

# The Dynamic Gravity Dataset: Technical Documentation

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## Abstract

This document provides technical documentation for the Dynamic Gravity dataset. The Dynamic Gravity dataset provides extensive country and country pair information for a total of 285 countries and territories, annually, between the years 1948 to 2016. This documentation extensively describes the methodology used for the creation of each variable and the information sources they are based on. Additionally, it provides a large collection of summary statistics to aid in the understanding of the resulting Dynamic Gravity dataset.

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# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
1.1	Nomenclature . . . . .	3
1.2	Variables Included in the Dataset . . . . .	3
1.3	Contents of the Documentation . . . . .	6
<b>2</b>	<b>Country or Territory and Year Identifiers</b>	<b>6</b>
2.1	Record Identifiers . . . . .	6
<b>3</b>	<b>Macroeconomic Indicators</b>	<b>8</b>
3.1	Human Population and Capital Stock . . . . .	8
3.2	GDP . . . . .	9
<b>4</b>	<b>Geographic Variables</b>	<b>11</b>
4.1	Location and Distance . . . . .	11
4.2	Border Characteristics . . . . .	13
<b>5</b>	<b>Cultural Variables</b>	<b>16</b>
5.1	Common Language . . . . .	16
5.2	Colonial Relationships . . . . .	17
<b>6</b>	<b>Trade Facilitation Variables</b>	<b>19</b>
6.1	Preferential Trade Agreements . . . . .	19
6.2	EU, WTO, & GATT Membership . . . . .	23
<b>7</b>	<b>Measures of Institutional Stability</b>	<b>24</b>
7.1	Hostility . . . . .	25
7.2	Polity . . . . .	27
7.3	Economic Sanctions . . . . .	29
	<b>Appendices</b>	<b>34</b>
<b>A</b>	<b>List of Variables</b>	<b>34</b>
<b>B</b>	<b>List of Unique <i>dynamic_code</i>'s</b>	<b>35</b>
<b>C</b>	<b>Matching Dynamic Gravity to Comtrade and WITS</b>	<b>36</b>
<b>D</b>	<b>List Supplemental Cities for Geographic Variables</b>	<b>37</b>
<b>E</b>	<b>List of Trade Agreements and International Organization Members</b>	<b>42</b>
<b>F</b>	<b>List of Countries Without Polity Scores</b>	<b>53</b>

# 1 Introduction

The Dynamic Gravity dataset contains a collection of variables describing aspects of countries and territories as well as the ways in which they relate to one-another.<sup>1</sup> Each record in the dataset is defined by a pair of countries or territories and a year. The records themselves are composed of three basic types of variables: identifiers, unilateral characteristics, and bilateral characteristics. The dataset spans the years 1948–2016 and reflects the *dynamic* nature of the globe by following the ways in which countries have changed during that period. The resulting dataset covers 285 countries and territories, some of which exist in the dataset for only a subset of covered years.<sup>2</sup>

## 1.1 Nomenclature

The identifying variables (see section 2) describe the countries or territories to which each record applies. Because some of the variables in the dataset are bilateral and directional while others are not, it is often necessary to specify how certain variables relate to the two countries in the record. To do so, each record has a designated “origin” and “destination” country, through which the directionality or applicability of each variable is specified. Throughout, the dataset uses the notation *identifier\_o* and *identifier\_d* to define the “origin” and “destination” country, respectively.<sup>3</sup> Other variables, reflecting either country-specific information or directional information, utilize a similar nomenclature. The dataset is square in the sense that for every record in which a country such as Argentina is listed as the origin and a second, Brazil, is listed as the destination, there is a corresponding record in which the designations are reversed and Argentina is the destination while Brazil is the origin.

The unilateral variables are those that pertain exclusively to a single country. For example, these include variables describing GDP, membership in an international organization, and political stability. Because each record conveys information for two countries, each unilateral variable is listed twice with one series pertaining to each of the two countries following the “origin” and “destination” convention. In general, unilateral variables can be quickly identified by their name, which ends in *\_o* or *\_d*.

The bilateral variables are those that reflect information specific to a pair of countries. For example, bilateral variables include the distance between countries, whether they belong to a common trade agreement, or whether either is in some form of conflict with the other. In some cases—such as distance—variables are not directional, in which case the data does not change based on which country is designated as “origin”. In other cases, the data is directional wherein the relationship of the “origin” country to the “destination” country is not necessarily the same as the “destination” to the “origin”. For example, the variables reflecting colonial relationships are typically one-way such that only one of the two countries was a colony of the other. In these cases, the naming of the variable specifies to which country the information applies.

## 1.2 Variables Included in the Dataset

Table 1 below presents a brief description of variables and page numbers corresponding to additional details about those variables. Appendix A1 expands on this list to provide the reader the exact variable names, a brief description of each variable, and page numbers corresponding to additional details on definitions, sources, assumptions, and construction procedures for each variable.

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<sup>1</sup>Throughout this documentation, we often abbreviate “countries and territories” with “countries” when referring to a record for the sake of readability.

<sup>2</sup>The dataset is available for download at [gravity.usitc.gov](http://gravity.usitc.gov). For comparisons of this dataset with other existing gravity datasets, see Gurevich and Herman [2018].

<sup>3</sup>For example, *country\_o* and *country\_d* or *iso3\_o* and *iso3\_d*.

Table 1: List of Variables

Variable	Description	Page
<b>Country Identifiers</b>		
<i>country</i>	Name of origin/destination country	6
<i>iso3</i>	3-digit ISO code of origin/destination country	6
<i>dynamic_code</i>	Year appropriate 3-digit code of origin/destination country	6
<i>year</i>	Year of observation	6
<b>Macroeconomic Indicators</b>		
<i>pop</i>	Population of origin/destination country	8
<i>capital_cur</i>	Capital stock at current PPP of origin/destination country	8
<i>capital_const</i>	Capital stock at constant prices of origin/destination country	8
<i>gdp_pwt_const</i>	Real, inflation-adjusted, PPP-adjusted GDP of origin/destination country (PWT)	9
<i>gdp_pwt_cur</i>	Real, current, PPP-adjusted GDP of origin/destination country (PWT)	9
<i>gdp_wdi_const</i>	Real GDP of origin/destination country (WDI)	9
<i>gdp_wdi_cur</i>	Nominal GDP of origin/destination country (WDI)	9
<i>gdp_wdi_cap_const</i>	Real GDP per capita of origin/destination country (WDI)	9
<i>gdp_wdi_cap_cur</i>	Nominal GDP per capita of origin/destination country (WDI)	9
<b>Geographic Variables</b>		
<i>lat</i>	Latitude coordinate of origin/destination country	11
<i>lng</i>	Longitude coordinate of origin/destination country	11
<i>distance</i>	Population weighted distance between country pair	11
<i>contiguity</i>	Country pair shares a common border	13
<i>landlocked</i>	Origin/destination country is landlocked	13
<i>island</i>	Origin/destination country is an island	13
<i>region</i>	Geographic region of origin/destination country	13
<b>Cultural Variables</b>		
<i>common_language</i>	Residents of country pair speak at least one common language	16
<i>colony_of_destination_current</i>	Origin country is a colony of the destination country	17
<i>colony_of_origin_current</i>	Destination country is a colony of the origin country	17
<i>colony_of_destination_ever</i>	Origin country was ever a colony of the destination country	17
<i>colony_of_origin_ever</i>	Destination country was ever a colony of the origin country	17
<i>colony_of_destination_after45</i>	Origin country was a colony of the destination country after 1945	17

Continued on next page

Table 1 – continued from previous page

Variable	Description	Page
<i>colony_of_origin_after45</i>	Destination country was a colony of origin country after 1945	17
<b>Trade Facilitation Variables</b>		
<i>agree_pta</i>	Country pair is in at least one active preferential trade agreement	19
<i>agree_pta_goods</i>	Country pair is in at least one active preferential trade agreement covering goods	19
<i>agree_pta_services</i>	Country pair is in at least one active preferential trade agreement covering services	19
<i>agree_cu</i>	Country pair is in at least one customs union	19
<i>agree_eia</i>	Country pair is in at least one economic integration agreement	19
<i>agree_fta</i>	Country pair is in at least one free trade agreement	19
<i>agree_psa</i>	Country pair is in at least one partial scope agreement	19
<i>member_eu</i>	Origin/destination country is a European Union member	23
<i>member_wto</i>	Origin/destination country is a World Trade Organization member	23
<i>member_gatt</i>	Origin/destination country is a General Agreement on Tariffs and Trade member	23
<i>member_eu_joint</i>	Country pair are both members of the European Union	23
<i>member_wto_joint</i>	Country pair are both members of the World Trade Organization	23
<i>member_gatt_joint</i>	Country pair are both members of the General Agreement on Tariffs and Trade	23
<b>Measures of Institutional Stability</b>		
<i>polity</i>	Polity (political stability) score of origin/destination country	27
<i>polity_absolute</i>	Absolute value of the Polity score of the origin country	27
<i>hostility_level</i>	Level of the origin/destination country's hostility toward the destination/origin country	25
<i>sanction_threat</i>	There exists a threat of sanction between one country in a record towards the other	29
<i>sanction_threat_trade</i>	There exists a threat of trade sanction between one country in a record towards the other	29
<i>sanction_imposition</i>	There exists a sanction between one country in a record towards the other	29
<i>sanction_imposition_trade</i>	There exists a trade sanction between one country in a record towards the other	29

### 1.3 Contents of the Documentation

The remainder of this documentation is divided into six sections, each devoted to a group of related variables. Each of these sections provides extensive details on the data sources on which the variables were based; more thorough descriptions of the variables themselves; and detailed notes on the methods and assumptions that were used in the construction of the variables. Section 2 describes the variables that identify observations in the dataset such as country codes and years. Section 3 describes variables that reflect macroeconomic conditions such as GDP, capital stocks, and population. Section 4 describes variables that reflect geographic characteristics of countries such as distance and borders. Section 5 describes variables that reflect cultural characteristics such as shared languages or colonial relationships. Section 6 describes variables that reflect country or country pair specific trade facilitation measures such as trade agreements or the World Trade Organization. Finally, section 7 describes variables that reflect institutional aspects of countries such as political stability and economic sanctions.

Additionally, many of the six primary sections include appendices located at the end of this document. These appendices largely contain tables that extensively describe certain aspect of some variables that we have decided were important to thoroughly document and report, but may not be particularly pertinent for typical readers or users. For example, appendix E provides a detailed list of all trade agreements reflected in the corresponding variables.

## 2 Country or Territory and Year Identifiers

### 2.1 Record Identifiers

In each year  $t$ , a record is uniquely identified by a combination of the ISO alpha-3 code of the origin country,  $iso3_o$ , and the destination country,  $iso3_d$ , assigned to each country and territory by the International Organization for Standardization.<sup>4</sup> While these identifiers are unique within each year, in some instances countries significantly change their geographic and political characteristics while retaining the same ISO alpha-3 codes over time. To better track changes occurring to countries over time, we developed an additional country identifier,  $dynamic\_code_o/d$ , described in detail below.

#### 2.1.1 Data Sources

The universe of coverage of this dataset was constructed by identifying ISO alpha-3 codes of all countries and territories that appear as participants in a reported trade flow within WTO Trade Databases or the UN Comtrade database for at least one year starting in 1948.<sup>5</sup> These countries and territories were then tracked through the period of 1948–2016 using the CIA World Factbook.<sup>6</sup> We then used Hammond’s atlases of the world for 1948–1972, Rand McNally atlases of the world for 1973–1995, and National Geographic Society atlases of the world for 1996–2014 to identify any geographic changes that occurred in those countries during that period. In situations where a country or territory changed its geographic boundaries, but retained its ISO alpha-3 code, a modification of its ISO alpha-3 code— $dynamic\_code$  variant—was assigned to keep track of such changes.

<sup>4</sup>For details about ISO alpha-3 codes see <https://www.iso.org/home.html>. When matching this dataset with trade or other data, the user should use a combination of  $iso3_o$ ,  $iso3_d$ , and year to uniquely identify each data row. Appendix table C3 provides a concordance between Dynamic Gravity dataset, Comtrade dataset, and WITS dataset for countries where those identifiers differ.

<sup>5</sup>WTO data can be accessed at <http://stat.wto.org/Home/WSDBHome.aspx?Language=E>; UN Comtrade data are available at <https://comtrade.un.org/data/>.

