Sequencing Regional Trade Integration and Cooperation Agreements

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Introduction

Recent years have seen an impressive proliferation of trade integration schemes and other international cooperation agreements around the world.¹ Rather than being spurred by exogenous forces alone, the two phenomena are likely to an extent both path-dependent and endogenous to one another. Yet, particularly empirical studies have yet to fully explore the static and dynamic relationships between international agreements forged in different issue areas.

Theoretical economics literature has long viewed trade integration as evolving in sequential steps. The most common conceptualization, heavily influenced by the example of the European Union (EU), is for trade integration to move from shallow to deep forms—from a free trade agreement to a customs union and further to a common market. Besides the sequence of the various modes of trade integration, some studies have explored the expansion of the breadth—the issue coverage and/or membership—of integration schemes. However, they have generally failed to move outside the realm of trade and economic integration to explore other types of cooperation agreements.

Political scientists have focused on a wider range of issue areas of international cooperation, such as trade, security, and the environment. Neo-liberal, functionalist, and constructivist strands of international relations theory allow to expect that inter-state cooperation can generate Pareto-improving outcomes that enable states to perpetuate their cooperation—and that can also encourage them to enter into cooperation agreements in other realms. However, the theoretical understanding of the types of cooperation agreements that might both precede and propel further agreements is still relatively nascent. The few existing empirical studies tend to rely on qualitative case studies on a region and/or a handful of issue areas, rather than employing quantitative data encompassing various regions and domains of cooperation.

The purpose of this paper is to start enhancing the understanding of the sequencing of international cooperation agreements in two ways. First, we describe a new extensive dataset of trade integration agreements—here, preferential trading arrangements (PTAs)—and other international cooperation agreements reached over the past nearly 200 years around the world. Second, this paper puts forth a potential research agenda based

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¹ “Cooperation” refers here to mutual adjustment of policies by two or more states. Trade integration refers here to cooperation in the domain of trade.

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on a stylized set of testable hypotheses about international trade integration and cooperation agreements.\(^2\)

The first section of this paper reviews the literature on the types and sequencing of international cooperation agreements, and discusses the motivation for this paper in light of the existing studies. The second section turns to the sources for our dataset. The third section maps out the dataset, and employs it to explore some preliminary hypotheses about the sequencing of trade and other types of cooperation agreements. Section four concludes.

I. A Survey of Literature on Trade and Cooperation Agreements: A Research Agenda

Economics literature has long followed Balassa’s (1961) linear notion of the progression of regional trade integration—from a simple free trade agreement (FTA) to a customs union (CU) and further to a common market, and potentially also a monetary union. This traditional way of conceptualizing the sequencing of trade integration has stemmed primarily from the EU’s integration experience. The earlier academic contestations on the various PTA modes centered on examining the welfare effects of FTAs and CUs.\(^3\) The static analyses were subsequently complemented by the dynamic path literature, whose main gist is to establish whether PTA formation is conducive to multilateral free trade. For instance, 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.\(^4\) 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.

However, while often taking Balassa’s notion at face value, the theoretical and empirical literatures are thinner 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) that focus on the progression from trade integration to monetary cooperation, are among the exceptions.\(^5\) Pastor (2001), on the basis of an analytical synthesis of the EU’s

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\(^2\) 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.”

\(^3\) For early works on the welfare effects of PTAs and customs unions, in particular, 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).


\(^5\) Frieden (1996) argues that high degrees of economic integration can lead to monetary integration because it increases the size and strength of domestic groups that have strong preferences for predictable exchange
integration experience, develops an agenda for furthering North American integration. Perroni and Whalley (1994) and Whalley (1996) examine what might be viewed as another type of sequence—the feasibility for small states to form PTAs with large partners before other states do so.

