4.7	2.6	1	1.5	3.9	1	6	0.6	5.2	

Table 2 - Categorization of legal definitions by the degree of obligation

Obligation	Definition
1	Agreed Minutes Agreed Record Letter Long-Term Program Records of Discussion
2	Certification Declaration Joint Communiqué Joint Statement Proces-Verbal
3	Memorandum of Understanding Modus Vivendi Understanding
4	Adjustment Amendment Extension Protocol
5	Accession Agreement Arrangement Convention Exchange of notes constituting an agreement Final Act
6	Treaty

discriminatory *vis-à-vis* third parties, today's PTAs are formed against the backdrop of open regionalism – simultaneous reduction of preferential and most-favored nation (MFN) duties by the member states.

FIGURE 1b centers on the much more recent but potent phenomenon of BITs. Inherently formed between two states, BITs stipulate reciprocal promotion and protection of investments. They generally cover a host of issues, such as admission and establishment, national treatment, MFN treatment, compensation in the event of expropriation, and dispute settlement mechanisms. Their reach is truly global: they often link even some distant developing countries, such as Uruguay and Malaysia, to each other.

FIGURE 1c unwraps all the cooperation agreements based on the UNTS data coded for this exercise (see TABLE 1). It illustrates the forceful surge of global cooperation in the post-war era. To be sure, the pattern is to an extent also due to the limitations on the availability of comprehensive data from the 19th and early-20th centuries.

FIGURES 2a-2b take a look at what could be called “globalization of cooperation.” 2a examines the share of country pairs with at least one common agreement and one common PTA,

Figure 1a - Data on PTAs, 1808-2005 (new agreements by year)

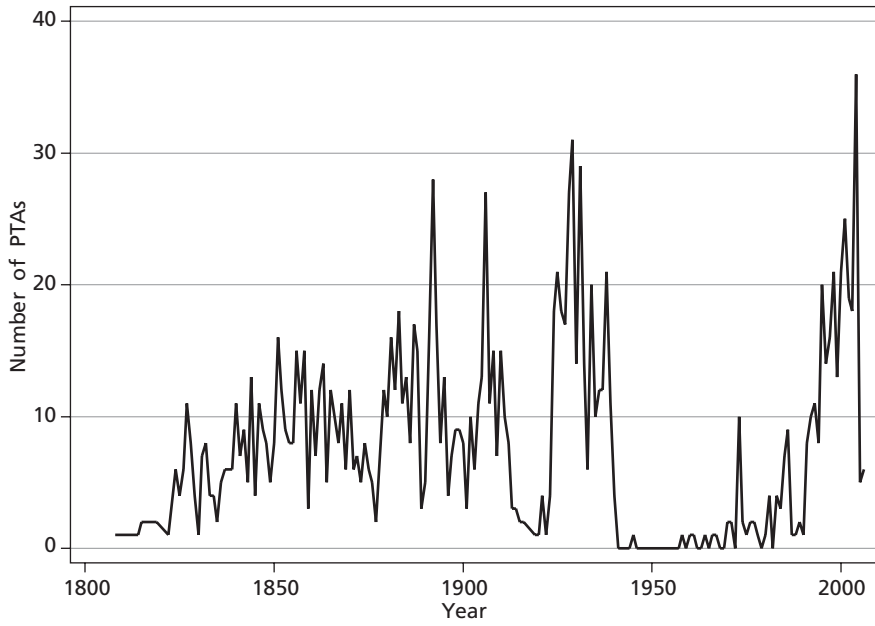


Figure 1b - Data on BITs, 1808-2005 (new agreements by year)

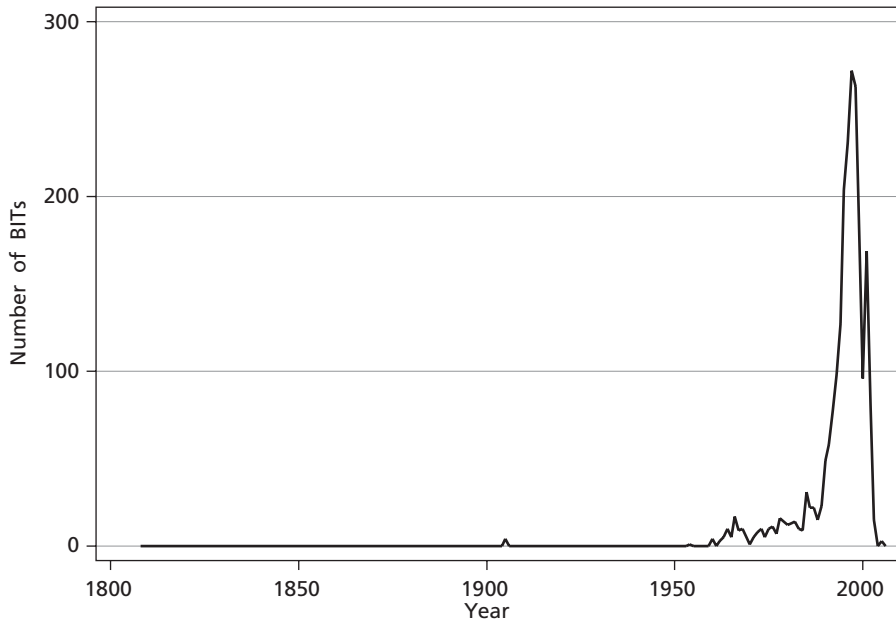
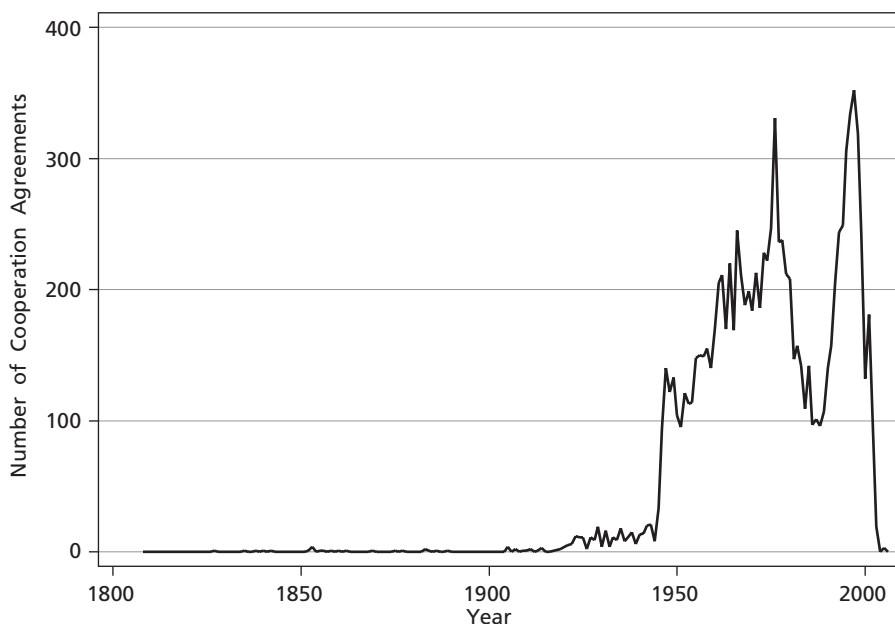


Figure 1c - Data on cooperation agreements, 1808-2005 (new agreements by year)

respectively, of all possible pairs in the world. Cooperation agreements have come to cover an impressive number of pairs in the post-war era: in some years, the share of pairs that enter an agreement of all pairs is nearly 60 percent. In contrast, as the data stand for now, only some 2-3 percent of pairs entered cooperation agreements in the 19th century. PTAs have also arisen to cover a growing share of bilateral relations over the past two decades, with up to 2 percent of all pairs entering PTAs with each other in the peak PTA years.

