Chapter 2  
Data-Driven Empirical Modeling: The Advent of Globalization and Multilateral Treaties

Abstract  By statecraft one often means the skill and flair of running the state. Instead of uttering aphorisms to approach this subject, we attempt to create digitized statecraft since we know that we are not pundits. In order to hone skill and nurture flair in deciding whether or not to join a multilateral treaty, one must grasp what are keys in joining or not joining multilateral treaty. Multilateral treaties are a form of communication with messages and modes to allure sovereign states to join. Here we focus on communication modes rather than communication messages. In other words, we take a close look at sovereign states’ physical action (i.e., promulgation and ratification) rather than their words. As Antoine de Saint Exupéry (2011) in his *Le Petit Prince* says, “One only sees clearly with the heart. What is essential is invisible to the eye.”

2.1 Policy Domains and Subdomains of Multilateral Treaties

For this book, the collection of United Nations multilateral treaties is the dataset of 600 treaties which are mainly the treaties deposited in the Secretary-General of the United Nations (roughly 500 treaties) and some others (more than 100 treaties) deposited in UN special agencies (the World Intellectual Property Organization and the International Labor Organization). For the treaties deposited in the Secretary-General of the United Nations, we have accessed the data of “UN Treaty Collection” at its website at [https://treaties.un.org](https://treaties.un.org). The Treaty Section of the Office of Legal Affairs of the United Nations who makes every effort to provide the most up-to-date information of multilateral treaties deposited with the Secretary-General available to it in electronic format (United Nations 2020). These are the multilateral treaties that cover a broad range of subject matters such as human rights, peace and disarmament, protection of the environment, labor and health, trade, commerce, and communications, and intellectual property. These treaties are categorized in domains and corresponding subdomains based on their main target of solving a given issue of global governance. The burst of these new categories of policy domains has been caused by
the accelerated digitized globalization in the 1990s through 2010s (Baldwin 2016, 2019). The advent and diffusion of information and communications technology has been the key enabler of the burst of multilateral treaties on the supply side of the explosion of multilateral treaties (Hidalgo 2016). Underlying this explosion on the demand side are the accelerated connectivity and vulnerability of states and societies: Companies and communities the world over have been driving those forces to make criteria, rules, and regulations on the basis of harmonization of norms and values manifested on the elite level such as the UN, the G7, G20, and the World Economic Forum as well as the nongovernmental level such as opinion polls, nongovernmental organizations, and transnational movements. To meet these demands, the endeavors on the supply side has been insufficient and weak. The Vienna Convention on the Law of Treaties concluded in Vienna in 1980 recognized the need publicly. But the insufficient and weak ability of international organizations and multilateral treaties make it harder to cope with and counteract major tasks expected of the world of dense connectivity and high vulnerability (Hale and Held 2017, Hale, Held and Young 2012). It has been laid bare a number of times after 1989: the Asian monetary crisis of 1997–1998, the Lehman-triggered global recession of 2008, the SARS, MERS, and Covid crises of 2003, 2013, and 2020 virus contagion. The explosion of the categorization of multilateral treaties is part of the supply-side phenomena. But for this book we have kept the six-policy domain categorization system intact and the consistency from 1945 intact.

Environment: The environment domains register 52 treaties. This policy domain jumped upward steadily after 1989, when the major anxiety of the major security confrontation between the Soviet-led and the US-led confrontation more or less dissipated. Although climate warming has been recognized widely and seriously in the new millennium especially since the late 2010s, and although the Paris climate change accord was agreed in 2018, its implementation has not been moving forward:

1. because the United States, the second largest CO₂ emitter, withdrew from the accord and registered a great setback; and
2. because China and many developing countries have been given extraordinary privilege for CO₂ emission payments to the accord to be widely agreed on (Cf. Teske 2019).
3. Furthermore, the visibly laxed endeavor toward CO₂ emission among developed countries and emerging-economy countries has exacerbated global warming to an increasingly intolerable degree: For example, Arctic melting has caused the upward shift of sea level, threatening many countries such as the Maldives in the Indian Ocean and Kiribati in the Pacific, as well as major coastal cities such as Jakarta, Boston, New York, and Amsterdam.
4. Pari passu with increasingly intolerable global warming, the voices of environmentalists have joined those of business elites as well. In Germany, for instance, this kind of coalition is glimpsed at in the rise of the Green Party (and the decline of the SPD) on the one hand and on the other hand in the rise of the Alternative for Germany at the expense of The Christian Democratic Union (CDU) and the Christian Social Union (CSU). It must be noted that the combined force of the
CDU and the CSU since the Covid-19 global assault has moved up from 27% in December 2019 to 37% in April 2020 at the expense of the Alternative for Germany, which dropped from 15% in December 2019 to 11% in April 2020 (YouGov Opinion Poll cited by Mainichi Shimbun 2020).