Political science has brought international politics and interactions to the analysis of trade integration in particular, and cooperation in general. Scholars in different theoretical strands have produced an extensive body of literature on the conditions under which trade integration and other types of cooperation agreements can be expected to occur and evolve. Ernst Haas’s 1958 functionalist study of the then-European Economic Community argued that integration persuades states to “shift their loyalties, expectations and political activities to a new center whose institutions possess or demand jurisdiction over the pre-existing national states.” As such, integration would acquire its own logic and engender “spillovers”—further cooperation and integration in other issue areas. However, Haas soon moderated his claims in the face of the problems plaguing European integration. And in the late-1970s, neo-realisits provided rigorous theoretical foundations for why international cooperation is unlikely to begin with: states are reticent to enter and quick to exit cooperative relationships because interdependence makes them more vulnerable.6

In the 1980s, neo-liberals countered neo-realisits’ pessimism by establishing that repeated interactions between states can help overcome market failures and Prisoner’s Dilemmas inherent to international relations.7 International institutions are in this line of work viewed as the key handmaidens of cooperation and sequential cooperative moves. Once established, for instance with the aid of a global hegemon,8 institutions help states overcome collective action problems, transaction costs, and informational asymmetries, and provide them incentives to avoid short-term temptations to renege on their commitments. The interdependence induced by cooperation increases the costs incurred by a state that breaks off relations (Mansfield 1994).9 Analysts invoking domestic variables argue, for example, that delegating sovereignty to an international institution

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6 In this view, international agreements and institutions are epiphenomena without any meaningful influence on state preferences and behavior; rather, the structure of the international system shapes behaviors and outcomes. See Waltz (1979).
7 See, for example, Axelrod (1984), Keohane (1984), and Oye (1986).
8 A much-studied argument is that the establishment of an international institution is facilitated by the presence of a hegemon that is willing and able to pay a disproportionate share of the costs of establishing and operating the institution (i.e., providing the global public good). See, for example, Kindleberger (1973), Krasner (1976), and Lake (1988).
9 In contrast, for Waltz (1979), interdependence implies mutual vulnerability and hence only increase the likelihood of conflict. Stein (1990) argues that increased information can lead to both conflict and cooperation.
can create focal points around which domestic groups can mobilize to oppose their
government’s defection from its international commitments (Keohane et al. 2000).

Overall, the neo-liberal logic holds that small investments and experiments in
institutionalized international cooperation can evolve into ever-larger institutions capable
of influencing state behavior and political outcomes: states’ preferences over cooperation
become partially endogenous to prior cooperation. Constructivism, which departs from
the rational choice-based theories altogether, goes even further. It views collective pay-offs stemming from inter-state interactions as helping to merge states’ preferences and identities with those of the collective—which, in turn, should render sequential
coopration among states near-automatic.\(^{10}\)

The more recent strands of scholarship, often based on rigorous game theory, have
employed a range of strategic factors—beliefs, information, reputation, signaling, and
credibility of commitment—to explain the prospects and progression of inter-state
coopration.\(^{11}\) However, alongside the contestations over whether and when states
cooperate has grown an important body of literature on how states cooperate—what
designs or “dimensions” their agreements and institutions acquire. In a ground-breaking
study, Lake (1999) problematizes the degree of hierarchy in international security
relationships. In another important contribution, Goldstein et al. (2000) and Kahler
(2000) strive to explain the extent of “legalization” of international agreements and
institutions. They operationalize legalization as obligation, precision, and delegation, and
also explore the interaction of these dependent variables.\(^{12}\) This vein also suggests that
there may be systematic variation in the degree of legalization and the issue area, or
domain, of cooperation.\(^{13}\) Subsequent studies by the so-called rational-design scholars
mix the ideas of the strategic choice-literature and the collective action problems stressed
by neo-liberals to explain the determinants and interplay of a broader range of
dimensions of international institutions, such as scope, flexibility, membership, and
hierarchy.\(^{14}\)

Table 1 provides a stylized “meta-analysis” summary of the literature on the types and
sequences of international cooperation. For simplicity, we denote cooperation as \(C\),
domain (or issue area, such as trade, the environment, or human rights) of cooperation as
\(C_i\), dimension (or design or attribute) of cooperation as \(C_j\), and cooperation over time as
\(C_t\). The common simple prediction arising from this vast range of literature is that inter-

\(^{10}\) See, for example, Wendt (1992). The constructivists view institutions not only as embodying rules for
coordinated behavior, but also as carrying principles and norms of “acceptable” behavior. Institutions can
affect state behavior in various ways, either through shaping actor preferences, discouraging
“unacceptable” behavior, coordinating behavior through focal points, or re-defining state’s conceptions of
their interest.