The post-war era has been marked by a globalization of global cooperation: virtually all states are today member to several agreements. This owes to a large extent to the rise of multilateral agreements in the post-war era. Indeed, as FIGURE 3 shows, most countries are linked to other countries by multilateral rather than by bilateral agreements. This is particularly the case for small states and territories, whose agreements are almost exclusively multilateral. Meanwhile, the more powerful states – such as France, Germany, and United Kingdom – have fewer than 80 percent of their respective connections to other countries formed under multilateral agreements; the figure descends to 55 percent in the case of the foremost global cooperator, the United States. To be sure, this speaks to the fact that great powers were important at the global stage already in the 19th century during the prime of bilateralism. Nonetheless, it also suggests that smaller states may lack the resources and the needs of great powers to negotiate on several fronts at once and thus strive for economies of scale in negotiations and prefer concluding one major multilateral agreement

Figure 2a - Share of pairs entering any type of cooperation agreements of all pairs in the world by year, 1808-2005

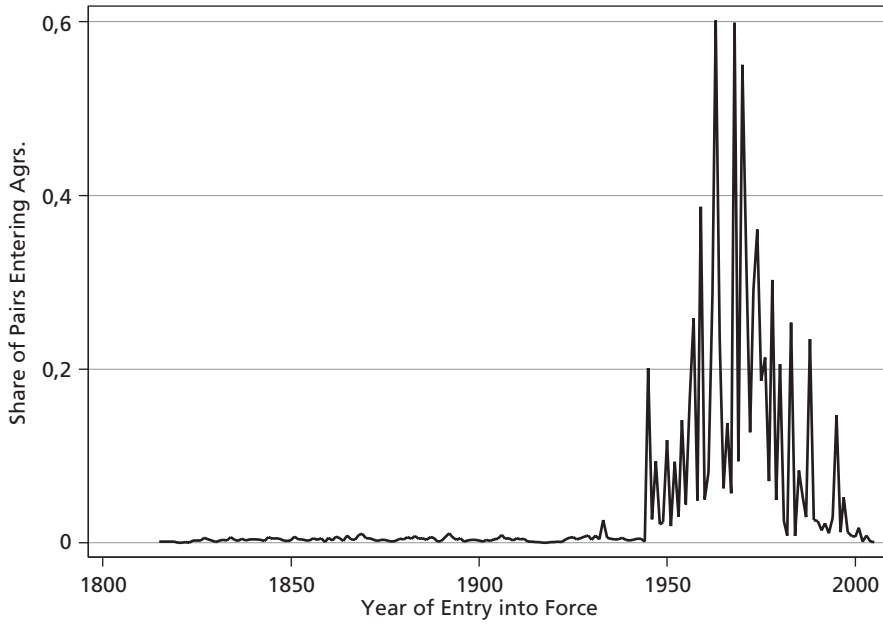
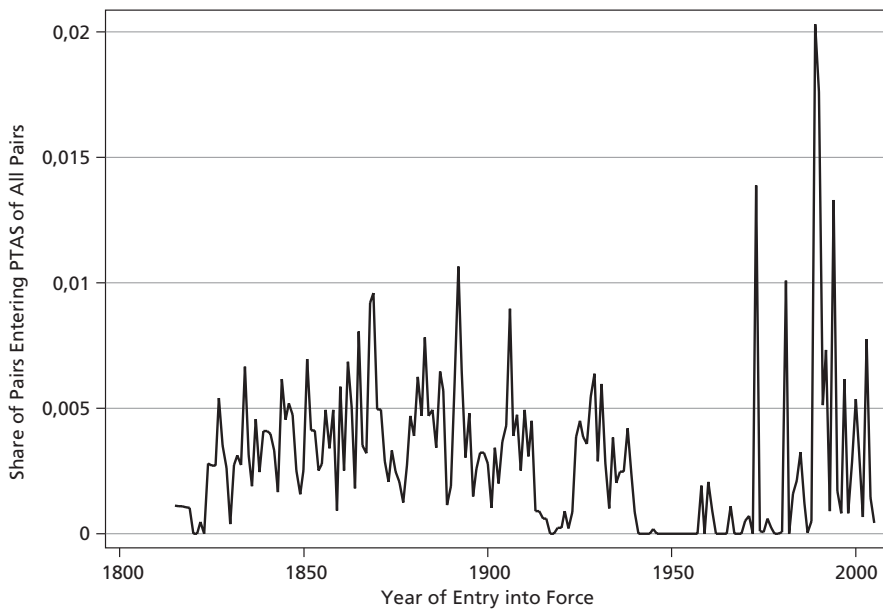


Figure 2b - Share of pairs entering PTAs of all pairs in the world by year, 1808-2005



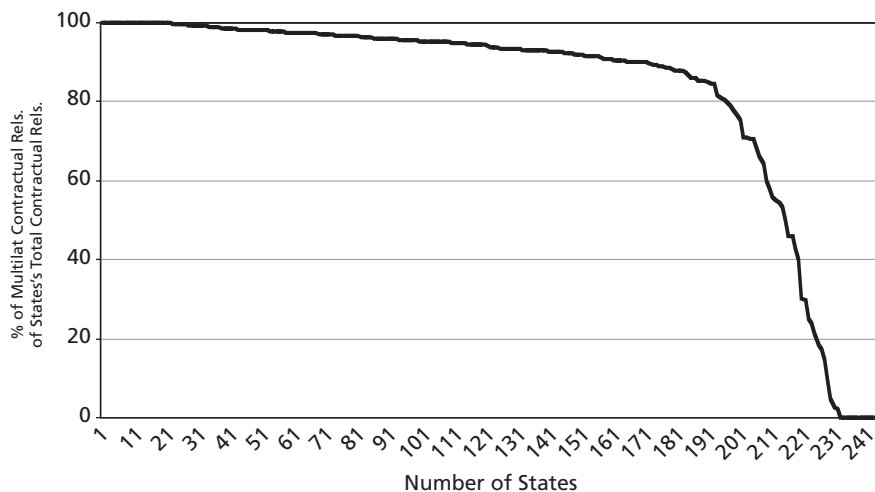
encompassing most countries of the world. Moreover, this patterns may indicate that great powers may prefer to conclude bilateral rather than multilateral agreements, as they might be better able to dominate the terms of such agreements than those of a large multilateral agreement.¹⁷

An important message implicit in the above figures is that the latest wave of PTAs is inherently embedded in a multilateral framework – the General Agreement on Tariffs and Trade (GATT) signed in 1947 and the World Trade Organization (WTO) launched in 1994. Bilateral agreements in other domains – such as on non-proliferation – are often similarly signed against the backdrop of multilateralism. Contestations continue as to the extent to which PTAs and multilateral trade agreements are endogenous to one another. A further empirically unexplored question is the extent to which the obligations of PTAs are complementary to those their members have assumed in the GATT/WTO agreements.