**Human rights**: Human rights treaties amount to 53, the number rising since newly independent states after World War II joined the United Nations. Many of those in Asia joined in the 1950s through 1970s and many in Sub-Saharan Africa joined in the 1970s through 1990s. Many of those in the Middle East and North Africa did so in the 1960s through 1980s, while many in the Pacific and in the Caribbean joined in the 1970s through 2000s. The treaties focusing most on human rights are the UN Declaration of Human Rights and the United Nations Educational, Cultural, and Scientific Organization. Other than human rights, such subdomains as freedom of information, slavery, obscene publications, refugees and stateless persons, status of women, and traffic in persons exist. The UN Special Commissioner’s Office for Refugees is a distinct organization for raising the cause of helping refugees. Many of those developing states define human rights as not only the rights and measures of respect for persons but also social, racial, and cultural rights. In contrast, developed states tend to focus on the rights and respects for persons and gender equality. However, those analyzing domestic politics of human rights pay attention to social and economic rights in random (Simmons 2009). Thus, developing states tend to rally around the latter flag of human rights in the latter sense when they demonstrate their force around the UN General Assembly, UNESCO, and on other related occasions (Alston and Goodman 2012). On the perennial issue of two different difficulties of human rights, Alston (2017) called for a reframing of “economic and social rights as human rights rather than as welfare of developing objectives.” The Under-Secretary-Generals of the UN specialized agencies such as the World Trade Organization, the International Meteorological Organization, the UN Food and Agriculture Organization, the UN Industrial Development Organization, and the Intellectual Property Organization have recently been from those developing states. Alarmed by the increasingly influence in the United Nations of the developing South and by China shaping human rights agendas “from within”, Foot (2020a) underlines that “the argument that economic development is unlikely to be sustained without accountable political institutions and independent national human rights institutions still carries weight” (see also Foot 2020b).

**Intellectual Property**: Intellectual property-related multilateral treaties amount to 36. They are deposited at the World Intellectual Property Organization, not at the UN Secretary-General. The domain of intellectual property has steadily become noteworthy since 1968 and especially after 1989. The view that intellectual property should be protected is most pronounced among developed states in which those inventors and innovators of new ideas, scientific new discovery, technological innovations, literary and artistic creativity tend to be appreciated with awards and rewards. Conversely, the views that intellectual property should be shared by those users often comes from the developing states. The tariff and technology war between the United
States and China has been partially and independently but deeply related to the different definitions of intellectual property (Vaidhyanathan 2017).

**Labor and Health:** Labor and health is the oldest domain of multilateral treaties, contemporary with those concerned with peace and disarmament. The products are the International Labor Organization (ILO) and the World Health Organization. Nineteenth-century ideas of taking care of labor and health in factories gave birth to the ILO in 1919. Its Philadelphia Declaration, propounded in 1944, calls for “universal and sustainable peace can be brought about only with social justice.” In contrast to conditions in factories, ideas of taking care of captured and injured soldiers and sailors produced the international law of war, the Red Cross, and Red Crescent, further developing to the World Health Organization (WHO). The policy domain of labor and health register 110 multilateral treaties. ILO administers 78 multilateral treaties out of 110 multilateral treaties under the category of Labor and Health. The rest, 32 multilateral treaties under our category of Labor and health deposited at UN Secretary-General, relate to narcotic drug and psychotropic substance management. Since the domain of labor and health is fundamental to human lives, it has produced one of the oldest of multilateral treaties and international organizations. It is of utmost importance to developing states where hygiene and nutrition are not sufficiently of high level to prevent diseases and malnourishment from causing a huge number of infantile deaths. It is the voice heard most recently in 2020 in the global diffusion of pandemic to many developing countries where washing hands as carefully and frequently as possible cannot be practiced where fresh water is not readily available (Cf. Gilani 2020).

**Peace and Disarmament:** The domain of peace and disarmament register 84 multilateral treaties. This domain is one of the oldest domains along with that of labor and health. Those subdomains are as follows: disarmament, law of the sea, outer space, pacific settlement of international disputes penal matters, privileges and immunities, diplomatic and consular relations. The last subdomain is one of the oldest in keeping peace in diplomacy. It amounts to 37 multilateral treaties. Outer space, one of the newest, is expanding, deepening and sharpening its scope with the utilization of outer space becoming the frontier of science, technology and humanity. The last of which means that given the increasing number of humans on earth, the idea of exploring and using outer space has arrived. It means not only exploiting outer space for humans to live but also before that possibility, the ways and means of testing living bodies to extremes of temperature, air pressure, moisture, and physical exercise in terms of well-functioning of all organs, nerves, blood tubes, etc., while of exploiting material resources and energy resources to alleviate the excessive utilization of water, land, air, and sunlight resources on the Earth (Galloway 1960). Its race among powers has become relentless.

**Trade, Commerce, and Communications:** This is one of the oldest domains although use of multilateral treaties has been a relatively recent phenomenon. The shift from pigeon to steamships took place in early nineteenth century. Pigeon transmitted the English victory in the battle at Waterloo across the Dover Strait to London. The shift from oared and sailing ships to steamships was quite recent, in the early nineteenth century. In 1793 English King George III sent his emissary to Qing Emperor...
Qianlong by wind-driven ships. In 1849 English steamships attacked Hong Kong and ports and further, deep into the Canton delta plain against Qing China. Wars and trade were governed by military force and by geographical discovery of ports and their hinterland. This domain of trade, commerce, and communications is numerically most important domain of 600 multilateral treaties analyzed in this book. It amounts to 265. Of that total, more than two thirds (197) are in the subdomains of transport and communications. This is extraordinary, indicating the deep penetration of globalization in terms of physical transport and communications of correspondence. Deciding the kind of norms and rules that govern this subdomain with multilateral treaties has become one of the central tasks of multilateral treaties in this sense (Baldwin 2016, 2019; Blackwill and Harris 2016). If transport and communications are one of the most important tasks of multilateral treaties’ missions, the other hidden task is the harmony between multilateral treaties and domestic laws governing each of 193 sovereign states. The Vienna Convention on the Law of Treaties, concluded in 1980, presented the UN pronouncement of its hope that international law, or multilateral treaties, should be above domestic laws governing each member state. Yet hope is hope and hope does not necessarily mean each sovereign state follows this international law, which places multilateral laws are above domestic laws. In order to promote harmonization, one of the tasks is the translation of all the domestic laws of member states into English and deposit them in the UN. This translation task has been fast or slow depending on domestic preferences and English proficiency level. In Japan the task has been slow in part because of manpower insufficiency and in part because the large portions of living domestic laws were legislated between the late nineteenth century and mid-twentieth century. Although many civil laws, penal laws, and commercial laws have been subsequently revised to meet the times, the consistency of domestic laws over years have been deliberately kept basically solid. These factors have kept the translation of the living domestic laws slower. As of 2018 the translated laws amount to 10% in Japan. In comparison, South Korea’s translated laws amount to 60% (Nihonkeizai Shimbun 2018). South Korea was Japan’s colony until 1945 and their laws were legislated de novo since 1948 when it declared its independence. Also, only in 1991 it was admitted into the United Nations. Japan’s entry into the United Nations took place in 1956.