\(^{11}\) See, for example, Morrow (1992) and Fearon (1997).

\(^{12}\) For example, precision—the degree to which “rules unambiguously define the conduct they require,
authorize, or proscribe”—may imply authoritative interpretation that requires delegation, or, conversely,
permit governments to avoid delegation by negotiating more complete contracts.

\(^{13}\) See, for example, Abbott and Snidal (2000) and Simmons (2000).

\(^{14}\) 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
state cooperation, once launched, can both enhance the odds of and condition further cooperation. In particular, scholars have established (even if they do not agree) (1) why states cooperate (with \( C \) as the dependent variable); (2) why cooperation can lead to further cooperation (\( C_t \)); and (3) that the various dimensions of cooperation can interact (\( C_j \)). There are also hypotheses that the dimensions and domains of cooperation might be systematically related (\( C_{ij} \)), and that cooperation in one economic domain may lead to cooperation in other economic domains (\( C_{it+1} \)).

However, empirical assessments of the large pool of hypotheses are still relatively limited and consist largely of qualitative case studies.\(^{15}\) Moreover, although there is a vast body of literature examining why cooperation occurs in a given domain,\(^{16}\) studies do not usually problematize the choice of the domain—make the domain a continuum. Relatively little empirical attention has also been paid on the sequencing of the various domains in inter-state relationships. Studies on the connections between trade and monetary cooperation, along with Hirst (1998), who argues that regional security cooperation in the Southern Cone is a spillover of the region’s economic integration, are among exceptions.

[Table 1 here]

Overall, the theoretical and, in particular, generalizable empirical understanding of the choice of the domain cooperation (\( C_i \)), and the static and dynamic relationships between the various domains (\( C_{it}, C_{it+1} \)) rests on rather weak grounds. Whether one domain of cooperation is conducive to another remains largely limited to PTAs—how an FTA can lead to a CU or a common market, and how one PTA can prompt the formation of another PTA elsewhere. There are few analyses focused on the potential complementarity (or substitutability) of and sequences between agreements formed in different domains, such as between the domain of trade and non-economic domains. Indeed, although scholars have examined the effects of cooperation agreements on economic and political outcomes in 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),\(^{17}\) less empirical attention has been paid to the endogeneity of agreements to each other. The potential relationships between the dimensions and domains of agreements have also yet to be submitted to systematic empirical scrutiny.\(^{18}\)

\(^{15}\) Koremenos (2003), using a large-N study to the flexibility of agreements, is a promising exception.

\(^{16}\) 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).

\(^{17}\) 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. Haftel (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.

\(^{18}\) 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.
To our knowledge, there are as yet no genuinely global mappings of the various domains and dimensions of international cooperation agreements, let alone of their sequencing. The potential causal relationships between the different domains also await econometric analysis. Yet, in light of the proliferation of PTAs and many other types of international cooperation agreements around the world over the past few decades, an examination of the types and sequencing of agreements is timely and relevant both for theoretical and policy reasons.

From the theoretical standpoint, a better understanding of how agreements are related and sequenced is crucial to capturing their political and economic outcomes. 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 author’s theoretical bias.

From the policy perspective, understanding the relationships between different types of agreements can help governments sequence their international cooperation in ways that spawns further cooperation and provides higher pay-offs from cooperation. The following section describes a dataset that can be built upon to start gaining such better understanding of the optimal sequencing of different types of cooperation agreements.

II. Dataset on Trade and Cooperation Agreements

The dataset developed here encompasses 12,247 international agreements over the period 1808-2005. 94 percent of the agreements are bilateral (have two parties), while six percent are multilateral (have three or more parties). The sample contains a total of 241 states and overseas territories. 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 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 dyadic dataset that carries all possible bilateral relationships carried by bilateral and multilateral agreements (here, “bilateral contractual relationships”) has a total of 128,731 observations. The total number of pairs with at least one cooperation agreement in the set is 15,810.