Actors and partnerships: who cooperates, when, and with whom?

This part focuses on the partnerships emerging from the data. FIGURE 4 takes the first look, exploring the formation of cooperation agreements by states in the main world regions. It shows a marked contrast between the long-standing formal cooperation by states in Europe and the Western Hemisphere, on the one hand, and the recent ascendance of global cooperation by Asian states, on the other.¹⁸ FIGURE 5 focuses on the intra-regional agree-

Figure 3 - Share of multilateral agreements of all agreements 1808-2005, by state



17. An hypothesis that refutes this notion is that since great powers operate simultaneously on several fronts around the world, they would prefer multilateral agreements as a tool for economizing the transaction costs of negotiating several bilateral agreements.

18. To be sure, the scale should not steal the attention in the regional figures, given that the actual number of agreements between country pairs by region is not weighted by the overall number of states within the region.

ments only, revealing that while Europe and the Americas also feature the longest-standing intra-regional cooperation, other regions and post-colonial Africa in particular, have recently seen an impressive wave of intra-regionalism.

A closer look at the data shows a correlation between regions' total number of cooperation agreements and the share of intra-regional agreements of the total. That states in regions with few agreements, such as Middle East and Oceania, tend to sign agreements primarily with extra-regional partners may simply indicate the real or perceived futility of investing resources in forging intra-regional agreements, should that come at the expense of extra-regional ties. This is certainly the case in the domain of trade, where the dynamism and size of the intra-regional market shape the incentives to form agreements with regional partners. However, it may also be the case that states in these regions will start focusing on the intra-regional market for agreements only after connecting with key extra-regional partners, such as with their former colonizer. Should intra-regional engagements grow over time rise to constitute a growing share of a state's agreements, regionalism could be hypothesized to be particularly amenable to path-dependence.

TABLE 3 turns to country-level data. It lists the top 30 cooperator states (states with the largest number of agreements in the set) and their top 10 partners. The traditional great powers – the United States and Western European countries – form a distinct global club of cooperators: not only are they the most prolific cooperators *per se*, but most of their agreements are with each other. The results also indicate that the gravity model variables

Figure 4 - All agreements by world regions, 1808-2005 (log of cumulative)

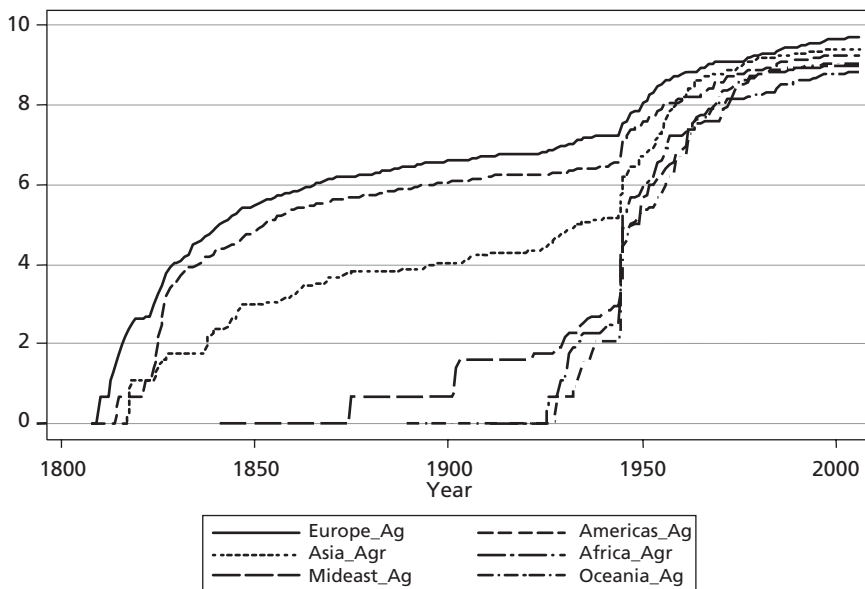
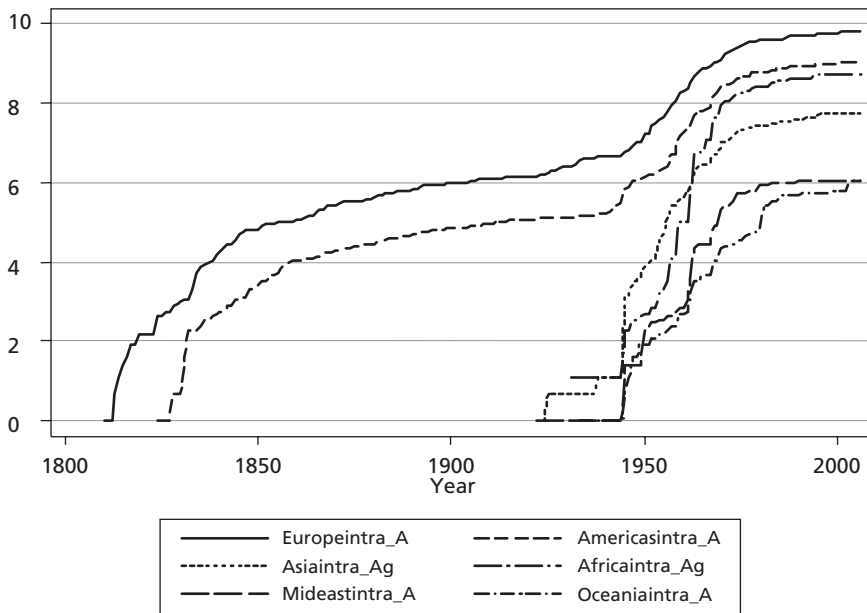


Figure 5 - Intra-regional agreements by world regions, 1808-2005 (log of cumulative)



– income, distance, common border, common language, and other shared cultural affinities – may play a central role in the choice of cooperation partners, much like they do in arbitrating the trade volumes. However, limiting the analyzed period to the past fifteen years suggests that gravity parameters may to a degree have been trumped by other variables, such as international and domestic institutional factors.

TABLE 4 shows that trans-Atlantic and trans-Pacific agreements have been gaining ground, along with the rise of agreements between Western and Eastern European states – a change precipitated in good part by the post-Cold War security panorama.¹⁹ In the realm of trade, such variables as technology – the lowering of global communications costs – and a potential saturation of the regional PTA market could also have contributed to the search for more distant and perhaps unexpected partnerships.