For this book, the collection of United Nations multilateral treaties is the dataset of 600 treaties which are mainly the treaties deposited in the Secretary-General of the United Nations (roughly 500 treaties) and some others (more than 100 treaties) deposited in the specialized agencies of the UN (such as WIPO and ILO). These are the multilateral treaties that cover a broad range of subject matters such as human rights, peace and disarmament, and protection of the environment. The treaties are categorized in domains and corresponding subdomain based on their main target of solving a given issue of global governance (Figs. 2.1–2.15 and Table 2.1).
2.2 The Number of Multilateral Treaties Participation by Sovereign States: Rankings

The number of multilateral treaties participation is ranked by sovereign states, by regional groups, and by policy domains. Let us take a look at the top ten states. It is not surprising to find that West European states monopolize the top ten in multilateral treaty participation. Out of 600 multilateral treaties, the Netherlands participates in 436 treaties as number one. Belgium, Finland, Slovakia, Czech Republic, Luxembourg, Norway, Germany, France, and Sweden follow the Netherlands. All of them are members of the European Union. The European Union has the peculiar characteristic of being ideationally universalist but territorially regionalist. In other words, in terms of the norms and values that members uphold they are universalist and globalist. But in terms of geographical locationality, they are European, starting with the Schengen Five (France, Belgium, the Netherlands, Germany, and Italy) which are the core of the first European Community institutions, that is, the Coal and Steel community and the community without passports among them. With the fall of the Berlin Wall, Eastern Europe has partially joined the European Union. In other words, those “Returned West” include the Baltic states, Central European states such as the part of Germany that formed East Germany, Poland, Hungary, Czech Republic, Slovakia, and some Balkan states such as Slovenia, Croatia, Northern Macedonia, Montenegro,
and Kosovo. Turkey, a member of the North Atlantic Treaty Organization, had wanted to join the European Union was discouraged from joining it. Serbia has been branded and punished for having carried out war crimes of aggressively persecuting Kosovo Albanians. Ukraine, Belarus, and Georgia have been indicating some signs of joining it but have not seriously been considered. Russia, Azerbaijan, and Kazakhstan are members of the Eurasian Economic Union, thus hinting the possibility of linking Europe and Asia (Central Asia and the Caucasus for the start) in a nebulous future. Most recently, the United Kingdom has withdrawn its membership from the EU in 2019–2020. The core regional group is called by Welzel (2013) the Reformed West, that is, those West European states that built foundations of sovereign states during the Reformation period. The basic tenets are based on reformist Christianity pronounced during the Reformation period, which are characterized as being secular in daily life and being fond of rule-drafting and rule-abiding in politics. The EU exemplifies this practice. Many of EU members make it a rule in their respective national parliament to semi-automatically ratify those promulgated treaties by their national representatives in the EU to be ratified. For instance, Denmark’s parliament automatically ratifies EU-related laws, which occupy some 30 to 40% of those laws nationally legislated.

Those states ranked from the 11th to the 50th are still European dominant. Of 40 states thus ranked, only 11 are from outside Europe. They are: Turkey (29th), Egypt
| Domain                          | Subdomain                          | Number of treaties | Source of data                              |
|--------------------------------|------------------------------------|--------------------|---------------------------------------------|
| Environment (52 treaties)      | Environment                        | 52                 | United Nations Treaty Collection (UNTC)      |
| Human Rights (53 treaties)     | Freedom of Information             | 1                  | UNTC                                        |
|                                | Human Rights                       | 27                 |                                             |
|                                | Slavery                            | 3                  |                                             |
|                                | Obscene Publications               | 5                  |                                             |
|                                | Refugees and Stateless Persons      | 4                  |                                             |
|                                | Status of Women                    | 3                  |                                             |
|                                | Traffic in Persons                 | 10                 |                                             |
| Intellectual Property (36 treaties) | WIPO-Administered               | 26                 | WIPO                                        |
|                                | Other IP-related                   | 10                 | WIPO                                        |
| Labor and Health (110 treaties)| Health                             | 13                 | UNTC                                        |
|                                | ILO-Administered                   | 78                 | ILO                                         |
|                                | Narcotic Drugs and Psychotropic Substances | 19   | UNTC                                        |
| Peace ad Disarmament (84 treaties) | Disarmament                        | 13                 | UNTC                                        |
|                                | Law of the Sea                     | 10                 |                                             |
|                                | Outer Space                        | 2                  |                                             |
|                                | Pacific Settlement of International Disputes | 1   |                                             |
|                                | Penal Matters                      | 21                 |                                             |
|                                | Privileges and Immunities, Diplomatic and Consular Relations | 37 |                                             |
| Trade, Commerce, and Communication (265 treaties) | Commercial Arbitration              | 3                  | UNTC                                        |
|                                | Commodities                        | 13                 |                                             |
|                                | Economic Statistics                | 2                  |                                             |
|                                | Educational and Cultural Matters   | 5                  |                                             |
|                                | International Trade and Development | 24                |                                             |
|                                | Navigation                         | 13                 |                                             |
|                                | Telecommunications                 | 8                  |                                             |
|                                | Transport and Communications        | 197                |                                             |
| **Total**                      |                                    | 600                |                                             |
2.2 The Number of Multilateral Treaties …