The dataset consists of a total of 23 domains of cooperation. 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). The 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.

Figures 1a-1c map out the three sets of data for 1800-2005. Figure 1a focuses on the formation of PTAs, while figure 1b centers on the much more recent but potent phenomenon, the bilateral investment treaties. Figure 1c aggregates all other cooperation agreements (including other trade and investment agreements obtained from the UNTS).

Each agreement is coded by its domain and also by its various dimensions: 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]). The descriptive statistics by domain are included in table 2. Table 3 summarizes the categorization of the various legal definitions by obligation.

III. Two Hundred Years of Trade and Cooperation Agreements: Some Stylized Facts

This section draws on the dataset to present some tables and figures on global cooperation, the domains in which states cooperate, the partners that they cooperate with, and on the dimensions of cooperation agreements. We also look at some dynamics of inter-state cooperation in different domains.

1. Global Cooperation

Figure 2 explores the global dispersion of bilateral contractual relationships by states and territories in different periods of time. The black and the yellow lines mark the share of agreements by state of all agreements in 1808-2005 and in 1946-2005, respectively, while the blue and the red lines show the dispersion of cooperation agreements by state in the pre-war era and the inter-war era, respectively. The states with the highest number of

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19 As of now, the set does not have data on the scope of the modern PTAs.
20 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.
agreements in the dataset are the United States (5,394), United Kingdom (4,841) Germany (4,354), the Netherlands (4,184), Denmark (4,132), and France (4,068).

[Figure 2 here]

The main message is that the post-war era has been marked by a globalization or “democratization” of global cooperation: virtually all states are today member to several agreements, and the shares of the various states of the total number of cooperation agreements are more even than they were in the pre-World War II era. For instance, the state with the highest number of agreements in the set, the United States, is party to only 2.2 percent of all bilateral contractual relationships formed in 1945-2005, while in the 1808-1914 period France was party to 8 percent and Italy to 6.9 percent of all bilateral contractual relationships.

Figures 3a-3c look at the globalization of cooperation further. They examine the share of dyads with at least one common agreement in a dataset of all possible dyads that existed in the world in a given year. Given that the number of states varies over time, the total number of dyads in the set is 3,540 in 1815, and 47,306 in 2005. The figures reveal that cooperation agreements have come to cover an impressive number of pairs in the post-war era: in some years, the share of dyads that enter an agreement of all possible dyads is nearly 60 percent. In contrast, as the data stands for now, only about 2-3 percent of dyads entered cooperation agreements with each other in the 19th century.

[Figures 3a-3c here]

The leveling of the global cooperation playing field is indicative of the rise of multi-member multilateral agreements in the post-war era. Indeed, as shown in figure 4, the contractual relationships of particularly smaller states and territories are heavily dominated by multilateral agreements. Meanwhile, the more powerful states—such as France, Germany, and United Kingdom—have fewer than 80 percent of their respective contractual relationships in multilateral agreements; the figure descends to 55 percent in the case of the foremost global cooperator, the United States. To be sure, the data is indicative of the fact that these powers were important at the global stage already in the 19th century during the hey-day of bilateralism and before the on-set of the wave of multilateralism. Nonetheless, that the contractual relationships of smaller states are forged primarily in the context of multilateral agreements allows for hypothesizing that such states may lack the resources and needs of great powers to negotiate on several fronts at once. Meanwhile, states with greater capacities may prefer bilateral agreements given that they may be able to dominate the terms of such agreements more easily than those of a large multilateral agreement.21

[Figure 4 here]

21 To be sure, great powers operate simultaneously on several fronts around the world; as such, entering multilateral agreements could be thought to help them economize the transaction costs of negotiating several bilateral agreements.
An important message implicit in the above figures is that the latest wave of PTAs and other trade agreements is inherently embedded in a multilateral framework—the General Agreement on Tariffs and Trade (GATT) signed in 1947 and the World Trade Organization launched in 1994. Bilateral agreements in other domains—such as on non-proliferation—are often similarly signed under broader multilateral umbrellas. One empirically unexplored question is the extent to which the bilateral (and regional) agreements are complementary to the contractual obligations their members have assumed at the multilateral level.