19. Note that the top 10 cooperators in the first column are states with the largest number of agreements during the *entire sample*; only the top 10 partners are affected by the change in the period under analysis.

State	Rank in Set (Total No. Agrs.)	Total No. Agr.	Top 10 Partners										
			Partners Rank No. Agrs % of States's Agrs.	Italy	UK	Denmark	France	Switzerl.	Belgium	Sweden	Netherland	Spain	
Austria	12	3455	Partners Rank No. Agrs % of States's Agrs.	Italy 2 89 2.58	UK 3 85 2.46	Denmark 4 81 2.34	France 5 80 2.32	Switzerl. 5 80 2.32	Belgium 7 76 2.26	Sweden 8 74 2.20	Netherland 9 70 2.14	Spain 10 70 2.03	
Canada	13	3434	Partners Rank No. Agrs % of States's Agrs.	US 1 133 3.87	UK 2 72 2.10	Denmark 3 61 1.78	Netherland 4 59 1.72	France 5 58 1.69	Australia 6 53 1.54	Sweden 7 51 1.51	Germany 8 48 1.49	Italy 9 51 1.49	Switzerl. 10 48 1.40
Spain	14	3361	Partners Rank No. Agrs % of States's Agrs.	France 1 110 3.27	UK 2 82 2.44	Italy 3 74 2.20	Portugal 4 74 2.20	Switzerl. 3 74 2.20	Denmark 6 73 2.17	Netherland 7 70 2.17	Austria 8 68 2.08	Sweden 9 70 2.08	Germany 10 68 2.02
Finland	15	3332	Partners Rank No. Agrs % of States's Agrs.	Sweden 1 88 2.64	Norway 2 82 2.46	Denmark 3 77 2.31	Germany 4 65 1.95	Switzerl. 4 65 1.95	USSR 4 65 1.95	UK 5 62 1.86	US 6 60 1.80	Belgium 7 57 1.71	Netherland 8 57 1.71
Luxembourg	16	3264	Partners Rank No. Agrs % of States's Agrs.	Belgium 1 135 4.14	Netherland 2 132 4.04	France 3 89 2.74	Germany 4 78 2.39	UK 5 74 2.27	Italy 6 71 2.21	Switzerl. 7 71 2.18	Sweden 8 70 2.14	Denmark 9 67 2.05	Austria 10 65 1.99
Australia	17	3102	Partners Rank No. Agrs % of States's Agrs.	UK 1 68 2.19	US 2 63 2.03	Canada 3 52 0.16	Netherland 4 52 1.68	Denmark 5 50 1.61	Germany 6 48 1.55	Sweden 7 45 1.55	France 8 44 1.45	Argentina 9 44 1.42	Belgium 10 44 1.42
Portugal	18	3015	Partners Rank No. Agrs % of States's Agrs.	UK 1 84 2.79	Spain 2 74 2.45	France 3 69 2.29	Denmark 4 68 2.26	US 5 67 2.22	Switzerl. 6 63 2.09	Sweden 7 61 2.06	Netherland 8 61 2.02	Germany 9 60 1.99	Norway 10 58 1.92
Hungary	19	3000	Partners Rank No. Agrs % of States's Agrs.	Czechoslovakia 1 66 2.20	Germany 2 64 2.13	Austria 3 63 2.10	UK 4 59 1.97	Sweden 5 58 1.93	USSR 6 54 1.80	Denmark 7 53 1.77	France 8 53 1.77	Yugoslavia 9 51 1.70	Spain 10 51 1.70
Ireland	20	2851	Partners Rank No. Agrs % of States's Agrs.	UK 1 72 2.53	Netherland 2 59 2.07	Germany 3 58 2.03	Sweden 4 56 1.96	Denmark 5 55 1.93	Belgium 6 54 1.89	France 7 54 1.86	Norway 8 51 1.75	Switzerl. 9 50 1.75	USSR 10 50 1.75
Czechoslovakia	21	2804	Partners Rank No. Agrs % of States's Agrs.	Hungary 1 66 2.35	Denmark 2 62 2.21	UK 3 61 2.18	Austria 4 57 2.03	Poland 5 57 2.03	Germany 6 56 2.00	Switzerl. 7 55 1.96	Yugoslavia 8 55 1.96	France 9 54 1.93	USSR 10 54 1.93
Yugoslavia	22	2777	Partners Rank No. Agrs % of States's Agrs.	US 1 75 2.70	Austria 2 66 2.38	UK 3 59 2.12	Czechoslovakia 4 55 1.98	Denmark 5 54 1.94	Hungary 6 53 1.91	Netherland 7 53 1.91	Italy 8 52 1.87	Switzerl. 9 52 1.87	Sweden 10 50 1.87

State	Rank in Set (Total No. Agrs.)	Total No. Agr.	Top 10 Partners										
			Partners Rank No. Agrs % of States's Agrs.	US	UK	Netherlands	Canada	Denmark	Australia	Belgium	Sweden	Austria	Italy
Japan	23	2723	82 47 3.01	2 52 1.91	3 47 1.73	4 46 1.69	5 45 1.65	6 41 1.51	7 41 1.51	8 40 1.47	9 39 1.43	10 39 1.43	
Mexico	24	2683	82 47 3.06	2 47 1.75	2 47 1.75	4 41 1.53	4 41 1.53	4 40 1.49	7 40 1.49	7 40 1.49	7 40 1.49	7 40 1.49	Sweden
Brazil	25	2609	72 60 2.76	2 60 2.30	3 55 2.11	4 47 1.80	4 47 1.80	6 43 1.65	7 40 1.53	7 40 1.53	7 39 1.49	10 39 1.49	Canada
USSR	26	2591	67 56 2.59	2 65 2.51	3 61 2.35	4 56 2.16	5 54 2.08	5 54 2.08	7 47 1.81	8 47 1.81	9 46 1.78	10 46 1.78	Poland
Poland	27	2517	58 56 2.23	1 58 2.30	3 57 2.26	4 53 2.11	4 53 2.11	4 53 2.11	7 48 1.91	8 47 1.87	9 46 1.83	10 44 1.75	Yugoslavia
New Zealand	28	2510	56 47 2.23	1 56 2.23	3 47 1.87	4 38 1.51	4 38 1.51	6 37 1.47	7 35 1.39	8 35 1.39	9 32 1.27	10 32 1.27	Bulgaria
Argentina	29	2403	60 54 2.50	2 54 2.25	3 49 2.04	4 41 1.71	5 37 1.54	5 37 1.54	6 36 1.46	7 35 1.46	8 34 1.41	10 34 1.41	France
Greece	30	2392	55 51 2.30	1 55 2.30	3 53 2.22	4 51 2.13	5 49 2.05	5 49 2.05	7 46 1.72	8 44 1.80	9 43 1.76	10 42 1.76	Spain
Egypt	42	1672	65 38 3.9	2 38 2.3	3 35 2.1	4 34 2.0	4 34 2.0	6 33 2.0	7 31 1.9	8 29 1.7	9 29 1.7	10 29 1.7	France
China	50	1865	67 33 3.6	1 33 1.8	3 32 1.7	4 30 1.6	5 27 1.4	5 27 1.4	5 27 1.4	8 25 1.3	9 24 1.3	10 24 1.3	Italy

Domains of cooperation: in which issue areas do states cooperate?