<sup>6</sup>For the countries that currently exist, we used <https://www.cia.gov/library/publications/the-world-factbook/fields/2088.html> For those that dissolved or changed names between 1948 and 2016, we used CIA World Factbook website to search for dissolution dates and dates of name changes.

### 2.1.2 Variables

*country\_o*: Name of the origin country.

*country\_d*: Name of the destination country.

*iso3\_o*: ISO alpha-3 of the origin country.

*iso3\_d*: ISO alpha-3 of the destination country.

*dynamic\_code\_o*: A dynamic code of the origin country that reflects changes to a country's composition that are not indicated by the corresponding *iso3\_o* code.

*dynamic\_code\_d*: A dynamic code of the origin country that reflects changes to a country's composition that are not indicated by the corresponding *iso3\_d* code.

*year*: Year upon which the record is based.

### 2.1.3 Variable Construction

ISO 3-alpha codes were assigned to countries using the official designations by the International Organization for Standardization for each year a country or a territory exists in the dataset.

There are several cases in which a country experienced a series of geopolitical events that resulted in substantial changes to the geographic and political composition of the country, but a new ISO 3-alpha code indicating that the country had fundamentally changed was not assigned. For example, following the split of the territory formerly known as East Bengal and later East Pakistan from Pakistan in 1971, a new country—Bangladesh—was formed. This country was assigned ISO 3-alpha code “BGD”. At the same time, Pakistan, which had previously claimed East Pakistan as part of its territory, lost nearly 16% of its land area and over 50% of its population when Bangladesh declared independence. In addition, Pakistan lost a land border with Myanmar. It did, however, retain its pre-split ISO 3-alpha code “PAK”.

In order to keep track of changes like these, we developed an extension of the ISO 3-alpha codes that we call *dynamic\_code*. In cases in which a country retains a previously used ISO 3-alpha code following a major change in its geography, the *dynamic\_code* identifies this change by appending an additional indicator to the ISO alpha-3 code. By convention, this addition appends a ‘.X’ to the ISO code. For example, following the separation of Bangladesh from Pakistan in 1971, a modified *dynamic\_code* “PAK.X” is assigned to denote the smaller post-split Pakistan. Appendix table B2 has a full list of countries that underwent significant changes, but retained their original ISO 3-alpha.

Importantly, in these cases, we make no modifications to the original ISO 3-alpha codes assigned by the International Organization for Standardization, which are reflected in the *iso3* variables. We recognize that the original ISO 3-alpha codes are likely the most useful identifiers when matching to other data sources and have protected their integrity. Nonetheless, we believe having the additional *dynamic\_code* is valuable as well.

In addition to these concerns, several other special circumstances arose that required further considerations and special treatment:

*Byelorussian SSR overlaps with the Soviet Union*: UN Comtrade reports data for Byelorussian SSR (*iso3* : BYS, *dynamic\_code* : BYS) while it is a part of the Soviet Union. For this reason, we have decided to include an identifier for Byelorussian SSR during appropriate

years (1950–1990).<sup>7</sup>

*Western Sahara:* Western Sahara (*iso3* : ESH, *dynamic\_code* : ESH) is a disputed territory under Moroccan (*iso3* : MAR, *dynamic\_code* : MAR) control. Nonetheless, we have decided to include an identifier for Western Sahara because UN Comtrade does report trade for it. Prior to 1975 this region was known as Spanish Sahara (*iso3* : ESH, *dynamic\_code* : ESH), an occupied territory under Spain’s (*iso3* : ESP, *dynamic\_code* : ESP) control.<sup>8</sup>

*Omitted territories:* There are three territories for which Comtrade reports trade data: Belgium-Luxembourg (*iso3* : BLX), European Union (*iso3* : EUN), and Free Zones (*iso3* : FRE). These territories do not have corresponding gravity data and were omitted from this dataset.

### 3 Macroeconomic Indicators

This section describes population and economic aggregates of countries and regions that may influence cross-country trade. Currently we include 18 variables measuring macroeconomic performance of the reporting economies. Data sources and construction methodology of these variables are discussed in the following subsections.

#### 3.1 Human Population and Capital Stock

##### 3.1.1 Data Sources

The variables covering population and capital stock were sourced from the Penn World Tables (PWT), version 9.0 [Feenstra et al., 2015]. This dataset provides information for the years 1950–2014 for a large set of countries. However, while our dataset covers 126 countries and territories in 1950, PWT only covers 55. By 2014, our dataset has information on 251 countries and territories, while PWT covers only 182. Coverage also varies by variable, driven by the availability of underlying data used by the PWT. Figure 1 below shows the percent of countries and territories in our dataset that have information about population and capital stock in a given year.

Capital stock variables are derived by the PWT from investment data by asset using information about four assets: residential and non-residential structures, machinery, transport equipment, and other assets such as software, intellectual property, and cultivated assets.<sup>9</sup> Capital stock data is reported using two sets of prices: current prices adjusted for purchasing power parity (PPP) and constant prices that are not adjusted for the differences in PPP but use 2011 domestic prices for each country to calculate inflation-adjusted value of capital stock. The PPP adjustment takes into account the fact that the real prices in developing countries are often lower than those in the developed countries. Therefore, using PPP-adjusted measures of capital stock may provide a more accurate comparison of countries within a given year. On the other hand, the constant value of capital stock may facilitate within-country comparisons over time.

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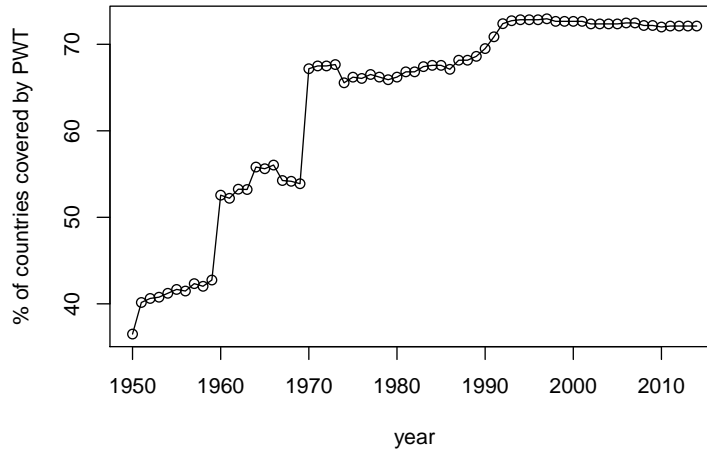
<sup>7</sup>See section 4.2 for notes on special treatment.

<sup>8</sup>Western Sahara and Morocco are in dispute over independence. See section 4.2 for a note on special treatment.

<sup>9</sup>More detailed information about derivations of capital stock can be obtained from the PWT documentation at [https://www.rug.nl/ggdc/docs/user\\_guide\\_to\\_pwt90\\_data\\_files.pdf](https://www.rug.nl/ggdc/docs/user_guide_to_pwt90_data_files.pdf)



Figure 1: Percentage of countries covered by PWT



### 3.1.2 Variables

*pop\_o*: Population (in millions) of *country\_o* in year *t*.

*pop\_d*: Population (in millions) of *country\_d* in year *t*.

*capital\_cur\_o*: Capital stock at current PPP-adjusted prices (in millions US\$) of *country\_o* in year *t*, with 2011 as the base year.

*capital\_cur\_d*: Capital stock at current PPP-adjusted prices (in millions US\$) of *country\_d* in year *t*, with 2011 as the base year.

*capital\_const\_o*: Capital stock at constant 2011 national prices (in millions US\$) *country\_o* in year *t*.

*capital\_const\_d*: Capital stock at constant 2011 national prices (in millions US\$) of *country\_d* in year *t*.

### 3.1.3 Data Construction

We have not altered the data reported by the source in any way other than to correctly map them to the identifiers in the Dynamic Gravity dataset.

## 3.2 GDP

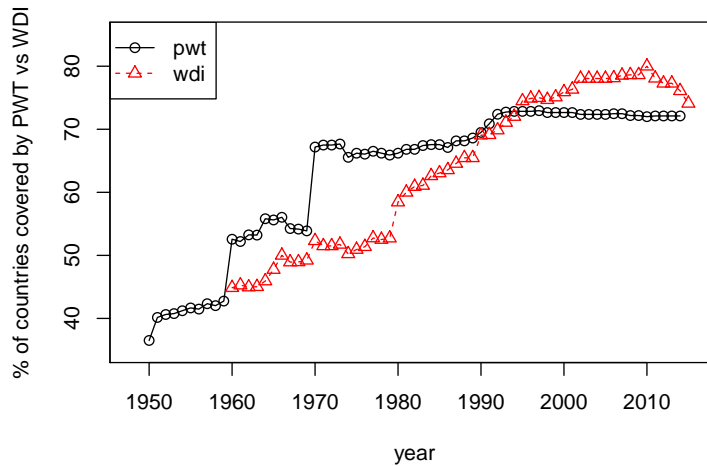
### 3.2.1 Data Sources

GDP and GDP per capita come from two datasets: the Penn World Tables (PWT) version 9.0 [Feenstra et al., 2015] and the World Bank’s World Development Indicators (WDI) [World Bank 2016]. Several of the variables—*gdp\_pwt\_const* and *gdp\_pwt\_cur*—were sourced from the PWT. This dataset provides information for the years 1950–2014, covering 55 countries in 1950 and increasing to 182 countries in 2014. The remaining GDP and GDP per capita variables—*gdp\_wdi\_const*, *gdp\_wdi\_cur*, *gdp\_wdi\_cap\_const*, and *gdp\_wdi\_cap\_cur*—were sourced from the WDI. This dataset provides information for the years 1960–2015, beginning with 135 countries in 1960 and expanding the coverage to 233 countries by 2015. While neither PWT nor WDI provide coverage for all years and countries in our dataset,

together they cover nearly 90% of the gravity dataset observations overall and over 95% of the observations from 1995–2015. Figure 2 below shows the percent of countries and territories in our dataset that have information about some GDP measures in a given year.

The two data sources allow for different comparability of countries' GDP over time and across borders. The PWT computes GDP as the value of a country's output at prices adjusted for purchasing power parity (PPP). Such adjustment takes into account the fact that the real prices in developing countries are often lower than those in developed countries. Therefore, using PPP-adjusted measures of GDP may provide a more accurate comparison between countries in a given year. On the other hand, the WDI measures real and nominal GDP without price adjustments, thereby facilitating within-country comparisons over time.<sup>10</sup>

Figure 2: Percentage of countries covered by PWT vs WDI



### 3.2.2 Variables

***gdp\_pwt\_const\_o***: Real GDP measured at inflation-adjusted and PPP-adjusted prices (in millions US\$) of *country\_o* in year *t*, with 2011 as the base year.

***gdp\_pwt\_const\_d***: Real GDP measured at inflation-adjusted and PPP-adjusted prices (in millions US\$) of *country\_d* in year *t*, with 2011 as the base year.

***gdp\_pwt\_cur\_o***: Real GDP measured at current PPP-adjusted prices (in millions US\$) of *country\_o* in year *t*, with 2011 as the base year.

***gdp\_pwt\_cur\_d***: Real GDP at current PPP-adjusted prices (in millions US\$) of *country\_d* in year *t*, with 2011 as the base year.

***gdp\_wdi\_const\_o***: Real GDP (in US\$) of *country\_o* in year *t*, with 2010 as the base year.

***gdp\_wdi\_const\_d***: Real GDP (in US\$) of *country\_d* in year *t*, with 2010 as the base year.

***gdp\_wdi\_cur\_o***: Nominal GDP (in US\$) of *country\_o* in year *t*, measured at current prices in year *t*.

<sup>10</sup>For a more detailed discussion of differences between the PWT and the WDI measures see Pinkovskiy and Sala-i Martin [2016a] and Pinkovskiy and Sala-i Martin [2016b].

***gdp\_wdi\_cur\_d***: Nominal GDP (in US\$) of *country\_d* in year *t*, measured at current prices in year *t*.

***gdp\_wdi\_cap\_const\_o***: Real GDP per capita (in US\$) of *country\_o* in year *t*, with 2010 as the base year.

***gdp\_wdi\_cap\_const\_d***: Real GDP per capita (in US\$) of *country\_d* in year *t*, with 2010 as the base year.

***gdp\_wdi\_cap\_cur\_o***: Nominal GDP per capita (in US\$) of *country\_o* in year *t*, measured at current prices in year *t*.

***gdp\_wdi\_cap\_cur\_d***: Nominal GDP per capita (in US\$) of *country\_d* in year *t*, measured at current prices in year *t*.