2. **Actors**

This part strives to provide some answers to two questions: (1) which states and regions are the keenest cooperators; and (2) who cooperates with whom in international relations?

Figure 5 examines the entry of selected states into agreements over time. Figure 6 explores the formation of cooperation agreements, whether inter- or intra-regional, by states of the main world regions. The figures provide 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. Figure 7 focuses on the intra-regional agreements only. It reveals that Europe and the Americas also feature the longest-standing intra-regional cooperation—but also illustrates the rapid growth of intra-regionalism in the post-colonial Africa, in particular.

Figures 6 and 7 suggest that a region’s total number of cooperation agreements and the share of intra-regional agreements of the total might fluctuate together; figure 8 verifies this. This may indicate the real or perceived futility of states in some regions to invest resources in forging intra-regional agreements should that come at the expense of extra-regional ties. States in some regions simply have greater incentives to seek intra-regional cooperation than states in other regions. One such incentive may be the existence of prior intra-regional cooperation agreements—which, in turn, would suggest that regionalism is to an extent path-dependent. Figure 9 surveys selected bilateral relationships, echoing the patterns emerging from the regional figures.

Table 4 lists the top 10 cooperation partners in terms of number of agreements for the 30 states with the greatest number of agreements in the dataset. It allows for hypothesizing that the main gravity model variables—GDP, distance, border, language, and other cultural affinities—play a central role in the choice of cooperation partners. It is also indicative of the prolific formation of agreements by the most powerful states in the international system—and, in particular, their formation of agreements with each other. However, when only the period 1990-2005 is examined (table 5), the partnerships seem to be less bound by the gravity parameters. This gives grounds for hypothesizing that other variables—such as international and domestic institutional factors—have to an

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22 To be sure, the scale should not steal the attention in the regional figures, given that the actual number of contractual relationships by region is not weighted by the overall number of states within the region.
extent trumped the gravity variables in determining the choice of international partnerships.

[Tables 4-5 here]

3. **The Areas of Cooperation: Domains**

Table 6 turns to the domains of cooperation, mapping out the shares of the various domains in which the top-30 global cooperators have agreements. The data reveal marked variation in the shares of the various domains of states’ agreements—but also that the shares of the various domains are similar across states.\(^\text{23}\) Trade agreements (which here include those based on the UNTS data and PTAs formed prior to World War II) dominate the data for all top global cooperators, followed by weapons, investment, and transportation agreements. Figure 10 explores the latter pattern further for the top-six cooperators by grouping the 23 domains under seven broad categories. It by and large seconds the findings of the table.

[Table 6 here]

[Figure 10 here]

That trade agreements make up a prominent share of the data is indicative of the fact that trade agreements hail back to the 19\(^{th}\) century, whereas some domains examined here, such as non-proliferation, are inherently post-war domains. However and less trivially, the data potentially also reflect some of the relatively unique properties of the domain of trade. For instance, obtaining pay-offs from expanded market access in general inherently requires international cooperation.\(^\text{24}\) Furthermore, trade agreements generally follow a standard model, so that the domestic and international transaction costs of negotiating each successive agreement are often low relative to those of negotiating the first agreement.\(^\text{25}\) As such, trade agreements— and bilateral trade agreements—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 of interactions between two states previously uninitiated to bilateral cooperation.

\(^{23}\) The data also reiterate the leveling of the global cooperation playing field. For instance, Ireland, which is 20\(^{th}\) 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.

\(^{24}\) For example, even if the demand for a policy with an international element (opening a foreign market or providing exchange rate predictability) were equally intense in both trade and, say, monetary domain, governments arguably have great many purely unilateral tools at their disposal to respond to domestic demands in the monetary domain.