Do states differ from each other in their choice of domains of cooperation? Although the dataset presented here is hardly exhaustive in terms of the number of domains of cooperation, it can provide some answers. TABLE 5 maps out the shares of agreements in the various domains for the top 30 global cooperators. The data do reveal marked variation in the distribution of agreements across domains – but also that the distribution is similar across states.²⁰ Trade agreements dominate the data for all top global cooperators, followed by weapons, investment, and transportation agreements. FIGURE 6 explores the pattern further by grouping the 23 domains under seven broad categories and exploring their distribution in the agreements formed by the top-6 cooperators. It seconds the earlier findings.

That trade agreements make up a prominent share of the data is indicative of the fact that trade agreements hail back to the 19th century, whereas some domains examined here, such as non-proliferation, are inherently post-war domains. However and less trivially, the outcome potentially also reflects four relatively unique properties of the domain of trade.

First, obtaining pay-offs from expanded market access generally requires international cooperation. In contrast, governments arguably have great many purely unilateral tools at their disposal to respond to domestic demands in the domains of, say, monetary or health policy. Second, trade agreements can be made a club good through such instruments as MFN tariffs and restrictive rules of origin, which provides greater incentives for “providing” trade agreements than agreements with more purely public characteristics, such as air quality agreements, for instance. Third, trade is potentially more divisible than many other domains: trade agreements can be forged on a single product (e.g., steel or textiles) and/or issue (e.g., standards). Indeed, about a third of the trade agreements based on the UNTS data are sectoral agreements. The point is that as such, any pair can plausibly have multiple trade agreements. Fourth, modern PTAs in particular often follow a relatively standard model, so that the domestic and international transaction costs of negotiating each successive agreement be significantly lower relative to those of negotiating the first agreement.

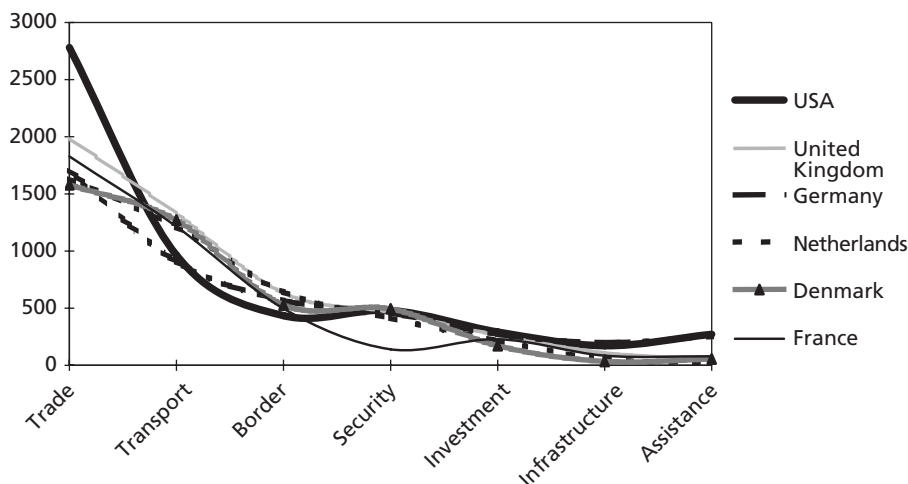
Overall, trade agreements – and bilateral trade agreements in particular – might be easier to reach than agreements in other domains. Should this be the case, trade agreements could be considered a particularly likely first node in interactions between two states previously uninitiated to bilateral cooperation. Whether they might also *cause* further cooperation is preliminarily explored in the next section.

20. The data also reiterate the leveling of the global cooperation playing field. For instance, Ireland, which is 20th on the list, has 2,851 agreements, which represents now fewer than 53 percent of the total number of agreements of the primary global cooperator, the United States.

Table 5 - Shares of different domains of all bilateral cooperation relations, by state