(30th), Nigeria (38th), Armenia (39th), Malaysia (40th), Japan (42th), Australia (44th), New Zealand (46th), Brazil (47th), South Africa (48th), and Mexico (50th). About 40-odd states are members of the Organization of Economic Cooperation and Development (OECD), a club of developed states. They have been members of the United Nations for a long time, and many are founding members. Out of 193 sovereign states in the United Nations, the number of developing states is 144. Because they are late in joining the UN and because many of them are reluctant to join those multilateral treaties, they are not ranked the highest 10 or highest 50 so much. Developing states have been encouraged to participate in multilateral treaties because the United Nations, as is clear from the Declaration of the United Nations pronounced in 1945, has aspired to be universal, inclusive, and egalitarian. Many multilateral treaties do not have clauses of punishing those violators or saboteurs. They are privileged in that sense. Yet the exception of privilege from those duties met the purposes of the shapers and managers of the United Nations. In particular the key shaper, the United States, has adopted both Wilsonian and Monrovian principles. Wilsonianism means national self-determination, electoral democracy, and free-market capitalism. The first principle is very important to newly independent states, joining the UN. It is the first principle of the United States. Some European colonial powers resisted and wanted to delay the date of national independence. Yet they both were eager to expand world markets on free market capitalism after the unprecedented devastations in World War II. Furthermore, they both wanted to block Soviet-led communist influences from expanding at their home and abroad, that is, in developing states. The Monrovian principle is one of the old principles of the United States not to let others interfere in Latin American affairs as if it were the US’s sphere of influence.

During the Cold War period (1945–1989) the key members of the developed states were eager to encourage newly independent states to combine electoral democracy and free-market capitalism. They were successful on the whole despite often rampant authoritarianism and protectionism. But their success was modest in the sense that the Atlantic angle of building democracy and capitalism (Lipset and Rokkan 1967; Ikenberry 2020) had the limit. A series of US-led trade and economic liberalization rounds (especially the last one) were not very successful in expanding world markets. In order to expand world markets on the free-market capitalist principle, the General Agreements on Tariffs and Trade (GATT) needed to be revised. The World Trade Organization was established to help make consultations and adjustments among parties concerned more efficient and effective. The results are half success, half failure. Frustrated, the United States President, Donald Trump has changed the course. UK Prime Minister Boris Johnson changed the course. During those post-Cold War years, the position of developing states in the United Nations and its specialized agencies has evolved. They have consolidated their self-assertion while the developed states have continued their principle of preserving the statues of those developing states by exempting them from tight application of liberalization (Fig. 2.3).

Let us take a look at multilateral treaties by domains. Taking all domains, we find that, on average 30% of UN members joined the multilateral treaties deposited with
Fig. 2.3 The growth of UN treaties and UN membership coverage (All domains)

UN Secretary-General in each of the 75 years (1945–2019). In other words, there are many multilateral treaties in which some 70% of UN members do not join. There are two domains in which the percentage of participation is less than the average of 30%, i.e., labor and health, and trade, commerce and communications. The former registers some 30% while the latter registers barely 20%. On labor and health, some standards and criteria are set to be eligible to a member. In a similar vein, on trade, commerce, and communications, certain standards and criteria are set to be eligible to a member. Other domains register some 40% of UN members’ participation. Peace and disarmament contains multilateral treaties whose membership is conditional on clauses of punishment in case of non-abiding. Intellectual property registers some 40% of UN members’ participation. The trend of participation in UN member is reducing as the treatment of developing states has become less generous. Human rights registers some 45%. With developing states’ self-assertion on the rise on social aspects of human rights definition, UN members’ participation has gradually risen. The environment registers the rise in the 1980s and 1990s. Since then the trend registers the reduction in UN members’ participation. As the stringent criteria of paying costs of emitting CO₂ are set even to developing states, the participation reduces. When stringent criteria are moderated, the 2018 Paris accord has been agreed by a majority. The result is that the United States withdrew and that the effectiveness of the treaty in curbing global warming and other negative aspects of climate change has visibly reduced (Figs. 2.4, 2.5, 2.6, 2.7, 2.8, and 2.9).
2.2 The Number of Multilateral Treaties …

Fig. 2.4 The growth of UN treaties and UN membership coverage (Labor and Health domain)

Fig. 2.5 The growth of UN treaties and UN membership coverage (Human Rights domain)
Fig. 2.6 The growth of UN treaties and UN membership coverage (Environment domain)