### 3.2.3 Data Construction

We have not altered the data reported by the source in any way other than to correctly map them to the identifiers in the Dynamic Gravity dataset.

## 4 Geographic Variables

Geographic variables describe the physical characteristics of a country that affect its level of trade with other countries. There are seven geographic variables in the current dataset that provide measures of geographic determinants of bilateral trade. In particular, they reflect location and connectedness, and are often used as a proxy for shipping or other transport costs. Of these measures, two are bilateral variables that measure relative proximity (*distance* and *contiguity*), while the remaining describe a country's location and features (*latitude*, *longitude*, *region*, *island*, and *landlocked*).

### 4.1 Location and Distance

In order to account for the potentially large geographic area that many countries cover, and in recognition that their economic activity and trade occur in multiple places within their borders, extra care was taken in the definition of the physical location and proximity variables *latitude*, *longitude*, and *distance*. To more accurately capture the location of economic activity within each country, these variables were based on city-level data. The *latitude* and *longitude* values reflect the simple midpoint between these cities. Meanwhile, the geographic distance between countries is based on the methodology developed by Mayer and Zignago [2005] and reflects the distance between pairs of cities, weighted by the proportion of the country's population residing in each city, in kilometers. Defining distance in this way is meant to more accurately capture the distance economic activity must travel between two countries. To illustrate, New York City and Shanghai are 11,861 km apart, while Los Angeles is only 10,072 km from Beijing, a difference of 1,789 km. The value provided in the Dynamic Gravity dataset, 11,454 km, takes into consideration not only these three cities but numerous others throughout the United States and China in order to provide an economically meaningful average distance between the two countries. This city-based methodology also permits the calculation of an internal distance within a country, reflecting the distance that domestically produced and consumed goods and services must travel.

#### 4.1.1 Data Sources

The majority of the latitudinal, longitudinal, and population data used to calculate *latitude*, *longitude*, and *distance* was collected from the basic version of Simplemaps.com's

“World Cities Database”.<sup>11</sup> Simplemaps.com has compiled data for a set of about 7,300 cities. Simplemaps.com draws on multiple sources to compile their database. The data pertaining to U.S. cities stems from the U.S. Census Bureau and the U.S. Geological Survey and the remainder of the non-U.S. data is from the National Geospatial-Intelligence Agency. This one dataset covers 221 countries, or 78 percent of all countries in the Dynamic Gravity dataset. However, for two countries, Samoa and Gibraltar, the populations reported by Simplemaps.com were erroneously large compared to other sources’ estimates. In these cases, we substituted the city populations with data from Brinkhoff and CIA [2017], respectively.

Despite the relatively thorough coverage provided by Simplemaps.com, there were thirty countries present in the Dynamic Gravity dataset not covered by Simplemaps.com. For those countries, latitudes and longitudes were collected from the Geohack website [Geohack]. Additional city-level population data were collected from census reports (16 countries), the U.N. Statistics Division’s World Statistics Pocketbook [World Statistic Pocketbook, 2016](6 countries), and the C.I.As World Factbook [CIA, 2017] (8 countries).<sup>12</sup> The U.N. and C.I.A. websites were consulted first but if they too lacked city level data, we searched for census reports. In some cases for small islands, it was not possible to find city level data so the entire island’s population was used. Table 4 in Appendix B provides further details on the cities and sources used.

Similarly, there were forty-three countries that no longer exist and were not present in the Simplemaps.com data. For twenty-two of these countries, population data was sourced from the UNDESA, 2016, which tracks cities with populations over 300,000 back to 1950. If the country did not have any cities in that data set, we relied on historical census data found individually or through one of two websites: Brinkhoff and Lehmeier [1999–2006]. There are also 8 countries, which were renamed, but did not otherwise change their geography, so we applied the data from Simplemaps.com [2015] to those countries.<sup>13</sup> Table 5 in Appendix B provides further details on the cities and sources used for each country.

All data from Simplemaps.com is from 2015, all other data is for the closest year to 2015 that was available (either before or after 2015). For countries that no longer exist, the data is from the year closest to the country’s last year in existence in our data set.

#### 4.1.2 Variables

***lat\_o***: The variable *lat\_o* is the average of the latitudes of major cities in *country\_o*

***lat\_d***: The variable *lat\_d* is the average of the latitudes of major cities in *country\_d*

***lng\_o***: The variable *lng\_o* is the average of the longitudes of major cities in *country\_o*

***lng\_d***: The variable *lng\_d* is the average of the longitudes of major cities in *country\_d*

***distance***: The variable *distance* is the population-weighted average of city-to-city bilateral distances in kilometers between each major city in *country\_o* and *country\_d*.

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<sup>11</sup>Simplemaps.com [2015]

<sup>12</sup> Palestinian Central Bureau of Statistics, Tokelau National Statistics Office [2006], CIA [2017], St Helena Statistics Office [2016], Pitcairn Islands Study Center, Pacific Union College, Department of Economics and Social Affaris, Statistics Division [2016], U.S. Census Bureau [2004], States of Jersey Statistics Unit [2011], Central Intelligence Agency [2012], French National Institute of Statistics and Economic Studies [2012], Brinkhoff, CBS—Statistics Netherlands [2012].

<sup>13</sup>These countries (and their former names) are: Sri Lanka (Ceylon), Vanuatu (New Hebrides), the Democratic Republic of the Congo (Zaire), Myanmar (Burma), Benin (Dahomey), Burkina Faso (Upper Volta), and Zimbabwe (Rhodesia). The last country, Romania, did not change its name, but changed its ISO code from ROM to ROU in 2002.

### 4.1.3 Variable Construction

The variables *latitude* and *longitude* are based on the respective locations of the largest city or cities in each country, as described in section 4.1.1. The reported values in the Dynamic Gravity dataset are the simple average of the city-level coordinates. As a result, coordinates reported for each country represent an average location for each country.

The variable *distance* is the population-weighted distance between *country\_o* and *country\_d*. This variable was calculated by weighting the distance between major cities of each country by each city’s population. The following formula, adapted from Mayer and Zignago [2011], was used to calculate the *distance*:

$$distance_{o,d} = \left( \frac{\sum_{i=0}^{n-1} \sum_{j=0}^{n-1} population_i \times population_j \times distance_{ij}^\theta}{population_o \times population_d} \right)^{\frac{1}{\theta}} \quad \forall o, d \in \{countries\}$$

where *i* is a city in *country\_o* and *j* is a city in country *country\_d*. Note that *population\_o* and *population\_d* reflect only the total population residing in the cities of *country\_o* and *country\_d* that were used in calculation of *distance*, not the total population of the countries overall. We set  $\theta$ , which is the sensitivity of trade flows to bilateral distance, equal to 1, which is the sensitivity used by Mayer and Zignago [2011].<sup>14</sup>

The distance between cities is calculated using a greater circle distance formula. Greater circle distance, or geodesic distance, is the shortest distance between two points on a sphere.<sup>15</sup> The formula uses the Spherical Law of Cosines to determine distance, which assumes the Earth is a perfect sphere, with a constant radius of 6,372.795 km [Weisstein, 2017]. One potential downfall of this method is that it takes the inverse of a cosine, which is ill-conditioned and can lose accuracy if the distance is small. The distances between cities are sufficiently large to avoid this issue [Chamberlain, 1996]. The benefits are that the Law of Cosines has the advantage of being computationally efficient and clear. The greater circle distance formula is:

$$distance_{ij} = K \arccos[\cos \delta_i \cos \delta_j \cos(\lambda_i - \lambda_j) + \sin \delta_i \sin \delta_j]$$

where  $\delta$  is the latitude,  $\lambda$  is the longitude, and  $K$  is the earth’s radius.

*Internal Country Observations:* In line with gravity trade theory, if there is only one city level observation in our data, we have assumed that internal distance is one so that the natural log of distance is well defined and equal to zero for internal trade. There are 80 countries with an internal distance of one, primarily islands or small countries (e.g. Andorra, Liechtenstein, Qatar).

## 4.2 Border Characteristics

The border characteristics variables describe the geographic features of each country’s borders. These features include the countries with which each shares a border, the types of geographic borders of each country, and the general geographic region to which each country belongs.

### 4.2.1 Data Sources

For the variables that describe geographic features of the country, *contiguity*, *landlocked*, *island*, and *region*, the information was collected from maps at the United States Library of Congress. We were unable to identify a single publisher or source covering all years in

<sup>14</sup> The U.S. Miscellaneous Pacific Islands, Bouvet Island, Heard and McDonald Islands, and the Neutral Zone between Iraq and Saudi Arabia have no permanent residents, but we assumed a population of 1.

<sup>15</sup>This approach does not take topography into consideration.

the Dynamic Gravity dataset. Instead, we were forced to segment the years based on the availability of atlases from three prominent publishers. For the years 1948–1972, we used annual C.S. Hammond & Company (Hammond’s Incorporated) world atlases and gazetteers.<sup>16</sup> Hammond’s Incorporated stopped publishing the world atlases in 1972. For the years 1973–1995, we used periodic illustrated atlases of the world published by Rand McNally.<sup>17</sup> Finally, for 1996 to the present, we used National Geographic Society atlases of the world.<sup>18</sup> In many cases—particularly ones involving short, difficult to see borders—we used Google LLC [2017] maps to confirm contiguity.

#### 4.2.2 Variables

***contiguity***: The variable *contiguity* is a binary indicator that is equal to 1 if *country\_o* and *country\_d* share a border in year *t*. A border is defined as a stretch of land or river. Countries jointly bordering to a lake or other large body of water but are otherwise non-contiguous are defined as not sharing a border and *contiguity* takes the value 0.

***landlocked\_o***: The variable *landlocked\_o* is a binary indicator that is equal to 1 if *country\_o* is landlocked. A country or territory is considered landlocked if it does not border an ocean or a body of water directly connected to an ocean.<sup>19</sup>

***landlocked\_d***: The variable *landlocked\_d* is a binary indicator that is equal to 1 if *country\_d* is landlocked. A country or territory is considered landlocked if it does not border an ocean or a body of water directly connected to an ocean.<sup>19</sup>

***island\_o***: The variable *island\_o* is a binary indicator that is equal to 1 if *country\_o* is an island. A country or territory is considered an island if it does not share any land borders with another country or territory.

***island\_d***: The variable *island\_d* is a binary indicator that is equal to 1 if *country\_d* it is an island. A country or territory is considered an island if it does not share any land borders with another country or territory.

***region\_o***: The variable *region\_o* defines location region of *country\_o*. The potential regions are: Africa, Caribbean, Central America, Central Asia, East Asia, Eurasia, Europe, Middle East, North America, Pacific, South America, South Asia, Southeast Asia, and Southern Pole.

***region\_d***: The variable *region\_d* defines location region of *country\_d*. The potential regions are: Africa, Caribbean, Central America, Central Asia, East Asia, Eurasia, Europe, Middle East, North America, Pacific, South America, South Asia, Southeast Asia, and Southern Pole.

#### 4.2.3 Variable Construction

The border variables were constructed based on the analysis of a time series of atlases at the United States Library of Congress. For each country or territory in the dataset, we examined its representation in these atlases for at least several different points in time between 1948 and 2014. If a border changed for any country during the time frame of the

<sup>16</sup>The first edition used is Hammond’s, 1948, the last edition used is Hammond’s, 1972.

<sup>17</sup>The first edition used is Rand McNally, 1973, the last edition used is Rand McNally, 1995.

<sup>18</sup>The first edition used is National Geographic Society, 1996, the last edition used is National Geographic Society, 2014.

<sup>19</sup>See the section on variable construction for a more thorough definition.

database, we identified the year in which that change was reflected in the atlases and altered its status in the dataset accordingly.

Countries and territories are defined as being contiguous if they share a land or river border of any length. We do not, however, recognize water borders beyond rivers, such as lakes or seas. For example, we do not consider Turkmenistan and Azerbaijan to be contiguous despite both being situated on opposite sides of the Caspian Sea. As a result of this, the variable *contiguity* can reasonably be used to reflect two countries' ability to trade directly with one another via land transport.

We defined a country or territory as being landlocked if it did not border an ocean or other major body of water with direct access to the ocean or major sea. For example, this definition does not consider countries on the Mediterranean Sea as being landlocked. However, countries or territories for whom the only access to the ocean is through a river controlled by other parties are considered landlocked. Similarly, countries bordering only a large inland sea such as the Caspian Sea, are considered landlocked because such a sea is not reflective of significant access to other countries via water. As a result of this definition, the variables *landlocked\_o* and *landlocked\_d* reflect the ability of a country to widely and directly import or export using water transport.