State	Total	No. Agrs.	Trade (general)	Transport Air	Weapons	Investment (general)	Frontiers	Immigration	Infra-structure	Economic Coop.	Non-Profit	Visas	Educational Coop.	PTA Modern	BIT	Energy	Technical Assistance	Customs	Transport Road	Arms	Financial Assistance	Industrial Coop.	Transport Merchandise	Passengers	Transport Rail
USA	5 394	50.1	17.1	6.5	4.5	3.0	2.4	2.3	2.2	2.0	1.8	1.5	1.4	0.9	0.9	0.9	0.8	0.8	0.8	0.4	0.3	0.1	0.0	0.0	0.0
United Kingdom	4 841	40.9	19.2	6.7	2.9	3.7	2.9	1.3	0.1	2.7	1.4	0.4	0.1	2.6	0.9	0.2	5.1	4.8	0.1	0.3	0.2	1.7	1.5	0.4	0.4
Germany	4 354	39.0	13.4	7.4	3.2	3.5	3.2	3.1	0.1	3.0	0.8	0.1	0.1	3.0	1.4	0.2	5.5	4.4	0.1	5.0	0.3	1.7	1.4	0.0	0.0
Netherlands	4 184	38.8	21.2	6.7	2.9	4.0	3.4	0.6	0.0	3.1	2.6	0.1	0.1	2.2	0.6	0.0	5.4	3.5	0.0	0.1	0.3	1.6	1.7	0.8	0.8
Denmark	4 132	38.0	22.1	8.8	3.0	3.9	3.1	0.8	0.0	3.2	0.5	0.1	0.2	1.2	0.0	0.1	5.2	4.7	0.0	0.3	0.8	1.5	1.8	0.6	0.6
France	4 068	44.7	19.8	2.7	3.1	3.4	1.2	1.7	0.1	0.6	1.4	0.8	0.2	2.5	0.4	0.5	6.1	5.2	0.1	0.0	0.6	2.0	1.8	1.0	1.0
Sweden	4 045	39.2	23.4	7.6	2.9	1.8	3.4	0.8	0.0	3.2	0.6	0.0	0.2	1.4	0.2	0.1	5.8	5.3	0.0	0.0	0.5	1.3	1.4	1.0	1.0
Switzerland	3 835	35.0	24.8	6.9	1.8	4.2	3.1	0.3	0.0	3.4	0.5	0.0	0.2	2.8	0.3	0.0	5.6	6.3	0.1	0.2	0.0	1.6	1.8	1.0	1.0
Belgium	3 704	39.1	21.8	8.6	1.4	2.1	3.5	0.6	0.0	2.9	3.4	0.1	0.1	0.0	0.1	0.0	6.1	5.2	0.1	0.0	0.1	2.0	2.0	0.9	0.9
Italy	3 574	46.3	14.7	8.9	3.4	2.0	3.9	0.6	0.1	3.0	0.6	0.2	0.1	2.3	0.3	0.0	5.9	4.6	0.1	0.0	0.1	1.1	0.7	1.0	1.0
Norway	3 487	37.0	25.6	9.2	1.3	2.0	3.8	0.7	0.0	3.8	0.9	0.0	0.2	0.5	0.3	0.0	5.1	4.8	0.0	0.0	0.2	1.5	2.2	1.0	1.0
Austria	3 455	42.0	17.5	8.8	1.4	3.4	3.6	0.4	0.0	3.1	1.7	0.2	0.2	1.6	0.1	0.0	6.5	6.6	0.1	0.0	0.1	1.0	0.8	0.8	0.8
Canada	3 434	41.6	25.5	10.5	3.0	4.0	3.2	0.7	0.0	3.9	0.9	0.0	0.7	0.7	1.0	0.0	3.8	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Spain	3 361	43.5	22.9	4.8	2.2	1.8	4.2	1.3	0.1	0.7	2.1	0.5	0.0	1.5	0.0	0.2	5.8	3.5	0.0	0.0	0.4	1.5	2.2	0.6	0.6
Finland	3 332	35.5	22.1	10.4	2.4	4.9	4.1	0.7	0.0	3.9	1.6	0.1	0.0	1.7	0.1	0.0	4.6	4.4	0.0	0.0	0.9	1.0	1.5	0.2	0.2
Luxembourg	3 264	38.6	21.6	8.5	1.5	2.0	3.7	0.2	0.0	3.3	2.4	0.2	0.2	0.2	0.0	0.0	6.0	6.9	0.0	0.0	0.0	1.8	2.2	1.0	1.0
Australia	3 102	43.4	25.7	10.1	0.0	3.4	3.9	0.4	0.0	3.5	0.8	0.0	0.6	0.7	0.6	0.0	4.8	3.0	0.0	0.0	0.0	0.8	0.8	0.0	0.0
Portugal	3 015	45.3	19.9	5.8	2.4	4.7	4.4	0.5	0.1	0.0	0.6	0.0	0.2	1.3	0.0	0.0	6.6	3.0	0.0	0.1	0.0	1.9	2.4	0.9	0.9
Hungary	3 000	34.6	20.7	11.5	2.6	3.5	4.4	0.1	0.3	4.4	0.8	0.2	0.5	1.8	0.3	0.0	4.2	5.2	0.0	0.0	0.4	2.0	1.7	0.7	0.7
Ireland	2 851	32.8	26.0	12.1	4.1	4.9	4.1	0.5	0.0	4.6	0.9	0.0	0.0	0.0	0.0	0.0	6.8	0.7	0.0	0.0	0.1	1.2	0.9	0.0	0.0
Czechoslovakia	2 804	30.1	27.9	10.3	0.5	5.0	2.3	0.2	0.2	3.5	0.9	0.2	0.0	0.7	0.3	0.0	5.3	7.0	0.0	0.0	0.2	2.1	2.5	0.7	0.7
Yugoslavia	2 777	30.8	23.8	9.5	0.4	3.7	4.2	0.4	0.4	3.9	1.0	0.2	0.1	0.0	0.0	0.1	5.5	8.7	0.0	0.0	0.2	1.8	2.6	0.7	0.7
Japan	2 723	50.9	20.4	12.7	4.4	0.1	0.1	0.1	0.2	3.9	1.0	0.0	0.1	0.5	0.7	0.0	4.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mexico	2 683	45.9	24.4	10.6	0.7	0.6	0.0	0.1	0.0	4.0	1.3	0.3	3.5	0.6	0.1	0.2	3.6	3.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Brazil	2 609	51.1	24.8	6.4	0.7	1.3	0.6	1.0	0.0	0.0	1.7	0.4	3.6	0.5	0.4	0.2	2.9	3.3	0.0	0.0	0.6	0.1	0.0	0.0	0.0
USSR	2 591	38.2	19.3	12.0	0.2	6.8	4.6	0.7	0.3	4.1	0.7	0.8	0.0	0.0	0.3	0.0	3.9	6.6	0.2	0.0	0.6	0.4	0.1	0.0	0.0
Poland	2 517	28.8	23.9	12.2	0.5	4.6	4.6	0.4	0.3	5.2	0.6	0.1	0.5	2.5	0.2	0.0	3.0	6.0	0.0	0.0	0.6	2.3	2.8	0.8	0.8
New Zealand	2 510	37.1	28.2	12.5	0.0	4.0	4.7	0.1	0.0	4.3	1.3	0.0	0.7	0.2	0.4	0.0	4.4	2.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Argentina	2 403	47.4	23.7	9.1	1.0	5.2	0.1	0.5	0.0	1.0	0.7	0.0	3.2	2.3	0.2	0.1	4.0	0.8	0.0	0.1	0.1	0.0	0.0	0.0	0.0

Figure 6 - Shares of the main domains of all agreements in 1808-2005, by selected states



Sequencing of cooperation

Empirical explorations to the choice of the domain of cooperation agreements and the sequencing of the various domains remain nascent. This part strives to start mending this gap by putting forth some preliminary notions on the potential sequential relationships between PTAs and other domains of inter-state cooperation.

"Sequencing" requires a clear definition. While inherently carrying a temporal connotation, sequencing can take various formats. TABLE 6 presents four main types – "deepening" sequencing (a series of agreements formed in one domain between states A and B), "spillover" sequencing (a series of agreements formed in different domains between A and B); "demonstration" or "domino" sequencing (adoption of agreement between C and D in the domain where A and B have an agreement); and "expansion" sequencing (agreement between A and C in the domain where A and B have an agreement). Here, we understand sequencing primarily as the spillover sequencing, and are particularly interested in the sequence between a pair's PTAs and its agreements in other domains of cooperation.

None of the sequencing types necessarily implies causality. However, academic literature has produced a number of theoretical reasons why cooperation in time t may propel cooperation in $t+1$. Furthermore, there are at least three reasons to expect that trade integration could be a particularly likely harbinger of future cooperation in other domains.

First, the third wave PTAs are often more multifaceted than many other types of international agreements, extending to such areas as competition policy and intellectual property rights. As such, they could be hypothesized to open ample opportunities for states to engage in

Table 6 - Types of sequencing of cooperation agreements

Round 1		Round 2		Type of Sequencing
Partner States	Domain in t	Partner States	Domain in t+1	
A,B	1	A,B	1	Deepening
A,B	1	A,B	2	Spillover
A,B	1	C,D	1	Demonstration
A,B	1	A,C	1	Expansion

issue-linkages and log-rolling, which, in turn, could facilitate the attainment of further cooperation agreements.²¹

Second, PTAs can produce negative externalities, such as border congestion and air pollution, which, in turn, could give rise to demands for cooperation in other domains, such as for regional transportation networks or environmental protection (Devlin and Esteveordal, 2004).²²

Third, the positive externalities of PTAs, such as lowered barriers to trade and expanded markets, can augment the policy salience of and pay-offs from regional rules and regulations, and awakening latent interests in the member states to demand further cooperative agreements.²³ Moreover, if and when PTAs spur institutional efficiency in the member states, they can render the members increasingly attractive as future cooperation partners.