\(^{25}\) What is more, 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). As such, any dyad can plausibly have multiple trade agreements.
4. The Designs of Cooperation: Dimensions

Figures 11a-11c display the dispersion of three dimensions—membership, scope, and obligation—by domain. They reveal some variations in dimensions across the domains—and could give rise to potential hypotheses. For example, that some agreements in the domain of trade are relatively loose could be indicative of the presence of a global dispute settlement mechanism in trade: the prospect of sturdy enforcement may discourage states from entering strongly binding agreements.

Figures 12a-12c examine the three dimensions for three periods of time—pre-World War I, inter-war, and post-war eras—for the entire set of agreements. Albeit the variation over time is not too marked, the figures suggest that agreements have become increasingly multilateral, and that the scope of agreements has widened—which could hypothetically be linked to the expansion of membership. The level of obligation has also declined somewhat.  

5. Sequencing of Cooperation

Empirical explorations to the choice of the domain of cooperation agreements (C) and the sequencing of the various domains (C) remain nascent. This part strives to start developing 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 time dimension, sequencing can take various formats. Table 7 puts forth three main types—“spillover” sequencing (a series of agreements formed in one domain between states A and B, or a series of agreements formed in different domains between them); “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 type—a dyad’s entering one agreement after the other—and are particularly interested in the sequences of the dyad’s PTAs and its agreements in other domains of cooperation.

Note that none of the sequencing types necessarily implies a causal relationship. Nonetheless, the literature provides various theoretical reasons why cooperation in time...

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26 Simple pairwise correlations allow to hypothesize that the three dimensions could be to an extent related to each other. First, membership tends to be positively correlated with scope. This may simply suggest that large membership implies a greater set of preferences that need to be accommodated for reaching an agreement. Conversely, agreements with a large scope may attract a large group of states to join. Second, scope and obligation are inversely related. Again, this may indicate the heterogeneity of preferences: getting states to sign onto an broad agreement may require a loosening of the level of obligation.
may propel cooperation in t+1. There are also at least three reasons to expect that trade integration could be a particularly likely harbinger of future cooperation in other domains. First, particularly modern-day PTAs are often more multifaceted than many other types of international agreements. Covering several issue areas—such as trade, investment, and transportation—they could be hypothesized to provide states with ample opportunities for issue-linkages and log-rolling, which, in turn, could facilitate the attainment of further cooperation agreements. 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 Estevadeordal 2004). And 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. Moreover, if and when PTAs spur institutional efficiency in the member states, they can render the members increasingly attractive as future cooperation partners.

Figures 13a and 13b provide a general starting point to using the data for examining the sequencing of agreements, whether by spillover, demonstration, or expansion. They show the number of new PTAs and other cooperation agreements by year, and the cumulative log values of PTAs and cooperation agreements, respectively. The point here is 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. One potential hypothesis arising from the look at the data is that to the extent that PTAs—and trade agreements in general—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.

27 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.

28 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 (Estevadeordal 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.

29 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, an 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.

30 This figure does not take into consideration the expiration of some of the PTAs signed in the pre-WWI era.
Figure 14 takes a preliminary cut at the spillover sequencing, exploring the sequencing of PTAs and other cooperation agreements with each other. It uses the entry into force year of a pair’s first PTA and first cooperation agreement as the “PTA benchmark year” and “cooperation benchmark year”, respectively, and calculates the “distance” in terms of year between the first agreement and all other agreements between the pair. As such, the United States-Canada dyad would have a total of 133 data points, for example. The boxes show the distance of a pair’s PTAs from the benchmark PTA, that is, the year in which the first PTA between the states in the dyad entered into effect (for the 4,479 dyads with at least two common PTAs); cooperation agreements (i.e., other than PTAs) from the cooperation agreement bench year (for the 124,179 dyads with at least two common cooperation agreements); cooperation agreements from the PTA bench year (for the 35,026 dyads with at least one common PTA and one common cooperation agreement); and PTAs from the cooperation agreement bench year.

The first two boxes show that one average, the time lag between a dyad’s first PTA and its subsequent PTA(s), and also between its first cooperation agreement and its subsequent cooperation agreements is limited: on average, the gap between the sequential agreements appears relatively short once cooperation kicks off. The third box is of particular interest. 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 dyad might thus be PTA-COOP-COOP-COOP, for example.