We define a country or territory as an island if it does not share a common land or river border with any other country or territory. This definition implies that even countries such as Indonesia, which intuitively seem like island nations, are not technically considered islands in the dataset. As a result, this variable definition reflects the inability of a country to trade with any foreign parties via land transport.

The *region* variables were defined according to general, consistent categorizations in the atlases consulted during the construction of the other border variables. The variables can reasonably be used as a general measure of regional proximity. However, no official source for regional location was consulted so users should be careful about the types of inference drawn from these variables as they may not accurately reflect other, more substantial definitions of any of the regions into which each country or territory was placed.

*Special Considerations for Contiguity:* In general, we have chosen not to extend common border across colonial relationships. That is, countries or territories do not share borders with any parties that are contiguous to their colonies or hegemonies unless they, themselves, are contiguous with the party. For example, Mexico does not share a border with Great Britain during the period when British Honduras exists as a British territory.<sup>20</sup>

*Western Sahara:* (*iso3* : ESH, *dynamic\_code* : ESH) is a disputed territory under Moroccan (*iso3* : MAR, *dynamic\_code* : MAR) control. Because Comtrade features trade data for Western Sahara, we have chosen to recognize this territory. If you do not wish to treat Western Sahara separately from Morocco, set common border of Morocco and Mauritania (*iso3* : MRT, *dynamic\_code* : MRT) to 1.

*Byelorussian SSR and Soviet Union:* Despite being a member of the Soviet Union (*iso3* : SVU, *dynamic\_code* : SVU), Byelorussian SSR (*iso3* : BYS, *dynamic\_code* : BYS) features trade reported independently while the Soviet Union existed. For this reason, we have chosen to include independent observations for it as well. Contiguity for Byelorussian SSR reflects not only the countries or territories to which it is contiguous but also any to which the Soviet Union is contiguous. Similarly, despite being itself landlocked, we have defined it as not being landlocked because the Soviet Union is not landlocked.

*Special Considerations for Landlocked:* Serbia is technically landlocked, but has access to a sea through Montenegro's Port of Bar.<sup>21</sup> Observations in the dataset assume it is landlocked. Anyone wishing to recognize this access to sea could set *landlocked\_o/d* = 1 for Serbia (*iso3*

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<sup>20</sup>British Honduras renamed and gained independence as Belize in 1981.

<sup>21</sup><http://serbianna.com/blogs/michaletos/archives/633>

: SRB)

*Internal Country Observations:* We have assumed that countries or territories are not contiguous to themselves. The variable *contiguity* reflects this assumption by setting the variable equal to zero whenever *country\_o* is equal to *country\_d*.

## 5 Cultural Variables

This section describes the set of variables that characterize cultural and historical relationships between country pairs. The measures included are those reflecting common spoken languages and former or current colonial ties. The current release contains seven cultural indicators described below.

### 5.1 Common Language

Common spoken languages are thought to be trade facilitating. The variable defined below, *common\_language*, is an indicator of whether a language is spoken by at least some residents of a country pair. In order to develop this indicator, we identify “commonly spoken” languages by residents of each country and territory using the CIA World Factbook definition of languages:

[...] a listing of languages spoken in each country and specifies any that are official national or regional languages. When data is available, the languages spoken in each country are broken down according to the percent of the total population speaking each language as a first language. For those countries without available data, languages are listed in rank order based on prevalence, starting with the most-spoken language.<sup>22</sup>

#### 5.1.1 Data Sources

The data used for construction of the *common\_language* variable comes from the CIA World Factbook [CIA, 2017].<sup>23</sup> The current edition of the CIA World Factbook lists 375 languages, one or more of which are commonly spoken in 276 countries and territories.<sup>24</sup>

#### 5.1.2 Variables

***common\_language:*** The variable *common\_language* takes value equal to 1 if residents of both *country\_o* and *country\_d* speak at least one common language, as listed in the CIA World Factbook [CIA, 2017].

#### 5.1.3 Variable Construction

The *common\_language* variable was constructed by cross-referencing languages listed for each country in the CIA World Factbook and setting the binary indicator for common language equal to 1 for all country pairs that share at least one listed common spoken language. A considerable limitation of this approach is that the source does not always list a proportion of the population of each country that speak a given language, implying that it is not generally possible to identify the extent to which two countries speak similar languages. Nonetheless, it was the most complete data source that we were able to identify.

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<sup>22</sup><https://www.cia.gov/library/publications/the-world-factbook/docs/notesanddefs.html> accessed on Dec-20-2017

<sup>23</sup>The CIA World Factbook is available at <https://www.cia.gov/library/publications/the-world-factbook/>.

<sup>24</sup>Full list of these languages by country is available at <https://www.cia.gov/library/publications/the-world-factbook/fields/2098.html>



*Dissolved Countries:* The most recent edition of the CIA World Factbook at the time of data construction does not list countries that have ceased to exist such as the Soviet Union or Yugoslavia. For those countries, the list of languages was supplemented by the earlier editions of the CIA World Factbook, taking the languages in the last year of each country’s existence as commonly spoken in that country. Note that in the current version of the Dynamic Gravity dataset, the *common\_language* does not change over time. It is current as of 2015 for the countries that exist in that year. For the countries that do not exist, it is current as of the last year of that country’s existence.

*Internal Country Observations:* We have assumed that for observations in which the origin and destination country are the same, there is at least one spoken language common to residents of that country. The variable *common\_language* reflects this assumption by setting the value of the variable equal to one whenever *country\_o* is equal to *country\_d*.

## 5.2 Colonial Relationships

The set of variables describing colonial relationships consists of six bilateral variables that describe historical colonial relationships between countries. These variables exclusively reflect relationships in which one country was a “colony” of its trading partner and, therefore, does not account for “protectorates”, “possessions”, or other types of possible entities lacking full sovereignty. These six variables are all directional. Three of them indicate that the origin country in a country pair was the colony of the destination country, implying that the destination country was the hegemon or colonizer. The remaining three variables reflect the reversal of that relationship so that the destination country is the colony. Additionally, these six variables also refer to three potential time frames. The first indicates whether the country pair was currently in a colonial relationship during the year of the record, the second indicates whether they were *ever* in a colonial relationship, and the third indicates whether they were in a colonial relationship at any point after 1945. Below are definitions for each of these six variables, along with the methods and data sources used to construct them.

### 5.2.1 Data Sources

The colonial relationship variables are based primarily on two sources, which were necessarily supplemented with several other sources in order to fill in some relationships missing from the two main sources. These combined sources were used to extract data for 325 unique colonial relationships (i.e., colonies with a combination of a distinct colonizer and distinct period of colonization), 263 unique entities that have been colonies, and 23 unique colonizers. The start and end dates for each of these colonial relationships were also extracted from these data sources.

The primary data source is Colonial Contiguity Data, 1816-2016, Version 3.1 dataset provided by the Correlates of War (CoW) Project [Correlates of War Project, 2017]. The dataset provides an extensive historical list of dependency relations between hegemons and their respective dependencies between 1816 and 2016. While the Dynamic Gravity dataset utilizes only those dependencies considered “colonies”, the source dataset contains other types of relationships such as protectorates and occupations. Each record provides the names of the two entities in a dependency relationship, the start and end year of the relationship, and the type of dependency. In total, the CoW data describes 2,697 such records.

In order to accurately include colonies that have gained independence from their colonizer prior to 1816, and thus are not listed in CoW dataset, we incorporate some additional data from WorldStatemen.org Cahoon [2001–2017], Kammen [1996], Johnson [1915], and Weber [1992]. Specifically, these sources were used to identify the colonial histories of Haiti, Morocco, Oman, Paraguay, Tunisia, and the United States.

### 5.2.2 Variables

For each variable, a country or territory is considered a “colony” if it is defined as a colony (i.e., lacks any sovereignty from its hegemon) but is not an occupied territory in the CoW Entities dataset.<sup>25</sup> Given that most of the source data provides a start year and end year for colonial relationships, but not the exact day and month on which the relationship began and ended, all of the variables below were set equal to 1 for a specific year of the panel if the relationship existed at any time during that year, even if only for a day.

***colony\_of\_destination\_current***: The binary variable *colony\_of\_destination\_current* denotes whether *country\_o* was a colony of *country\_d* in year *t*.

***colony\_of\_origin\_current***: The binary variable *colony\_of\_origin\_current* denotes whether *country\_d* was a colony of *country\_o* in year *t*.

***colony\_of\_destination\_ever***: The binary variable *colony\_of\_destination\_ever* denotes whether *country\_o* has ever been a colony of *country\_d*.

***colony\_of\_origin\_ever***: The binary variable *colony\_of\_origin\_ever* denotes whether *country\_d* has ever been a colony of *country\_o*.

***colony\_of\_destination\_after45***: The binary variable *colony\_of\_destination\_after45* denotes whether *country\_o* was a colony of *country\_d* for at least one year after 1945.

***colony\_of\_origin\_after45***: The binary variable *colony\_of\_origin\_after45* denotes whether *country\_d* was a colony of *country\_o* for at least one year after 1945.

### 5.2.3 Data Construction

Considerable care was taken to align the 3-letter CoW country codes with ISO 3-alpha codes to line up bilateral country pairs with the rest of our dataset. In many cases, the codes used by the CoW Project did not match those used by Dynamic Gravity dataset or the International Organization of Standards, requiring the development of an extensive concordance.

Records for dependency relationships in which the dependent entity is not a colony have been dropped from the CoW Entities dataset (e.g., protectorates, possessions, etc.). This partly explains why there are 1,142 unique dependencies in the raw, unfiltered data from the CoW Entities dataset, which exceeds the 300 total countries in our gravity dataset. Furthermore, the entities that are not currently a nation-state or have never been a nation-state (e.g., U.S. states such as Alaska or cities such as Aleppo) were excluded when constructing colonial relationship variables for this gravity dataset from the CoW Entities dataset. Therefore all records in the CoW Entities dataset that include an entity that is not part of our gravity dataset were excluded.

The list of CoW countries was supplemented by data from WorldStatesmen.org and three books (described in section 5.2.1) for six countries that gained independence prior to 1816 and were not covered by the CoW Project dataset. Although WorldStatesmen.org includes information on protectorates and other forms of dependencies beyond colonies, the only information extracted for this gravity dataset was for entities that were missing from the CoW data. These countries and their hegemon are Tunisia, independent from Turkey in 1591; Morocco, independent from France in 1666; Oman, independent from Portugal in 1741; the United States of America, independent from Great Britain in 1783; Haiti, independent from

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<sup>25</sup>We have also included several known colonial relationships predating the coverage of the CoW data. Please see the preceding subsection for details.

France in 1804; and Paraguay, independent from Spain in 1811.

*Internal Country Observations:* We have assumed that countries cannot be their own colonies or hegemons. The colonial variables reflect this assumption by setting each of the variables equal to zero whenever *country\_o* is equal to *country\_d*.

## 6 Trade Facilitation Variables

The trade facilitation variables are those that reflect policies put in place by nations for the sake (at least partially) of influencing aspects of international trade. The current data release includes seven variables describing preferential trade agreements between countries and territories and three sets of three variables, each set describing membership in the General Agreement on Tariffs and Trade (GATT), the World Trade Organization (WTO), and the European Union (EU), respectively. These variables, the data sources they were based on, and the details of their construction are discussed in the following subsections.

### 6.1 Preferential Trade Agreements

#### 6.1.1 Data Sources

The variables describing active preferential trade agreements (*agree\_pta*, *agree\_pta\_goods*, *agree\_pta\_services*, *agree\_cu*, *agree\_eia*, *agree\_fta*, and *agree\_psa*) between country pairs are derived from the list provided by the WTO's (2017) "Regional Trade Agreements Information System (RTA-IS)".<sup>26</sup> The RTA-IS provides information "cards" for each of 484 recognized trade agreements, which include the name of the agreement, the original signatory members; the current signatories; the date of entry into force and inactivity date (if applicable); the coverage of the agreement (goods and/or services), and the type of agreement (free, partial scope, customs union, etc.). While the WTO refers to these agreements as "regional trade agreements (RTAs)", we have chosen to refer to them as "preferential trade agreements" instead as they need not be regionally based.<sup>27</sup> The source data was compiled between February 26, 2017 and March 3, 2017, and the variables discussed in this section reflect the information that was listed during that period. A full list of the agreements recognized by the RTA-IS can be found in appendix E, table E6.