Fig. 2.7 The growth of UN treaties and UN membership coverage (Peace and Disarmament domain)
2.2 The Number of Multilateral Treaties …

![Graph of Intellectual Property](image)

**Fig. 2.8** The growth of UN treaties and UN membership coverage (Intellectual Property domain)

![Graph of Trade, Commerce, and Communication](image)

**Fig. 2.9** The growth of UN treaties and UN membership coverage (Trade, Commerce, and Communication domain)
Let us take a look at how fast the countries joined UN multilateral treaties by the Treaty Participation Index (TPI) or the metric derived from the inverse in the number of elapsed years after promulgation of treaty until a state’s ratification. The state that ratified the treaty immediately without any delay is rewarded the highest value of treaty participation score of 1; while the country that has not yet joined this given treaty is scored 0. The starting point of 1945–1968 registers the high percentage of joining in the domains of peace and disarmament, human rights, labor and health and intellectual property. This makes sense after World War II those multilateral treaties in peace and disarmament were joined as World War II, civil wars and wars of independence ended; those multilateral treaties in human rights were joined as human rights and dignity were respected as wars ended; those multilateral treaties in labor and health were joined fast and continuously joined as working life continued; those multilateral treaties in intellectual property were joined after wars when people ascertained their own intellectual property. Those multilateral treaties in human rights went up during the 1968–1989 period which ended with the fall of the Berlin Wall and the disintegration of the Soviet Union (Figs. 2.10, 2.11, 2.12, 2.13, 2.14, and 2.15).

Also significantly pronounced is the upward trend of the number of those multilateral treaties joined during the 1990–2008 in such domains as labor and health, peace and disarmament, intellectual property, human rights and trade, commerce, and communications. To explain this, we have to bring readers to a bit earlier days. Henry Kissinger warned against the Soviet introduction of Intermediate Nuclear Weapons targeted at Western Europe in 1984, saying that the Soviet Union has to

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**Fig. 2.10** How fast have the groups of countries joined the UN multilateral treaties in Labor and Health domain
2.2 The Number of Multilateral Treaties …

**Intellectual Property**

![Graph showing treaty participation index over time for different regions in the Intellectual Property domain.]

**Fig. 2.11** How fast have the groups of countries joined the UN multilateral treaties in Intellectual Property domain

**Peace and Disarmament**

![Graph showing treaty participation index over time for different regions in the Peace and Disarmament domain.]

**Fig. 2.12** How fast have the groups of countries joined the UN multilateral treaties in Peace and Disarmament domain
**Environment**

![Graph showing treaty participation index over time for different groups in the Environment domain.]

**Fig. 2.13** How fast have the groups of countries joined the UN multilateral treaties in Environment domain

**Human Rights**

![Graph showing treaty participation index over time for different groups in the Human Rights domain.]

**Fig. 2.14** How fast have the groups of countries joined the UN multilateral treaties in Human Rights domain
2.2 The Number of Multilateral Treaties …

![Trade, Commerce, and Communication](image)

**Fig. 2.15** How fast have the groups of countries joined the UN multilateral treaties in Trade, Commerce, and Communication domain

choose either the cause or the country, meaning that they have to choose the option of keeping the Soviet Union and the Soviet bloc or the option of keeping the Russian state and that otherwise you would lose both (Kissinger 1985, cited by Roberts 2010). In response Georgy Arbatov counterattacked in the *New York Times*, saying that if the United States loses the Enemy (that is, the Soviet Union), the United States will go astray, meaning that the United States would lose its course (Fettweis 2018). The results are that the United States chose the course of waging wars of many kinds without peace settlements (Iraq, Afghanistan, Iran, North Korea [nuclear power stations and nuclear weapons and missiles], and China [tariff wars]). All these ended up with the Lehman-triggered global recession of 2008 and furthermore with the Corona-triggered global recession of 2020.

2.3 Data Driven Empirical Modeling

This chapter describes how statecraft is used in the digital era when the Earth’s singularity is characterized as Information because of the outburst of data when compared to the star (whose singularity is Matter) and to the blackhole (whose singularity is Energy) (Hidalgo 2016). The Earth’s singularity has been made possible by the invention of World Wide Web in 1990 by Tim Berners-Lee working at the Centre European de Recherche Nucleaire (CERN). As the amount of data flows on the Earth steadily increased in the 1990s and 2000s in tandem with the extraordinary diffusion worldwide of personal computers and smart phones, vehicles of information. No
less critical to the outburst of data on the Earth is the incredible fast improvement of computers’ capacity to process the astronomically massive and complex operations almost instantaneously. The era of digitized globalization steadily deepened and sharpened around the dawn of the new millennium.

An important development is artificial intelligence (AI), a research domain linked to all kinds of human intellectual behavior. It articulates logic and prepares algorithms, collects data on backgrounds and known information, operates mechanically as workable artificial intelligence, and most importantly tests it against real human behavioral data. The concept of artificial intelligence was popularized by the sensation it generated through AI’s victory over human game players of go or weichi and poker. The idea that artificial intelligence might soon supersede the human brain has fascinated theoreticians of philosophy, history, mathematics, biology, physics, and computer science. Yuval Noah Harari (2018) has prophesied that likelihood in his magnum opus of human history. We are interested in the way in which academics in the domain of artificial intelligence organize their schemes, which seem to be isomorphic with what we have been doing (Inoguchi and Le 2019, 2021).