FIGURE 7 provides a starting point to using the data for examining the sequencing of PTAs and other cooperation agreements, whether by deepening, spillover, demonstration, or expansion.²⁴ It shows that the dataset as of now contains an important number of PTAs that were concluded well prior to the impressive surge of the post-war era proliferation of cooperation agreements. Should the finding hold across further domains of cooperation, one potential hypothesis would

21. Multi-faceted agreements can also reduce the need for compensatory schemes (Schiff and Winters 2002) – that might undercut the incentives of the net contributors to cooperate.

22. Similarly, the synchronization of business cycles that tends to accompany trade integration will also synchronize economic downturns and can increase the propensity for the transmission of financial instabilities, and, as such, generate demands for economic surveillance and macroeconomic coordination. More generally put, in the presence of economies of scale or inter-state externalities, market solutions to problems may be sub-optimal while regional cooperation can have marked payoffs (Schiff and Winters, 2002). PTAs, in short, can spur demand for a host of regional public goods (RPGs), which, given their public goods characteristics, require formal frameworks for regional cooperation – such as regional cooperation agreements (Esteveordal *et al.*, 2004). If this were the case, the causal relationship between PTAs and further cooperation agreements should be particularly strong when PTAs are “productive” – when they live up to their promise of expanded trade flows and generate traffic, expanded market size, and business cycle synchronization.

23. For example, increased trade flows can generate demands for agreements aimed at cutting any remaining policy or other barriers hampering trade and raising trade costs, such as poor regulatory frameworks, cumbersome standards, and inefficient customs procedures. Furthermore, a PTA can induce the parties to have sunk assets – fixed costs or irreversible investments that are independent of output and that a firm must bear to operate and that cannot be recouped even if the decision to produce is later reversed – in a bilateral relationship. As such, it can spur demands for hedging against defection by the partner through further and more precise agreements between the member states.

24. This figure does not take into consideration the expiration of some of the PTAs signed in the pre-WWI era.

be that to the extent that PTAs have provided incentives for states to forge further cooperation agreements, the proliferation of PTAs over the past two decades could in the future years be matched by an unprecedentedly sweeping wave of cooperation agreements.

FIGURE 8 takes a preliminary cut at the spillover sequencing between PTAs and other cooperation agreements. It uses the year of entry into force of a pair's first PTA and first cooperation agreement as the "PTA benchmark year" and "cooperation benchmark year", respectively, and calculates the "distance" between these benchmark years and the years in which the pair's other PTAs and other cooperation agreements are forged. The first box shows the distance of pairs' PTAs from the benchmark PTA, that is, the year in which pairs' first PTA entered into effect (for the 4,479 pairs that have at least two common PTAs). The second box examines the distance of pairs' cooperation agreements from their cooperation agreement bench year (for the 124,179 pairs that have at least two common cooperation agreements), while the third box focuses on the distance between cooperation agreements from the PTA bench year (for the 35,026 pairs with at least one common PTA and one common cooperation agreement), and the fourth box on the distance of PTAs from the cooperation agreement bench year.

The first two boxes show that on average, the time lag between a pair's first PTA and its subsequent PTA(s), and also between its first cooperation agreement and its subsequent

Figure 7 - Sequence of PTAs and other cooperation agreements around the world, 1808-2005 (log of cumulative)

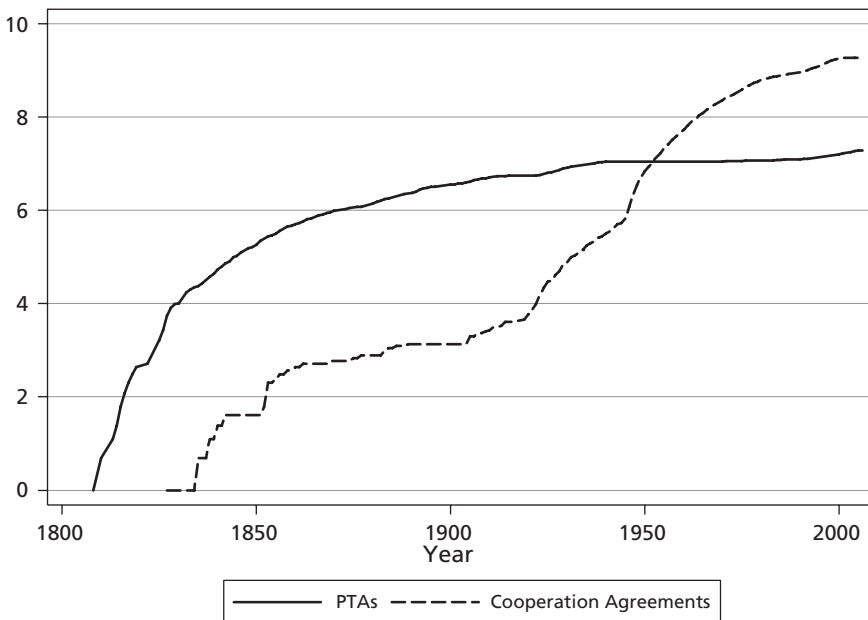
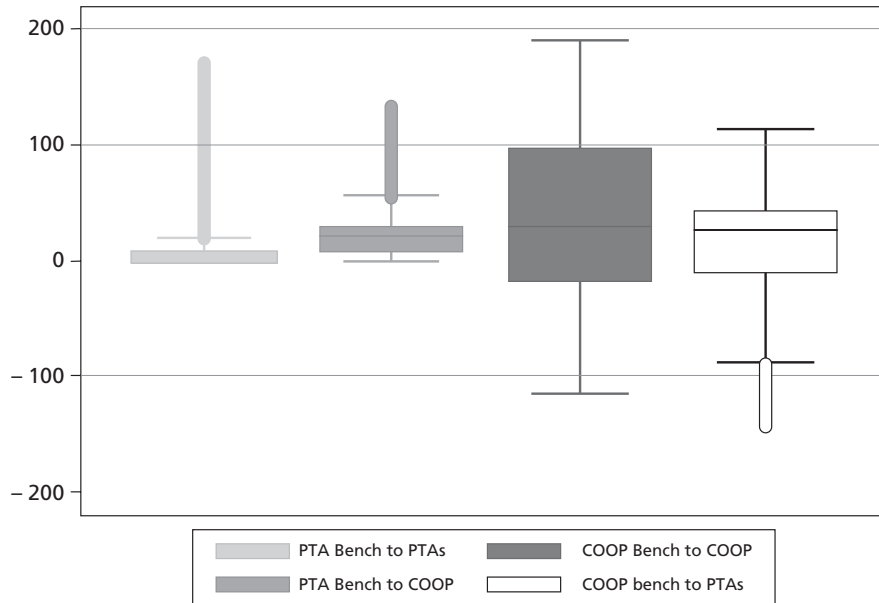