In some cases, the information provided by the WTO RTA-IS is supplemented with additional sources to better account for changes in agreement membership overtime. These cases are detailed below in section 6.1.3 and in appendix E, table E6.

#### 6.1.2 Variables

***agree\_pta:*** The variable *agree\_pta* takes a value equal to 1 if *country\_o* and *country\_d* are engaged in a preferential trade agreement of any type within the given *year*. The WTO defines such an agreement as one that grants more favorable conditions to the agreement members than those faced by other WTO members [WTO User Guide]. Specifically, it is equivalent to the maximum of *agree\_pta\_goods*, *agree\_pta\_services*, *agree\_cu*, *agree\_eia*, *agree\_fta*, and *agree\_psa*.

***agree\_pta\_goods:*** The variable *agree\_pta\_goods* takes a value equal to 1 if *country\_o* and *country\_d* are engaged in a preferential trade agreement that covers goods within the given *year*.

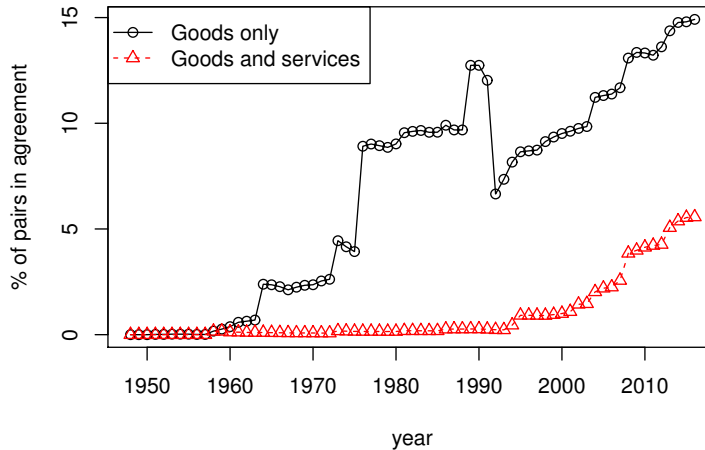
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<sup>26</sup> WTO, 2017b, [rtais.wto.org](http://rtais.wto.org)

<sup>27</sup>See WTO User Guide for more complete documentation on the RTA-IS.

***agree\_pta\_services***: The variable *agree\_pta\_services* takes a value equal to 1 if *country\_o* and *country\_d* are engaged in a preferential trade agreement that covers services within the given *year*. Additional information about services provisions in trade agreements can be found in Article 5 of GATS [General Agreement on Trade in Services (GATS), 1994].<sup>28</sup>

Figure 3: Percentage of pairs in PTAs



***agree\_cu***: The variable *agree\_cu* takes a value equal to one if *country\_o* and *country\_d* are engaged in a customs union within the given *year*. Paragraph 8(a) of Article XXIV of GATT 1994 defines a customs union as territory in which (i) duties and other regulations of commerce are eliminated for substantially all trade between members and (ii) substantially the same duties and regulations are extended by all members to non member territories [General Agreement on Tariffs and Trade (GATT 1994), 1994].<sup>29</sup>

***agree\_eia***: The variable *agree\_eia* takes a value equal to one if *country\_o* and *country\_d* are engaged in an economic integration agreement within the given *year*. Article V of GATS defines an EIA agreement pertaining to services that (a) features substantial sectoral coverage and (b) eliminates substantially all discrimination for these sectors [General Agreement on Trade in Services (GATS), 1994].<sup>30</sup>

***agree\_fta***: The variable *agree\_fta* takes a value equal to one if *country\_o* and *country\_d* are engaged in a free trade agreement within the given *year*. The RTA-IS defines a “free trade agreement” using Paragraph 8(b) of Article XXIV of GATT 1994, which defines a “free-trade area”. This definition describes an FTA as a group of customs territories where duties and regulations of commerce for all products originating within those territories are suspended for all members of the agreement [General Agreement on Tariffs and Trade (GATT 1994), 1994].<sup>31</sup>

***agree\_psa***: The variable *agree\_psa* takes a value equal to one if *country\_o* and *country\_d* are engaged in a partial scope agreement within the given *year*. A partial scope agreement is defined as one in which only certain products are covered [WTO User Guide].

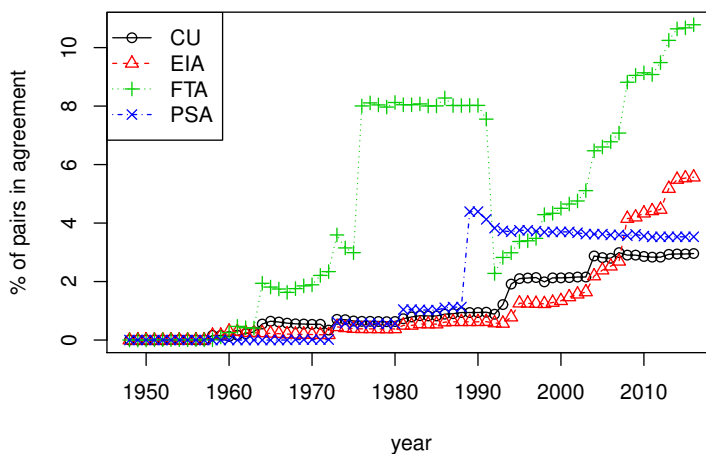
<sup>28</sup>[https://www.wto.org/english/docs\\_e/legal\\_e/26-gats\\_01\\_e.htm](https://www.wto.org/english/docs_e/legal_e/26-gats_01_e.htm)

<sup>29</sup>GATT Article XXIV - [https://www.wto.org/english/tratop\\_e/region\\_e/regatt\\_e.htm](https://www.wto.org/english/tratop_e/region_e/regatt_e.htm)

<sup>30</sup>See footnote 28

<sup>31</sup>See footnote 29

Figure 4: Percentage of pairs in each type of PTA



### 6.1.3 Variable Construction

Each agreement listed by the WTO was expanded across its listed members based primarily on those listed as “original signatories” to the agreement. For each country pair in which both countries were listed as signatories, the agreement was considered active in a given year so long as the agreement was active and the members were signatories for at least one day during that year. An agreement was considered active based on the listed “Date of entry into force” and, if applicable, the “Inactive date”.

A considerable limitation of the WTO RTA database is that it often lacks clear information about member countries that enter or exit trade agreements after they have been signed and entered into force. In the database, active agreements report member countries at only two points in time: the point the agreement was signed (original signatories) and the current period (current signatories). Agreements that have become inactive report only original signatories. Thus, from the dataset alone, it can be difficult to identify changes in member countries over time. In many cases, the addition of new member countries is accounted for through the addition of new trade agreements that reflect accessions, such as the “Central American Common Market (CACM) - Accession of Panama” of 2013 that followed the original “Central American Common Market (CACM)” agreement of 1961. In some other cases, the accession or exit of countries can only be identified by comparing the original and current signatories. Of the 289 active trade agreements recognized by the WTO, 48 featured differences in original and current signatories that needed to be addressed. Because agreements that have become inactive do not report a second list of members, we are unable to identify changes in members for those agreements using the RTA-IS. For the active agreements that we are able to identify differences, we used additional sources to determine the years in which countries entered or exited and edited agreements or added accession agreements to capture this variation. A full list of the agreements that required changes to membership can be found in Table E6 in appendix E.

Of the 48 agreements that required special attention, each one was addressed in order to improve its accuracy to the best of our ability. In 31 of these cases, the difference in original and current members was a result of European Union (EU) accessions, requiring only the introduction of new accession agreements that reflect the progressive growth in EU membership. In these cases, new EU members were added to trade agreements in the year in which they entered the EU. Other agreements required additional information to establish the timeline of countries exiting and entering. This process has corrected many of these issues but it is likely that there still exist situations in which some members are either missing from agreements or included in agreements erroneously.

In addition to these issues, several other special circumstances arose that required additional considerations and special treatment:

*Partially Missing Trade Agreements:* The WTO lists trade agreements in two ways. The first is through a table of trade agreements that provides some information such as the date of entry into force and the type of coverage. This list does not, however, list signatories. Thus, we must turn to a second collection of “cards” that correspond to each of the trade agreements. The cards provide much of the same information as the aforementioned list but also include information on member countries. The construction of the data required the extraction of member countries from these cards to be combined with the list of trade agreements.

In three cases, there are trade agreements listed that do not have corresponding cards. These agreements are “EU - Colombia and Peru”, “Eurasian Economic Community (EARC)”, and “Russian Federation - Tajikistan”. Because there was no listing of member countries, we have not included these agreements in the data set. Nonetheless, in the first two cases, there do exist similarly scoped trade agreements. Specifically, “EU - Colombia and Peru and Ecuador” and several “Eurasian Economic Union” agreements are included.

*Issues With Listed Member Countries:* In several cases, the WTO recognizes agreements that do not list member countries or list member countries that did not exist when the card suggests they do. These situations are described below.

The “Borneo Free Trade Area” agreement does not specify any member countries. The original text of the agreement states that it existed between North Borneo and Sarawak between 1962 and 1969. We do not include this agreement in the data because neither member country was independent prior to their joining Malaysia in 1963 and are not included in our collection of countries.

The WTO does not appear to list Czechoslovakia as a member country during years in which it existed but does include Slovakia and the Czech Republic prior to their existence. For example, the “EFTA - Czechoslovakia” agreement, which lasted from 1992-1993, does not list Czechoslovakia as a member but does list the Czech Republic, despite it not yet existing. To address this, we have classified both Slovakia and the Czech Republic as Czechoslovakia between 1948 and 1992.

Several countries appear to be listed with inappropriate country names for certain periods of time. In each case, we have attempted to correct this where it appears to be appropriate. Between the years 1949 and 1990, we have assumed that “Germany”, as listed by the WTO, is “West Germany”. “Saint Kitts and Nevis” was renamed to “Saint Christopher-Nevis-Anguilla” for 1967–1982. “Burkina Faso” was renamed “Upper Volta” for 1960-1983. “Congo, Democratic Republic” was renamed “Zaire” for 1971–1997.

Several agreements list member countries prior to their gaining independence. In these cases, we have not included countries as members until they become independent and appear in our data set.

The “Arab Common Market” agreement lists Yemen as a member prior to the unification of North and South Yemen. The original text of the agreement lists the Yemenite Arab Republic as an original member so we include North Yemen as a member and exclude South Yemen during the relevant years (1948–1989).

*Internal Country Observations:* Observations in which the origin and destination country are the same are included in the data set. We have assumed that countries cannot be in a trade agreement with themselves by definition. The trade agreement variables reflect this assumption by setting each of the variables equal to zero whenever *country\_o* is equal to *country\_d*.

## 6.2 EU, WTO, & GATT Membership

### 6.2.1 Data Sources

Data describing membership in the European Union was based on information made available directly from the European Union. The European Union provides a list of the 28 members and the dates at which they joined Union between 1958 and 2016.<sup>32</sup>

Data describing membership in the World Trade Organization and the General Agreement on Tariffs and Trade was based on information made available by the World Trade Organization.<sup>33</sup> For both groups, the WTO provides a comprehensive list of member countries and their date of membership [The World Trade Organization, a].<sup>34</sup> Table E7 in appendix E lists the members and accession dates of the GATT and WTO, respectively.

### 6.2.2 Variables

***member\_eu\_o***: The variable *member\_eu\_o* takes the value one if *country\_o* is a member of the European Union in the given *year*.

***member\_eu\_d***: The variable *member\_eu\_d* takes the value one if *country\_d* is a member of the European Union in the given *year*.

***member\_wto\_o***: The variable *wto\_o* takes the value one if *country\_o* is a member of the World Trade Organization in the given *year*.

***member\_wto\_d***: The variable *member\_wto\_d* takes the value one if *country\_d* is a member of the World Trade Organization in the given *year*.

***member\_gatt\_o***: The variable *member\_gatt\_o* takes the value one if *country\_o* is a member of the General Agreement on Tariffs and Trade in the given *year*.

***member\_gatt\_d***: The variable *member\_gatt\_d* takes the value one if *country\_d* is a member of the General Agreement on Tariffs and Trade in the given *year*.

***member\_eu\_joint***: The variable *member\_eu\_joint* takes the value one if both *country\_o* and *country\_d* are members of the European Union in the given *year*.

***member\_wto\_joint***: The variable *member\_wto\_joint* takes the value one if both *country\_o* and *country\_d* are members of the World Trade Organization in the given *year*.