Figure 15 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 dyads’ 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 dyad’s PTA—datapoints immediately below the PTA bench—may have influenced the formation of the PTA.

The fourth box in figure 14 is also of interest. It indicates that a dyad’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.
It is the task of further iterations of this paper to identify typologies of the potential patterns of cooperation, as well as to perform an econometric analysis to establish whether agreements in some domains actually catalyze agreements in other domains. The analysis will subsequently be extended to examine the relationship between different types of cooperation agreements and the outcomes of cooperation, such as bilateral volumes of air traffic, educational exchanges, and trade in energy.

IV. Conclusion

This paper has sought to enhance our understanding of the progression of international cooperation. We have described a new dataset on trade integration agreements and inter-state cooperation agreements in a number of other domains, and put forth some testable hypotheses about international cooperation in general, and the dynamic relationship between PTAs and other types of inter-state agreements, in particular.

The dataset has yielded four 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 and globalization have enabled even poor and distant states to join global cooperation—and to cooperate with each other. The “clubbishness” 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. And fourth, the dimensions of agreements—membership, scope, and obligation—may to an extent be related to each other, vary over time, and also vary by domain.

We have also discussed some reasons why PTAs and other trade agreements could be catalysts for further cooperation between states; whether they are so can only be analyzed through expanding our sample and performing a rigorous econometric evaluation. Should the results indicate that trade agreements do spur further cooperation, it could be expected that today’s forceful PTA wave could be followed by an impressive tide of other cooperation agreements around the world.
### Table 1 – A Synthesis of Literature on Types and Sequencing of Inter-State Cooperation

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<thead>
<tr>
<th>Key question</th>
<th>Key Independent Variables</th>
<th>Some Representative Studies</th>
<th>Multi Approach</th>
</tr>
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<tr>
<td></td>
<td>CI, actors, values</td>
<td>Wendt (1992), Brown-Thurston (1997)</td>
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<td>Inter-state strategic interaction</td>
<td>Mosser (1992), Feiwier (1997)</td>
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<td>How do states cooperate?</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Joint production economics, expected rate of opportunity, governance costs</td>
<td>Lake (1989)</td>
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<tr>
<td></td>
<td>What determines the form of international institutions?</td>
<td>Domestic politics, distributive conflict</td>
<td>Martens and Simma (1999)</td>
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<tr>
<td></td>
<td>Why do international institutions vary? How are the dimensions inter-related?</td>
<td>CI</td>
<td></td>
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<td>How and why does cooperation evolve?</td>
<td>CI, CHn</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Why and why does regional integration evolve? When do states enter into secondary treaties?</td>
<td>C</td>
<td>Haus (1951)</td>
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<td></td>
<td></td>
<td></td>
<td>C, CHn</td>
</tr>
<tr>
<td></td>
<td>Should small states join in FTA with a large state before other states do so?</td>
<td>Balanced costs of C-C</td>
<td>Evanoff and Whelley (1994), Whelley (1996)</td>
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<td></td>
<td>What determines the choice of the domain of cooperation? How are the various domains related to states and dynamic trends? [Prompt: do dimensions vary systematically by domain?</td>
<td>CI, Cn, CHn</td>
<td>C, CHn</td>
</tr>
</tbody>
</table>
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)
<table>
<thead>
<tr>
<th>Domain</th>
<th>Total No.</th>
<th>% of Total</th>
<th>Year Signed</th>
<th>Year of Entry</th>
<th>Number of Type</th>
<th>Number of Parties</th>
<th>Siege</th>
<th>Obligation</th>
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<td>1944</td>
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<td>1944</td>
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<td>1944</td>
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<td>1944</td>
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<td>1933</td>
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<td>1978</td>
<td>111</td>
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<td>Infrastructure</td>
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<td>1942</td>
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<td>1965</td>
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<td>1985</td>
<td>31</td>
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<td>1965</td>
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| 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 |
Figure 2 – Agreements by State, 1808-1914, 1915-1945, 1946-2005, and 1808-2005 (% of all agreements in the world)
Figure 3a – Share of Pairs Entering Any Type of Cooperation Agreements of All Pairs in the World by Year, 1808-2005