First, our aim is to validate the hunch-cum-hypothesis of the liberal world order generated through the institutional vehicle called multilateral treaties, which has been blossomed after World War II (Ikenberry 2020). Inoguchi and Le (2019) have shown the hunch-cum-hypothesis has been *grosso modo* validated as a first attempt of empirical testing on the basis of features of multilateral treaties. The intellectual debate has thus been going on between the institutional vehicle school (like multilateral treaties) and the socialization school (like elite socialization through sharing of culture).

The latter school has been predominant among scholars of international relations and political science. It contains two major sub-schools: the hegemony and power transition school and cultural sharing on the basis of adaptation. The hegemony school is predominant after World War II among American academics: Gilpin (1983) stands out by highlighting hegemonic power’s role in power transition. After all, the predominant military power of the United States has been kept for years despite all declinists’ voice. Nye (2004) has been consistent on this point with his concept of soft power adding further additional strength to the United States. The clash of civilization thesis of Huntington (1997) is a metamorphosis of the hegemony school in that after the Cold War and demise of the USSR new ideological challengers such as Islam and China are on the rise. The culture sharing sub-school is no less predominant among American academics: Lipset and Rokkan (1967) highlight the vehicle of democracy in electoral politics among Atlantic states in northwestern Europe and North America. Putnam and Bayne (1988) highlight how the Group of Seven shared the same elite culture after the earth-shaking oil crisis of 1973. The reputation ranking of powers (Pouliot 2016) belongs to this school in that reputation combines physical sources of power and cultural harmony.

The former school, the institutional vehicles school, is new and old. It is new in that Inoguchi and Le (2019) have only recently empirically and statistically tested the hypothesis and shown positive results. It is old in that Fairbank and Teng (1941) and Fairbank (1968) advance the hypothesis that the tributary system as practiced in
the Sinocentric world (as contrasted to the international treaty system as practiced in the Eurocentric world) are qualitatively different or—to put it simply—incompatible. Fairbank (1968) is similar to Huntington (1997) in that cultural differences loom very large. Suzuki (2009) argues on the basis of modern Japanese adaptation and Chinese non-adaptation to the international treaty system that modern Japanese and Chinese elite socialization in their respective cultural schemes made differences. Suzuki (2009) is akin to the elite socialization sub-school in the hegemony school. Inoguchi and Le (2019) can be categorized as the institutionalist school but cannot be categorized as the institutionalist of neoliberal persuasion. More directly referring to the dawn of the new millennium and the liberal world order, Ikenberry (2011, 2020) advances the kind of the institutional vehicles school in that the liberal world order might not demise even if the position of military predominant of the United States might be lost in the future.

Second, Inoguchi and Le (2019) adopt the strategy of using instrumental variables if it is solidly empirical in light of the need to use empirical data to explain whether sovereign states decide to join or not to join multilateral treaties.

One of the key indicators of such decisions is naturally the number of years between the year of promulgation and of ratification. The slower the decision of ratification, the less willing governments are to join the multilateral treaties concerned. Reasons for tardiness can be anything:

1. A government decides to join it but parliament and public opinion reject it;
2. A government decides to join because public opinion literally forces it to sign it or because of a paramount instinct to stay in power, but the government tries to see to it that somewhere in executive agencies, judiciary branches are bound to block, or international organizations work against ratification;
3. A government decides to join it, but given the large gap between the treaty’s stringent clause about heavy duties such as criteria of offering official development assistance to the developing South and government inability to implement for the immediate future, the government keeps working hard to qualify as a member of such treaties without being able to ratify it when they will decide to join;
4. A government decides to join it, but procrastinates about ratifying it because some promulgator-states keep themselves exempt from duties, i.e., keep benefiting from the status of the developing South after government signing it;
5. A government decides to join it, but having been notified thereafter about the change from those states which are densely connected with the country in terms of the economy and technology.

At any rate, “the swifter the decision on ratification, the more willing to join multilateral treaties concerned” is one of the key hypotheses using instrumental variables. This is represented by the Treaty Participation Index.

In addition to the willingness to join the multilateral treaty after promulgation, the treaty’s popularity is vital in deciding to join it. Popularity in this sense means that the treaty is composed of many member states rather than a small number of member states. Ceteris paribus, the larger the number of member states the better. You cannot be too late in getting on a bus. Thus, the number of treaty members
cannot be underestimated. The more members of the treaty, the stronger it becomes. Furthermore, the year of ratification is important. The distinction among being the founding member of the treaty, the early joiner, or the latecomer, is important in being a good standing in the multilateral treaty concerned. Needless to say, the year of ratification is important. That is the year that membership is deposited.

We have two important instrumental variables: policy domain and civilization. Policy domain refers to the six areas of policy dealing with multilateral treaties: human rights, peace and disarmament, trade, commerce and communications, the environment, intellectual property, and labor and health. Each deals with certain aspects of our daily life. In the sense that multilateral treaties deal with all the “problems without passports” (Annan 2002), how sovereign states place priorities to these six domains is one important attributal data on multilateral treaties. At the dawn of national independence after decolonization, many policy domains must be taken seriously yet pragmatically. First, labor and health often takes the first and continuous priority. Even prior to labor and health, peace and disarmament needs to be handled. After peace is settled, governments need to invigorate trade, commerce and communications. Also after war and other kinds of tumultuous years, priority has to be placed on human rights to establish free and stable society. Gross national product must go up. Depending on the stage of industrial modernization, the kind of policy domains that need to be prioritized differs. If pollution is getting out of hand, the environment has to be prioritized. Accordingly, globally coordinated efforts must be undertaken in sync with multilateral treaties. If intellectual property is violated, that domain has to be prioritized.