***member\_gatt\_joint***: The variable *member\_gatt\_joint* takes the value one if both *country\_o* and *country\_d* are members of the General Agreement on Tariffs and Trade in the given *year*.

Some summary information for these variables is depicted in figures 5 and 6

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<sup>32</sup>[https://europa.eu/european-union/about-eu/countries\\_en](https://europa.eu/european-union/about-eu/countries_en)

<sup>33</sup>The GATT was an agreement signed in 1948 and later replaced with the formation of the WTO in 1995 that governed international trade among its members. The agreement featured 23 original members and grew to 128 by 1994 [The World Trade Organization, b,a].

<sup>34</sup>[https://www.wto.org/english/thewto\\_e/whatis\\_e/tif\\_e/org6\\_e.htm#](https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm#) and [https://www.wto.org/english/thewto\\_e/gattmem\\_e.htm](https://www.wto.org/english/thewto_e/gattmem_e.htm)

Figure 5: Number of members of the EU, GATT, and WTO.

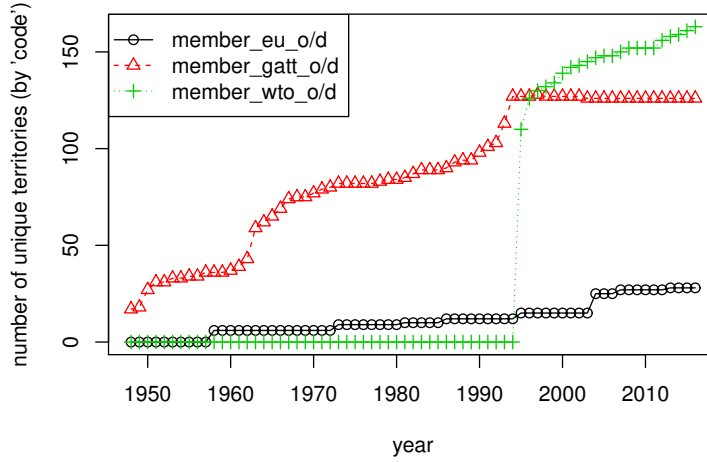
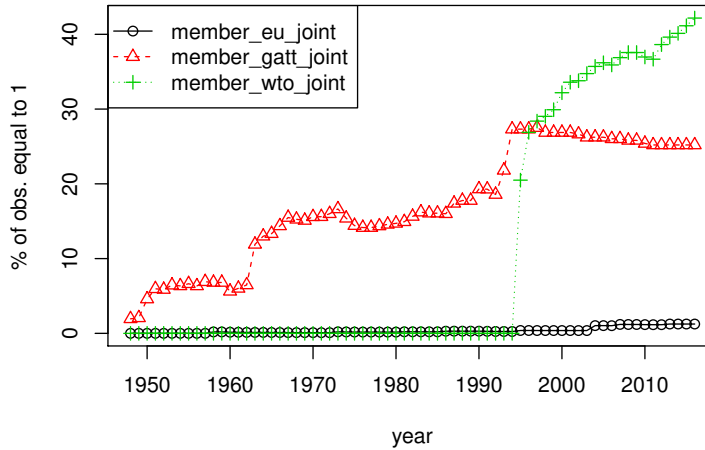


Figure 6: Percentage of pairs jointly in the EU, GATT, and WTO.



### 6.2.3 Variable Construction

Using the sources described above, countries were assigned membership into each of these groups based on the dates on which they joined. Countries are considered members in a given year so long as they belonged to the organization for at least one day during that year.

*Internal Country Observations:* For observations in which the origin and destination countries are the same, the “joint” variables *member\_eu\_joint*, *member\_wto\_joint*, and *member\_gatt\_joint* are assumed to take the value of 1 if the country is a member of the respective organization and 0 otherwise. In doing so, we have implicitly assumed that internal, domestic trade qualifies as within organization trade.

## 7 Measures of Institutional Stability

The institutional stability variables are those that measure various events a country may be involved in or characteristics of a country that may influence its propensity or desire



to conduct international trade with a given trading partner due to different aspects of the country’s stability. The current data release includes three sets of variables, each describing a different form of institutional stability in either a bilateral (hostility level towards another country or sanctions with another country) or unilateral (level of political stability) manner. These variables, the data sources they were based on, and the details of their construction are discussed in the following subsections.

## 7.1 Hostility

### 7.1.1 Data Sources

Source data for the variables reflecting hostility (*hostility\_level*) comes from The Correlates of War Project’s (CoW) Militarized Interstate Disputes dataset (MIDB v4.01) [Palmer et al., 2015].<sup>35</sup> The dataset is organized by dispute with each observation identifying a country that participated in a particular dispute. A variable denoting what “side” of the conflict a given participant existed indicates a given country’s allies and enemies in the conflict. From that we are able to derive bilateral lists of country pairs exhibiting some level of conflict within a given year as well as the level of hostility of each conflict.

### 7.1.2 Variables

***hostility\_level\_o***: The variable *hostility\_level\_o* is coded 1–5 and denotes the level of hostility of *country\_o* towards *country\_d* in year *t*.<sup>36</sup>

- 1 - no militarized action taken
- 2 - some form of threat made
- 3 - some show of force or alert of force
- 4 - some use of more substantial force
- 5 - complete war

***hostility\_level\_d***: The variable *hostility\_level\_d* is coded 1–5 and denotes the level of hostility of *country\_d* towards *country\_o* in year *t*.

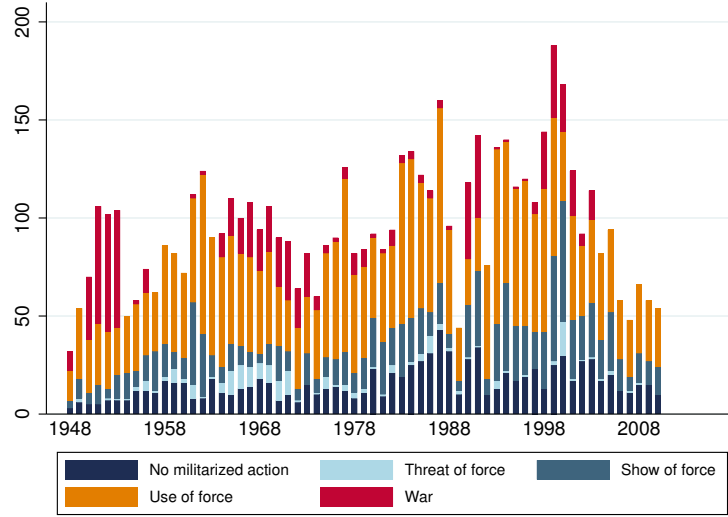
- 1 - no militarized action taken
- 2 - some form of threat made
- 3 - some show of force or alert of force
- 4 - some use of more substantial force
- 5 - complete war

Figure 7 shows the number of conflicts by *hostility\_level* by year.

<sup>35</sup>For more information, the MID data, or the MID codebooks, see: <http://www.correlatesofwar.org/data-sets/MIDs>.

<sup>36</sup>MIDB data aggregates another variable, *HiAct*, to create their *HostLev* variable. For more information, see MID v4.0 codebook here: <http://www.correlatesofwar.org/data-sets/MIDs>.

Figure 7: Frequency of hostility levels, by year



### 7.1.3 Variable Construction

Data was constructed by expanding the information provided by the source data into a bilateral format over time to fit the structure of the Dynamic Gravity dataset. Care was then given to properly concord the country-identifying codes used by the CoW Project to those used in the Dynamic Gravity dataset.

Some pairs of countries feature more than one conflict in a given year. In these cases, *hostility\_level* takes maximum of the levels of hostility a country has towards another country in that given year. For example, Israel has three distinct conflicts with Syria in 1950; two of which are coded as having a hostility level of 4 while the other reflects a hostility level of 1. Therefore,  $hostility\_level_o = 4$  for the observation where Israel is the origin country, Syria is the destination country, and the year is 1950.

It is worth noting that *hostility\_level* is not necessarily symmetrical with respect to a country pair, reflecting the possibility that the level of hostility one country extends towards another in a given year is not the same as it experiences from that country. For example, in 1948 the CoW data observes the hostility level of France towards Thailand as a 4, while the hostility level of Thailand towards France is a 1.

*Assigning Conflicts to Countries:* Considerable care was taken to align CoW country codes with ISO3 codes to line up bilateral country pairs with the rest of our dataset, and then various observations needed additional special attention.<sup>37</sup> In total, 122 countries had CoW and ISO codes that differed. In these cases manual changes needed to be made to the CoW data for merging purposes.

Additionally, since the CoW data is intended to list participants in a given dispute, it often lists participants that do not immediately concord to a country. For example, participants can take part in a conflict before or after their country exists (e.g. civil wars), or the country can change identity during conflicts (USSR conflicts post 1992). For example, North Vietnam and South Vietnam were separately “at conflict” with various other members of the Vietnam War even after the country officially reunited as Vietnam in the CoW data. Similarly, there were still conflicts involving the Soviet Union after it dissolved. For instances where a participant in a conflict logically conformed to a different country that

<sup>37</sup>For the complete list of codes see the CoW country codes dataset here: <http://www.correlatesofwar.org/data-sets/cow-country-codes>.

we observe in that particular year due to changes in the geopolitical landscape, we have accounted for these and assigned them appropriately. However, conflicts where a participant did not logically concord to an existing country in a given year that we observe as existing, we chose to exclude those participant-year pairs from our dataset.

*Internal Country Observations:* The CoW MIDB dataset does not include civil wars, explicitly describing the disputes it catalogs as, “historical cases of conflict in which the threat, display or use of military force short of war by one member state is explicitly directed towards the government, official representatives, official forces, property, or territory of another state.”<sup>38</sup> As a result, we do not observe civil wars, domestic unrest, or other such situations and set internal hostility levels equal to zero.

## 7.2 Polity

### 7.2.1 Data Sources

The variables describing political stability (*polity* and *polity\_absolute*) are based on data from the Polity IV Project [Marshall et al., 2016]. The Polity data scores countries annually on an ordinal scale ranging from -10 to 10 denoting their level of democracy or autocracy.<sup>39</sup> A score of -10 denotes a country that is strongly autocratic, a 10 denotes a country that is strongly democratic, and a 0 denotes a country neither autocratic nor democratic (i.e. lacking in government) with intermediate values describing situations within that spectrum.<sup>40</sup> In total, the current dataset includes 194 countries, although not all countries exist each year. For example, countries like Germany, Japan, and East Germany are all omitted in certain years, typically around with years following conflicts or changes in the state (e.g. West Germany and East Germany unifying). In their most recent release, Polity scores cover 1948 to 2016. Appendix tables F8 and F9 list countries that exist in our dataset but are not tracked by the Polity IV project for any year, and countries that are tracked in some years but not the entire span of our data.

### 7.2.2 Variables

***polity\_o*:** The variable *polity\_o* is the polity score in year *t* of *country\_o*.

***polity\_d*:** The variable *polity\_d* is the polity score in year *t* of *country\_d*.

***polity\_absolute\_o*:** The variable *polity\_absolute\_o* is the absolute value of the polity score in year *t* of *country\_o*.

***polity\_absolute\_d*:** The variable *polity\_absolute\_d* is the absolute value of the polity score in year *t* of *country\_d*.

### 7.2.3 Variable Construction

In addition to reporting the Polity scores reported by the Polity Project, we also provide an alternative measure (*polity\_absolute*) that reflects a slightly different interpretation of the information. A considerable limitation to the way in which Polity indexes stability is a lack of a real understanding about the relative impact of moving from one value to the next (i.e. -10 to 1 means that the country is now more democratic but less stable). In light of this, we

<sup>38</sup>For more information see: <http://www.correlatesofwar.org/data-sets/MIDs>.

<sup>39</sup>For more information on the Polity Project, see: <http://www.systemicpeace.org/polityproject.html>. Worth noting is that a Polity V version of the dataset is currently in development as of the time of writing.

<sup>40</sup>For more information on polity score coding, see: <http://www.systemicpeace.org/inscr/p4manualv2016.pdf>

have also provided a second measure *polity\_absolute* that is the absolute value of these scores. The motivation for this measure is the notion that a higher nominal value corresponds to a higher level of stability within a country regardless of its form of governance.