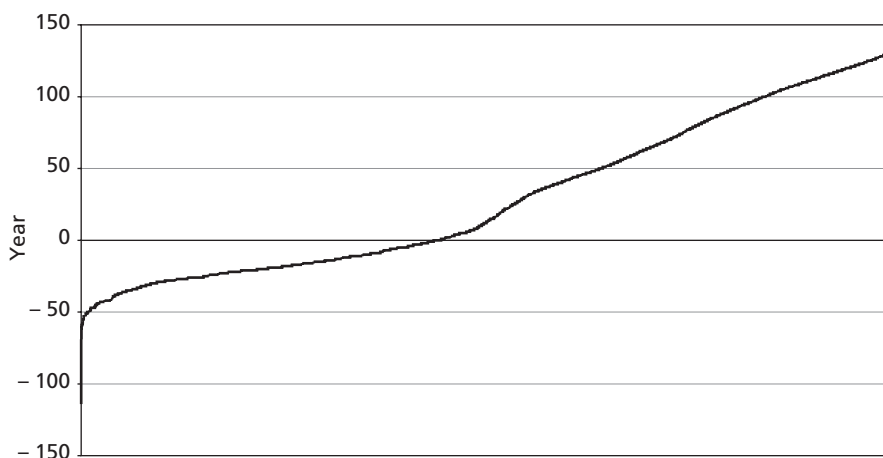
Figure 8 - Distance of PTAs and cooperation agreements from each other in 1808-2005, by pair



cooperation agreements is relatively short – a decade or less – once cooperation kicks off. The third box is of particular interest here. It shows that the bulk of a pair's cooperation agreements follow PTAs (by about 20 years), rather than preceding them. Moreover, that the whiskers extend far up indicates that once a pair enters into a PTA, it can be entering cooperation agreements for the next several decades. A potential sequence of cooperation for a pair might thus be PTA-COOP-COOP-COOP, for example. The fourth box is also of interest. It indicates that a pair's first cooperation agreement tends to be followed rather than preceded by PTA(s). As such, the sequence of cooperation could be COOP-PTA-PTA-COOP – or, potentially, PTA-COOP-COOP-PTA-COOP, for instance.

FIGURE 9 provides an alternative visualization of the third box, with the zero on the y-axis as the PTA bench, and the blue line marking the distance in years of the various pairs' cooperation agreements from their PTA bench. Cooperation agreements most immediately above the PTA bench could be more reasonably attributed to the effects of the PTA and PTA negotiations. The farther up from the bench year one moves, the larger the number of intervening variables – including other PTAs and cooperation agreements forged between the pair – likely grows. Conversely, cooperation agreements formed immediately prior to the pair's PTA (data points immediately below the PTA bench) may have influenced the formation of the PTA.

Figure 9 - Age of cooperation agreements from the First PTA in 1808-2005, by bilateral relationship



■ CONCLUSION

This paper has described a new dataset on PTAs and other international cooperation agreements, and put forth some testable hypotheses about the dynamic relationships between these two broad types of international agreements.

The patterns emerging from the data yield three main messages. First, global cooperation has leveled: today, all states belong to a cooperation agreement of some kind, and the distribution of the number of agreements per state is more balanced than in earlier eras. Multilateralism has enabled even poor and distant states to join global cooperation – and to cooperate with each other. The “clubbiness” of global cooperation – that the top cooperators tend to be each other’s main partners – may be yielding to more heterogeneous partnerships potentially based on new institutional determinants and/or on post-Cold War international realignments.

Second, the extent to which states cooperate *per se* and the number of agreements they forge within their regions fluctuate together: the most avid cooperators at the global stage forge a larger share of their agreements with their regional partners than states with few agreements do.

Third, on average, states cooperate disproportionately more in the domain of trade than in other domains. This may suggest that trade has properties that render it particularly amenable to formal as well as bilateral cooperation.

We have elaborated on some reasons why PTAs and other trade agreements could spur further cooperation between states; if they do so, today’s forceful PTA wave could be followed

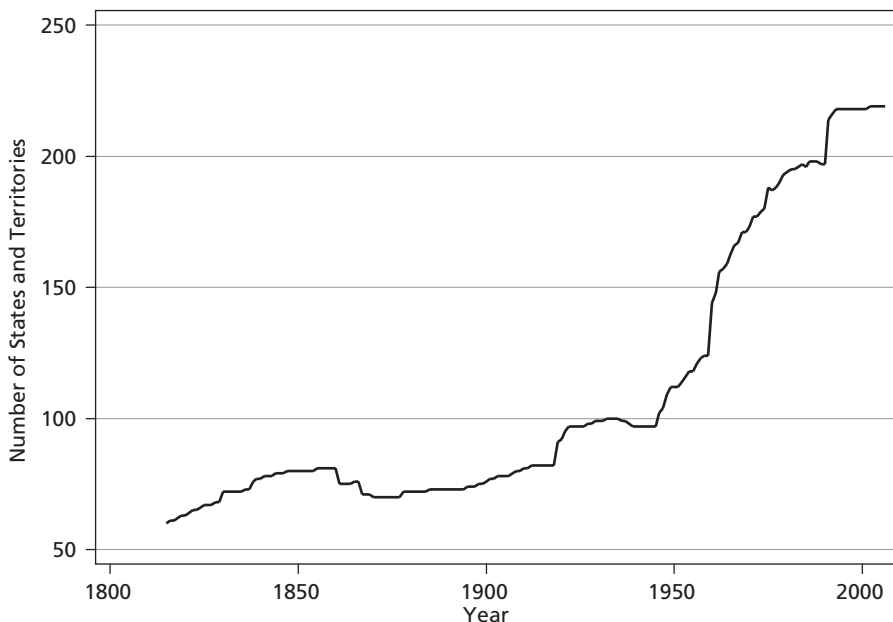
by an impressive tide of other cooperation agreements around the world. Next iterations of this paper will strive to expand the dataset, identify typologies of the potential patterns of cooperation, as well as to perform an econometric analysis to establish whether PTAs do serve as catalysts of international agreements in other domains. Discussion will also be extended to relate the domains of agreements with the various qualitative aspects or dimensions of agreements.

Analysis of international cooperation is ultimately made meaningful only through an assessment of the *outcomes* of cooperation. Particularly central is to establish the conditions under which the proliferating formal cooperation is “productive”, or yields national, regional and global public goods that states would not be able to attain through unilateral action. The design, implementation, and sequencing of agreements all play a role in the process. It is the task of this project to generate policy recommendations on how states can leverage these aspects to make the most of their international agendas.

A. E. & K. S.²⁵

APPENDIX 1

Figure A1.1 - States and territories by year, 1808-2005



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