Civilization refers to the ten geographical, historical and cultural regions of the world (Welzel 2013): Old West, New West, Reformed West, Returned West, Orthodox East, Islamic East, Indic East, Sinic East, Latin America, and Sub-Saharan Africa. Old West is defined as those states whose state-building originated from the Roman Empire. New West is defined as those states that originated from English-speaking white settlers’ societies and their offshoot former colonies. Reformed West is defined as those whose state-building endeavors originated the Reformation in Europe. Returned West refers to those states in Central and Western Europe which switched from the Soviet bloc to the Western bloc in 1989. Orthodox East is defined as the amalgamation of orthodox Russia, Soviet Union bloc, and Ottoman Empire. Islamic East refers to those states where Islam pervades life and society, covering the Middle East and North Africa. Indic East is defined as those states whose cultural and religious influence originated from India, ancient, medieval, modern, and contemporary. Sinic East is defined as those states influenced by Chinese culture and institutions. Latin America is seen as the whole of the Americas except the United States and Canada. Sub-Saharan Africa is defined as the whole Africa minus North Africa. Geographical proximity often means similarity in outlook. This civilizationally flavored regions are no less important attributal variables in characterizing multilateral treaties despite all the claimed universality and globality of multilateral treaties. Geography gives often distinctive flavors in the modes of participation in multilateral treaties.
2.3 Data Driven Empirical Modeling

All these variables are on 600 multilateral treaties around whose participation 193 sovereign states play their global legislative politics. We summarize all these data by factor analysis with varimax rotation. The idea is to statistically simplify the $600 \times 193$ data by decomposing the sum of correlation coefficients of six variables step by step dimensionally. We have got three key dimensions. The names of these dimensions are related to the decision’s speed, the angle of decision, and the strategy of decision. In other words, most pronounced are speed. Thirty percent of variance is explained. Second is angle. Twenty-five percent of variance is explained. Third is strategy, explaining 17%. In total 75% of variance is explained. The first dimension is loaded heavily by variables of year of deposit and year of membership. The second dimension is loaded heavily by variables of the number of current members, ten regions and six policy domains. The third dimension is loaded heavily by variables of treaty participation index and ten regions.

The labels of the three dimensions are:

1. agile vs. cautious,
2. global commons vs. individual interests, and
3. aspirational bonding vs. mutual binding.

To explain, the speed of decision always means something. What causes procrastination? What is behind a rash decision? The angle of decision means which perspective is stressed: globalist vs. nationalistic. The strategy of decision means which strategy is preferred: the developing South vs. the developed North.

Using three capitalized A or B or C and three non-capitalized a, b, c to denote two sides of each dimension, we have eight types, i.e., abc, aBC, aBc, abC, Abc, AbC, ABc, ABC. In table format, some of those states, which fit each one of the eight types are indicated:

| abc  | Japan, Indonesia, Iran, Morocco, Singapore |
|------|-------------------------------------------|
| aBC  | Laos, Syria, Jordan, Ecuador, Mexico      |
| aBc  | Uruguay, Zimbabwe, Ghana, Algeria, Argentina, Bahamas, Burkina Faso, Cameroon, DR Congo, Dominica, Ethiopia, Iraq, Kuwait, Lebanon, Libya, Nepal, Nigeria, Peru, Rwanda, Senegal, Somalia, Uganda, Tanzania, Yemen, Venezuela |
| abC  | France, US, UK, Solomon Islands, Spain, Sweden, Switzerland, Thailand, Netherlands, New Zealand, Norway, Pakistan, Papua New Guinea, Philippines, Poland, Romania, Tunisia, Germany, China, Israel, |
| Abr  | Albania, Montenegro, Armenia, Georgia, Kazakhstan, Kyrgyzstan, Uzbekistan, Turkey, |
| AbC  | Belarus, Croatia, Czech Republic, Estonia, Latvia, Lithuania, Portugal, R Korea |
| AbC  | Bahrain, Benin, Burundi, Chad, DPR Korea, El Salvador, Guinea-Bissau, Mongolia, Mozambique, Namibia, Oman, Qatar, Saudi Arabia, South Africa, South Sudan, |
| ABC  | Bangladesh, Bhutan, Maldives, Panama |

How do we decipher these combinations of three alphabetical characters attached to 193 states with the label of global quasi-legislative behavior? We turn to these
matters in Parts II and Part III. Part II explains how we conceptualize and operationalize multilateral treaties participation as *global quasi-social contract* whereas Part III explains how *a bundle of global quasi-legislative behavior*, exhibited by 193 sovereign states, are interpreted.

**References**

Alston, Philip, and Ryan Goodman. 2012. *International Human Rights*. 2nd ed. Oxford: Oxford University Press.

Alston, Philip. 2017. “The Populist Challenge to Human Rights.” *Journal of Human Rights Practice* 9 (1): 1–15.

Annan, Kofi. 2002. “Problems without Passports.” *Foreign Policy* 132: 30–31.

Baldwin, Richard. 2016. *The Great Convergence*. Cambridge, MA: Harvard University Press.

Baldwin, Richard. 2019. *Globotics Upheaval: Globalization, Robotics and the Future of Work*. Oxford: Oxford University Press.