There are also a few instances in the data where we observe a country twice within a single year. These cases are due to Polity identifying the country under multiple different regimes within a year that concord to the same country in the Dynamic Gravity dataset. In these situations, we had to make special decisions about which of two polity scores to assign them. For example, The Polity project assigns polity scores to Sudan, South Sudan, and North Sudan in 2011, while we only observe Sudan from 1956-2016 and South Sudan from 2011-2016. We therefore used North Sudan’s polity scores for 2011 and onwards for “Sudan” coinciding with the birth of South Sudan. Similar issues arise with Ethiopia in 1993, West Germany/Germany in 1990, and Yugoslavia/Serbia and Montenegro in 1991.

The Polity Project group has both increased its country coverage overtime and updated past polity scores to reflect changes in their institutions. In general, these updates are indicative of countries trending towards the “strongly democratic” end of the spectrum. Table 2 shows the spread of *polity* and *polity\_absolute* scores across several years where the Polity Project made substantial updates.<sup>41</sup> As shown in the table, countries appear to be becoming more stable—and more democratically stable in particular—over time.

Table 2: Number of countries by polity score for selected years

	<i>polity</i> by year					<i>polity_absolute</i> by year				
	1948	1960	1982	1992	2016	1948	1960	1982	1992	2016
- 10	3	6	7	5	4					
- 9	7	12	13	7	3					
- 8	1	7	13	1	3					
- 7	9	19	40	19	9					
- 6	5	5	7	8	2					
- 5	5	4	5	7	1					
- 4	1	2	1	3	6					
- 3	6	3	2	7	5					
- 2	0	0	2	2	5					
- 1	1	5	1	2	3					
0	1	1	2	8	3	1	1	2	8	3
1	1	0	0	2	1	2	5	1	4	4
2	5	3	2	0	3	5	3	4	2	8
3	2	0	1	1	3	8	3	3	8	8
4	1	4	4	4	6	2	6	5	7	12
5	3	4	1	9	11	8	8	6	16	12
6	0	2	4	14	14	5	7	11	22	16
7	2	4	4	8	13	11	23	44	27	22
8	3	5	6	15	17	4	12	19	16	20
9	0	1	3	9	20	7	13	16	16	23
10	18	21	24	29	33	21	27	31	34	37

As was the case with the *hostility\_level* variables, the Polity Project uses CoW codes for its country classification system, so the same careful considerations had to be taken here as noted previously. Along with aligning differences in labeling conventions, if a polity score logically belonged to a country we observe under a different name in a given year, those

<sup>41</sup>For more information on specific country coverage in a certain year, see: <http://www.systemicpeace.org/polityproject.html>.

adjustments have been made. In the case that a country received a polity score before we observe its existence, its score in those years have not been included.

## 7.3 Economic Sanctions

### 7.3.1 Data Sources

There are four variables describing economic sanctions directed towards partners. These variables are derived from the Threat and Impositions of Sanctions (TIES) dataset [Morgan et al., 2014]. The TIES dataset records economic sanctions imposed between 1945–2005 and provides end dates for these sanctions through 2012 (when the dataset was last updated). For sanctions still in place in 2012, it provides an “as of” date for the last time they verified the sanction remained in place. We used these “as of” dates as the end year for sanctions that TIES does not feature a confirmed end date.

### 7.3.2 Variables

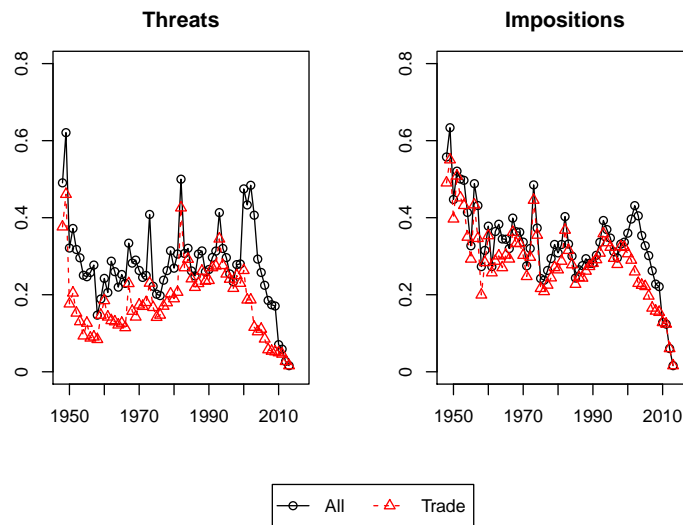
***sanction\_threat***: The binary variable *sanction\_threat* denotes whether or not a threat to impose any sort of sanction existed between *country\_o* and *country\_d* in year *t*.

***sanction\_threat\_trade***: The binary variable *trade\_sanction\_threat* denotes whether or not a threat to impose a trade sanction existed between *country\_o* and *country\_d* in year *t*.

***sanction\_imposition***: The binary variable *sanction\_imposition* denotes whether or not any sort of sanction existed between *country\_o* and *country\_d* in year *t*.

***sanction\_imposition\_trade***: The binary variable *trade\_sanction\_imposition* denotes whether or not any sort of trade sanction existed between *country\_o* and *country\_d* in year *t*.

Figure 8: Percentage of country pairs with threatened or imposed sanctions



### 7.3.3 Variable Construction

The variables *sanction\_threat* and *sanction\_imposition* correspond to dummy variables in the TIES dataset and indicate whether or not a pair of countries has a sanction threatened

or in place between them in a given year. The trade specific sanction variables, *sanction\_threat\_trade* and *sanction\_imposition\_trade*, are a refinement of this information, taking a value of one if the TIES variables for type of sanctioned threatened and/or imposed correspond to trade specific policy decisions. Specifically we coded *sanction\_threat\_trade* = 1 if the “sanctioned type threatened” variable in TIES was 2, 3, 4, 5, 6, 9, or 10. For *sanction\_imposition\_trade*, we coded that as 1 if “sanction type” in TIES was 1, 2, 3, 4, 5, 8, or 9.<sup>42</sup> Figure 8 demonstrates the frequency of sanction threats and impositions over time. It’s worth noting here that the threat of sanction and imposition of sanction variables are constructed independently of one another and that threat is not a requirement for eventual imposition. In total, the TIES dataset has 1,412 unique cases of a sanction either being threatened or imposed (or both). In 567 cases a sanction was only threatened, in 359 cases a sanction was only imposed, and in 486 cases a sanction was both threatened and imposed.

*Assigning Sanctions to Countries:* Careful attention had to be paid to lining up counties in TIES to countries in the Dynamic Gravity dataset due to differences in the naming conventions between the two. Conveniently, the TIES dataset identifies countries using the same three digit code as the Correlates of War datasets. This permitted us to use the same concordance developed and described in section 7.1.3.

Many sanctions in the TIES database feature not only a principal sender or senders, but also sanctioning institutions. The Dynamic Gravity dataset currently only pairs the senders specifically observed in the TIES dataset to the target of a given instance of economic sanctions.<sup>43</sup>

TIES includes three instances in which a sender sanctions a single country twice within the same year. In these cases, we assigned the maximum as we did with *hostility\_level* above.

Additionally, there were 38 instances in which a country involved in a sanction in a given year did not exist in the Dynamic Gravity dataset. An example of this is the United States sanctioning East Germany in 1948. In these cases, the observations were not included.

*Internal Country Observations:* The source data does not report sanctions threatened or imposed by parties on themselves for the countries we have identified in the Dynamic Gravity dataset. Therefore, all sanctions variables for observations where *country\_o* is equal to *country\_d* are set to zero.

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<sup>42</sup>For more information on TIES sanction types see: <https://www.unc.edu/~bapat/TIES.htm>.

<sup>43</sup>The variable *institutionid* in the TIES database lists any international institution involved in a given international sanction using a CoW institution code. We intend to incorporate the members of these various international institutions on a time-variant basis in a future update. For the complete list of codes see the CoW intergovernmental organizations dataset here: <http://www.correlatesofwar.org/data-sets/IGOs>.

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# Appendices

## A List of Variables

Table A1: List of Variables

Variable	Description	Page
<i>country_o</i>	Name of origin country	6
<i>country_d</i>	Name of destination country	6
<i>iso3_o</i>	3-digit ISO code of origin country	6
<i>iso3_d</i>	3-digit ISO code of destination country	6
<i>dynamic_code_o</i>	Year-appropriate 3-digit code of origin country	6
<i>dynamic_code_d</i>	Year-appropriate 3-digit code of destination country	6
<i>year</i>	Year of observation	6
<i>pop_o</i>	Population of origin country	8
<i>pop_d</i>	Population of destination country	8
<i>capital_cur_o</i>	Capital stock at current PPP of origin country	8
<i>capital_cur_d</i>	Capital stock at current PPP of destination country	8
<i>capital_const_o</i>	Capital stock at constant prices of origin country	8
<i>capital_const_d</i>	Capital stock at constant prices of destination country	8
<i>gdp_pwt_const_o</i>	Real, inflation-adjusted, PPP-adjusted GDP of origin country (PWT)	9
<i>gdp_pwt_const_d</i>	Real, inflation-adjusted, PPP-adjusted GDP of destination country (PWT)	9
<i>gdp_pwt_cur_o</i>	Real, current, PPP-adjusted GDP of origin country (PWT)	9
<i>gdp_pwt_cur_d</i>	Real, current, PPP-adjusted GDP of destination country (PWT)	9
<i>gdp_wdi_const_o</i>	Real GDP of origin country (WDI)	9
<i>gdp_wdi_const_d</i>	Real GDP of destination country (WDI)	9
<i>gdp_wdi_cur_o</i>	Nominal GDP of origin country (WDI)	9
<i>gdp_wdi_cur_d</i>	Nominal GDP of destination country (WDI)	9
<i>gdp_wdi_cap_const_o</i>	Real GDP per capita of origin country (WDI)	9
<i>gdp_wdi_cap_const_d</i>	Real GDP per capita of destination country (WDI)	9
<i>gdp_wdi_cap_cur_o</i>	Nominal GDP per capita of origin country (WDI)	9
<i>gdp_wdi_cap_cur_d</i>	Nominal GDP per capita of destination country (WDI)	9
<i>lat_o</i>	Latitude coordinate of origin country	11
<i>lat_d</i>	Latitude coordinate of destination country	11
<i>lng_o</i>	Longitude coordinate of origin country	11
<i>lng_d</i>	Longitude coordinate of destination country	11
<i>distance</i>	Population weighted distance between country pair	11
<i>contiguity</i>	Country pair shares a common border	13
<i>landlocked_o</i>	Origin country is landlocked	13
<i>landlocked_d</i>	Destination country is landlocked	13
<i>island_o</i>	Origin country is an island	13
<i>island_d</i>	Destination country is an island	13
<i>region_o</i>	Geographic region of origin country	13
<i>region_d</i>	Geographic region of destination country	13
<i>common_language</i>	Residents of country pair speak at least one common language	16
<i>colony_of_destination_current</i>	Origin country is a colony of the destination country	17
<i>colony_of_origin_current</i>	Destination country is a colony of the origin country	17
<i>colony_of_destination_ever</i>	Origin country was ever a colony of the destination country	17
<i>colony_of_origin_ever</i>	Destination country was ever a colony of the origin country	17
<i>colony_of_destination_after45</i>	Origin country was a colony of the destination country after 1945	17
<i>colony_of_origin_after45</i>	Destination country was a colony of origin country after 1945	17
<i>agree_pta</i>	Country pair is in at least one active preferential trade agreement	19
<i>agree_pta_goods</i>	Country pair is in at least one active preferential trade agreement covering goods	19
<i>agree_pta_services</i>	Country pair is in at least one active preferential trade agreement covering services	19
<i>agree_cu</i>	Country pair is in at least one customs union	19
<i>agree_eia</i>	Country pair is in at least one economic integration agreement	19
<i>agree_fta</i>	Country pair is in at least one free trade agreement	19
<i>agree_psa</i>	Country pair is in at least one partial scope agreement	19
<i>member_eu_o</i>	Origin country is a European Union member	23
<i>member_wto_o</i>	Origin country is a World Trade Organization member	23
<i>member_gatt_o</i>	Origin country is a General Agreement on Tariffs and Trade member	23
<i>member_eu_d</i>	Destination country is a European Union member	23
<i>member_wto_d</i>	Destination country is a World Trade Organization member	23
<i>member_gatt_d</i>	Destination country is a General Agreement on Tariffs and Trade member	23
<i>member_eu_joint</i>	Country pair are both members of the European Union	23
<i>member_wto_joint</i>	Country pair are both members of the World Trade Organization	23