Figure 3b – Share of Pairs Entering non-PTA Cooperation Agreements of All Pairs in the World by Year, 1808-2005
Figure 3c – Share of Pairs Entering PTAs of All Pairs in the World by Year, 1808-2005
Figure 4- Share of Multilateral Agreements of All Agreements 1808-2005, by State
Figure 5 - Agreements by Selected Countries, 1808-2005 (log of cumulative)

Figure 6 – All Agreements by World Regions, 1808-2005 (log of cumulative)
Figure 7 – Intra-Regional Agreements by World Regions, 1808-2005
(log of cumulative)

Figure 8 – All and Intra-Regional Agreements by World Regions, 1808-2005
Figure 9 – Agreements by Selected Country Pairs, 1808-2005 (log of cumulative)
<table>
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<tr>
<th>State</th>
<th>Rank in Total (No. of States)</th>
<th>Total No. of Partners</th>
<th>Top 10 Partners</th>
</tr>
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<tr>
<td>United Kingdom</td>
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<tr>
<td>Germany</td>
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<td>414</td>
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<td>Netherlands</td>
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<td>414</td>
<td>Belgium, Germany, UK, Russia, China, France, Japan, Brazil, Korea, Switzerland</td>
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<td>Switzerland</td>
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<td>Italy</td>
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<td>Norway</td>
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<td>284</td>
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Table 4 – Top-10 Partners of the Top-30 Cooperating States, 1808-2005
Table 5 – Top-10 Partners of the Top-10 Cooperators in 1990-2005

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<tr>
<th>State</th>
<th>Rank in Ser. (Total No. Ags.)</th>
<th>Total No. Ags.</th>
<th>Top 10 Partners</th>
</tr>
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<tbody>
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<td>195</td>
<td>Canada, Australia, New Zealand, United Kingdom, Netherlands, Argentina, Britain, Finland, Germany, Mexico, Senegal, Spain</td>
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<tr>
<td></td>
<td>2</td>
<td>309</td>
<td>France, Norway, Belgium, Czech, Russia, Germany, India, United States, Ireland, Italy, Morocco, Tanzania</td>
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<tr>
<td>Germany</td>
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<td>315</td>
<td>Czech, Belgium, Poland, France, Hungary, Netherlands, United Kingdom, Argentina, Austria, Belgium, Finland, Germany</td>
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<tr>
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<td>Argentina, Belgium, Finland, Hungary, Switzerland, Austria, Hungary, Iceland, Iceland, Romania, Sweden</td>
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<tr>
<td>France</td>
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<td>Spain, United Kingdom, Germany, Chile, Switzerland, Argentina, Bulgaria, Croatia, Hungary, Italy</td>
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<tr>
<td>Sweden</td>
<td>7</td>
<td>184</td>
<td>Finland, Latvia, Estonia, France, Hungary, Denmark, Lithuania, Netherlands, Poland, United Kingdom</td>
</tr>
<tr>
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### Table 6 – Percentage Shares of Different Domains of All Agreements in 1808-2005, by Top-30 Cooperating States

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Figure 10 - Shares of Main Domains of All Agreements in 1808-2005, by Selected States

Figure 11a - Membership by Domain, 1808-2005
Figure 11b – Scope by Domain, 1808-2005

Figure 11c – Obligation by Domain, 1808-2005
Figure 12a – Membership in Three Eras, 1808-2005

Figure 12b – Scope in Three Eras, 1808-2005
Table 7 – Types of Sequencing of Cooperation Agreements

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Figure 13a – Sequence of PTAs and Other Cooperation Agreements around the World, 1808-2005 (new agreements by year)

Figure 13b – Sequence of PTAs and Other Cooperation Agreements around the World, 1808-2005 (log of cumulative)
Figure 14 – Distance of PTAs and Cooperation Agreements from Each Other in 1808-2005, by Dyad
Figure 15 – Age of Cooperation Agreements from the First PTA in 1808-2005, by Bilateral Relationship
References


Appendix I

Figure I-1 – States and Territories by Year, 1808-2005