Blackwill, Robert D., and Jennifer Harris. 2016. *War by Other Means: Geoeconomics and Statecraft*. Cambridge, MA: Harvard University Press.

Fairbank, John (ed.). 1968. *The Chinese World Order: Traditional China’s Relations*. Harvard University Press.

Fairbank, John and S.Y. Teng. 1941. “On The Ch’ing Tributary System.” *Harvard Journal of Asiatic Studies* 6 (2): 135–246.

Fettweis, C. 2018. *Psychology of a Superpower: Security and Dominance in U.S. Foreign Policy*. New York, NY: Columbia University Press, p. 1.

Foot, Rosemary. 2020a. “Shaping from Within: A UN with Chinese Characteristics?” *East Asia Forum*, August 10, pp. 1–2.

Foot, Rosemary. 2020b. *China, the UN, and Human Protection: Beliefs, Power, Image*. Oxford: Oxford University Press.

Galloway, Eilene. 1960. “World Security and the Peaceful Use of Outer Space.” XIIth International Astronomical Cooperation Stockholm.

Gilani, B.I. (2020). “Gilani Gallopedia’s Initiative on a Global Survey on Covid-19 to WAPOR: The World Association for Public Opinion Research.” Islamabad, Pakistan.

Gilpin, Robert. 1983. *War and Change in World Politics*. Princeton: Princeton University Press.

Hale, Thomas, and David Held. 2017. *Beyond Gridlock*. Cambridge: Polity Press.

Hale, Thomas, David Held, and Kevin Young. 2012. *Gridlock: Why Global Cooperation Is Failing When We Need It Most*. Cambridge: Polity Press.

Harari, Yuval Noah. 2018. *Sapiens: A Brief History of Humankind*. New York: Harper Perennial, reprint edition.

Hidalgo, César. 2016. *Why Information Grows: The Evolution of Order, from Atoms to Economies*. New York: Penguin Books.

Huntington, Samuel. 1997. *The Clash of Civilizations and the Remaking of World Order*. New York: Simon and Schuster.

Ikenberry, G. John. 2011. *Liberal Leviathan: The Origins, Crisis, and Transformation of the American World Order*. Princeton: Princeton University Press.

Ikenberry, G. John. 2020. *A World Safe for Democracy: Liberal Internationalism and the Crises of Global Order*. New Haven: Yale University Press.

Inoguchi, Takashi and Lien Thi Quynh Le. 2019. *The Development of Global Legislative Politics: Rousseau and Locke Writ Global*. Singapore: Springer Nature.

Inoguchi, Takashi and Lien Thi Quynh Le. 2021. *Digitized Statecraft in Multilateral Treaty Participation: Global Quasi-Legislative Behavior of 193 Sovereign States*. Singapore: Springer Nature.
Kissinger, Henry. 1985. *Observations: Selected Speeches and Essays 1982–1984*. London: Michael Joseph and Weidenfeld & Nicolson.

Lipset, Seymour Martin, and Stein Rokkan (eds.). 1967. *Party Systems and Voter Alignments*. New York: Free Press.

Mainichi Shimbun. 2020. “Korona kade Kurasu Doitsu/ge Shiken seigen teiko nezuyoku (Living under the Shadow of the Covid-19 Infectious Disease Diffusion in Germany: 2nd part: Deep-Rooted Resistance Against Curtailing Private Rights),” May 22, 2020, p. 8.

Nihonkeizai Shimbun. 2018. Horei no eiyaku ichiwari domari: junenme okure kokusaika nokabeni (The English Translation of Domestic Laws and Acts Has Remained 10 Percent: Posing Barriers to Japan’s Internationalization Since the Translation Task Started 10 Years ago), October 22 (morning ed.), p. 11.

Nye, Joseph S. 2004. *Soft Power: The Means to Success in World Politics*. New York: Public Affairs.

Pouliot, Vincent. 2016. *International Pecking Orders: The Politics and Practice of Multilateral Diplomacy*. Cambridge: Cambridge University Press.

Putnam, Robert and Nicholas Bayne. 1988. *Hanging Together: Cooperation and Conflict in the Seven-Power Summits, Revised and Enlarged Edition*. Cambridge, MA: Harvard University Press.

Roberts, Adam. 2010. “An ‘Incredibly Swift Transition’: Reflections on the End of the Cold War.” In *The Cambridge History of the Cold War*, edited by M. P. Leffler and O. A. Westad, Vol. III, pp. 513–534. Cambridge: Cambridge University Press.

Saint Exupéry, Antoine de. 2011. *Le Petit Prince*. Oakham: Omillia Languages, 79.

Simmons, Beth. 2009. *Mobilizing for Human Rights: International Law in Domestic Politics*. New York: Cambridge University Press.

Suzuki, Shogo. 2009. *Civilization and Empire: China and Japan’s Encounter with European International Society*. London: Routledge.

Teske, Sven (ed.). 2019. *Achieving the Paris Climate Agreement Goals*. Springer Nature Switzerland AG.

United Nations. 2020. *Multilateral Treaties Deposited with the Secretary-General*. New York (ST/LEG/SER.E), as available on https://treaties.un.org/Pages/ParticipationStatus.aspx. Accessed 2 March 2020.

Vaidhyanathan, Siva. 2017. *Intellectual Property: A Very Short Introduction*. Oxford: Oxford University Press.

Welzel, Christian. 2013. *Freedom Rising: Human Empowerment and the Quest for Emancipation*. New York: Cambridge University Press.