Continued on next page

Table A1 – continued from previous page

Variable	Description	Page
<i>member_gatt_joint</i>	Country pair are both members of the General Agreement on Tariffs and Trade	23
<i>polity_o</i>	Polity (political stability) score of origin country	27
<i>polity_d</i>	Polity (political stability) score of destination country	27
<i>polity_absolute_o</i>	Absolute value of the Polity score of the origin country	27
<i>polity_absolute_d</i>	Absolute value of the Polity score of the destination country	27
<i>hostility_level_o</i>	Level of the origin country’s hostility toward the destination country	25
<i>hostility_level_d</i>	Level of the destination country’s hostility toward the origin country	25
<i>sanction_threat</i>	There exists a threat of sanction between one country in a record towards the other	29
<i>sanction_threat_trade</i>	There exists a threat of trade sanction between one country in a record towards the other	29
<i>sanction_imposition</i>	There exists a sanction between one country in a record towards the other	29
<i>sanction_imposition_trade</i>	There exists a trade sanction between one country in a record towards the other	29

## B List of Unique *dynamic\_code*’s

Table B2: Changes to country codes

Country	ISO 3-alpha	Code	Effective Year(s)	Change Reason
Guadeloupe	GLP	GLP.X	2007+	Saint-Barthélemy and Saint-Martin were part of Guadeloupe until 2007. Code for Guadeloupe became GLP.X following the split.
Kiribati	KIR	KIR.X	1984+	Phoenix Islands and some of the Line Islands became part of Kiribati territory by Treaty of Tarawa. Code for Kiribati changed from KIR to KIR.X.
Malaysia	MYS	MYS.X	1963–1964	Singapore became independent from Malaysia in 1965. Code for Malaysia changed from MYS.X to MYS.
Netherlands Antilles	ANT	ANT.X	1986–2010	Aruba and SSS islands (Saba, Sint Eustatius, and Sint Maarten) were part of the Netherlands Antilles until 1986. Following separation of Aruba and SSS islands, code for the Netherlands Antilles changed from ANT to ANT.X. The Netherlands Antilles were dissolved in 2010.
Pakistan	PAK	PAK.X	1971+	Bangladesh became independent of Pakistan. Code for Pakistan changed from PAK to PAK.X.
Panama	PAN	PAN.X	1981+	Panama gained joint control with the U.S. over the Panama Canal Zone in 1980. Code for Panama changed from PAN to PAN.X in 1981. Panama has received full autonomous control over the canal on December 31, 1999.
Saudi Arabia	SAU	SAU.X	1993+	Saudi-Iraqi Neutral Zone was formerly known using ISO 3-alpha “NTZ”. It was discontinued at the end of 1992. Saudi Arabia without the Neutral Zone is coded using SAU.X.
Serbia	SRB	SRB.X	2008+	Serbia is coded with SRB.X following Kosovo’s split in 2008.
South Africa	ZAF	ZAF.X	1990+	Namibia became independent of South Africa in 1990. South Africa code changed from ZAF to ZAF.X.
Sudan	SDN	SDN.X	2011+	Following the independence of South Sudan from Sudan in 2011, Sudan’s code changed from SDN to SDN.X
Vietnam	VNM	VNM.X	1977+	Following the unification of North and South Vietnam, the new unified country inherited the ISO 3-alpha code for South Vietnam (VNM). To reflect this change, code for unified Vietnam is VNM.X.
West Germany	DEU	DEU.X	1949–1990	Germany split into East and West Germany in 1949 and remained separated until 1990. During that period, West Germany used ISO 3-alpha code DEU that was also used by the unified Germany before 1949 and after 1990. To distinguish between unified and West Germany, code DEU.X was assigned to West Germany.

Continued on next page

Table B2 – continued from previous page

Country	ISO 3-alpha	Code	Effective Year(s)	Change Reason
Yemen	YEM	YEM.X	1990+	Following unification of North and South Yemen, the unified country inherited the ISO 3-alpha of North Yemen. To distinguish between unified and North Yemen, code YEM.X was assigned to unified Yemen.
Yugoslavia	YUG	YUG.X	1992–2002	Following split of Yugoslavia, Federal Republic of Yugoslavia inherited ISO 3-alpha YUG. This ISO 3-alpha existed until FR Yugoslavia was renamed Serbia and Montenegro in 2003. To distinguish between the Socialist Federal Republic of Yugoslavia of 1943–1991 and FR Yugoslavia of 1992–2002, the latter received the code YUG.X.

## C Matching Dynamic Gravity to Comtrade and WITS

Table C3: Country identifiers in Dynamic Gravity, Comtrade, and WITS

Country	Dynamic Gravity	Comtrade	WITS
Congo, Democratic Republic of the	ZAR (1971–1997) COD (1998–2016)	COD	ZAR
East Timor	TLS	TLS	TMP
Montenegro	MNE	MNE	MNT
Neutral Zone	NTZ	n/a	NZE
Pacific Islands	PCI	PCI	PCE
Romania	ROM (1948–2001) ROU (2002–2016)	ROU	ROM
Serbia	SRB	SRB	SER
Sikkim	SKM	n/a	SIK
Sudan	SDN	SDN	SUD
Taiwan	TWN	490	OAS
U.S. Miscellaneous Pacific Islands	PUS	n/a	USP
Vietnam, South	VNM	VNM	SVR
Yemen, South	YMD	YMD	YDR

## D List Supplemental Cities for Geographic Variables

Table D4: Cities used in addition to Simplemaps coverage

Country	ISO 3-alpha	Code	Cities	Data year	Source
Anguilla	AIA	AIA	The Valley	2014	CIA [2017]
Bonaire, Sint Eustatius and Saba	BES	BES	Kralendijk, Oranjestad, The Bottom	2014	CBS—Statistics Netherlands [2012]
Bouvet Island	BVT	BVT	Bouvet Island	2016	CIA [2017]
British Indian Ocean Territories	IOT	IOT	Diego Garcia	2012	CIA [2017]
British Virgin Islands	VGB	VGB	Road Town	2015	CIA [2017]
Christmas Islands	CXR	CXR	Flying Fish Cove	2016	CIA [2017]
Cocos (Keeling) Islands	CCK	CCK	West Island	2014	CIA [2017]
French Guiana	GUF	GUF	Cayenne	2012	French National Institute of Statistics and Economic Studies [2012]
French Southern Territories	ATF	ATF	Port aux Francais	2017	CIA [2017]
Gaza Strip	GAZ	GAZ	Gaza, North Gaza, Deir Al-Balah, Khan Yunis, Rafah	2015	Palestinian Central Bureau of Statistics
Gibraltar	GIB	GIB	Gibraltar	2014	CIA [2017]
Guadeloupe	GLP	GLP.X	Basse-Terre	2014	Department of Economics and Social Affaris, Statistics Division [2016]
Guernsey	GGY	GGY	Saint Peter Port, Vale	2015	Brinkhoff
Heard and McDonald Islands	HMD	HMD	Heard and McDonald Islands	2017	CIA [2017]
Jersey	JEY	JEY	St. Helier	2011	States of Jersey Statistics Unit [2011]
Martinique	MTQ	MTQ	Fort-de-France	2014	Department of Economics and Social Affaris, Statistics Division [2016]
Mayotte	MYT	MYT	Mamoudzou	2012	Brinkhoff
Montserrat	MSR	MSR	Brades	2011	Brinkhoff
Nauru	NRU	NRU	Yaren	2014	Department of Economics and Social Affaris, Statistics Division [2016]
Niue	NIU	NIU	Alofi	2014	Department of Economics and Social Affaris, Statistics Division [2016]
Norfolk Island	NFK	NFK	Kingston	2014	CIA [2017]
Pitcairn	PCN	PCN	Adamstown	2013	Pitcairn Islands Study Center, Pacific Union College
Reunion	REU	REU	Saint-Denis	2014	Department of Economics and Social Affaris, Statistics Division [2016]
Saint Barthelemy	BLM	BLM	Gustavia	2013	Brinkhoff
Saint Helena, Ascension, and Tristan da Cunha	SHN	SHN	Jamestown, Half Tree Hollow	2016	St Helena Statistics Office [2016]
Saint Pierre and Miquelon	SPM	SPM	Saint-Pierre	2014	Department of Economics and Social Affaris, Statistics Division [2016]
Saint-Martin	MAF	MAF	Marigot, Grand Case	2013 (Grand Case),2016 (Marigot)	Brinkhoff
Samoa	WSM	WSM	Apia	2016	Brinkhoff
Sint-Maarten	SXM	SXM	Philipsburg, Simson Bay Village, Lower Prince's Quarter, Cole Bay, Upper Prince's Quarter, Fort Amsterdam, Lowlands	2011	Brinkhoff
Tokelau	TKL	TKL	Fakaofu	2006	Tokelau National Statistics Office [2006]
U.S. Minor Outlying Islands	UMI	UMI	Johnston Atoll, Wake Island	2000	U.S. Census Bureau [2004]
Wallis and Futuna Islands	WLF	WLF	Mata Utu	2008	Department of Economics and Social Affaris, Statistics Division [2016]

Table D5: Cities used to recreate countries that no longer exist

Country	ISO 3-alpha	Code	Last year	Cities	Data year	Source
British Antarctic Territories	BAT	BAT	1979	Rothera	2014	Brinkhoff Simplemaps.com [2015]
	BUR	BUR	1988	Loikaw, Pa-an, Hakha, Taunggyi, Sagaing, Myingyang, Letpadan, Taungoo, Thongwa, Mudon, Ye, Mawlamyine, Kyaukphyu, Wakema, Labutta, Phyarpon, Yandoon, Hinthada, Patheingyi, Allamyo, Yaynangyoung, Chauk, Pakokku, Nantou, Dawei, Shwebo, Bago, Pyu, Pyay, Magway, Myitkyina, Monywa, Myeik, Mandalay, Sittwe, Naypyidaw, Rangoon	2015	
Byelorussian SSR	BYS	BYS	1990	Brest, Gomel, Grodno, Minsk, Mogilev, Vitebsk	1990	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Czechoslovakia	CSK	CSK	1992	Brno, Praha, Bratislava	1992	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Dahomey	DHY	DHY	1974	Lokossa, Kandi, Ouidah, Abomey, Natitingou, Djougou, Parakou, Porto-Novo, Cotonou	2015	Simplemaps.com [2015]
Ethiopia (including Eritrea)	ETF	ETF	1992	Addis Ababa, Mekele, Asmara	1992	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Federation of Rhodesia and Nyasaland	ZW1	ZW1	1963	Blantyre-Limbe, Lilongwe, Kitwe, Lusaka, Ndola, Bulawayo, Chitungwiza, Harare	1963	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Former Panama Canal Zone	PCZ	PCZ	1980	Balboa	1980	Lehmyer [1999-2006]
German Democratic Republic	DDR	DDR	1990	East Berlin, Leipzig, Dresden	1990	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Gilbert and Ellice Islands	GEL	GEL	1978	Bairiki, Fongafale	1978 (Bairiki) 1979 (Fongafale)	Lehmyer [1999-2006]
Guadeloupe	GLP	GLP	2006	Les Abymes, Baie Mahault	2007	Lehmyer [1999-2006]
Johnston Island	JTN	JTN	1986	Johnston Island	1980	U.S. Census Bureau [1983]
Kiribati	KIR	KIR	1983	Bairiki	1978	Republic of Kiribati Ministry of Home Affairs [1980]
Malaya	MYS	MYS	1962	Johor Bahru, Kota Bharu, Kuala Lumpur, Terengganu, Kuantan, Seremban	1962	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Malaysia	MYS	MYS.X	1964	Singapore, Kota Kinabalu, Kuching, Sandakan, Ipoh, Johor Bahru, Kota Bharu, Kuala Lumpur, Kuala Terengganu, Kuantan, Seremban	1964	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Midway Islands	MID	MID	1986	Midway Islands	1980	U.S. Census Bureau [1983]
Netherlands Antilles	ANT	ANT	1985	Willemstad, Oranjestad	1985	Lehmyer [1999-2006]
Netherlands Antilles	ANT	ANT.X	2010	Willemstad	2011	Brinkhoff
Neutral Zone	NTZ	NTZ	1992	Neutral Zone	1990	CITE CIA
New Hebrides	NHB	NHB	1979	Luganville, Port Vila	2015	Simplemaps.com [2015]
North Vietnam	VDR	VDR	1977	Da Nang, Ha Noi, Hai Phong	1977	United Nations, Department of Economic and Social Affairs, Population Division [2014]

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Table D5 – continued from previous page

Country	ISO 3-alpha 3-alpha	Code	Last year	Cities	Data year	Source
North Yemen	YEM	YEM	1989	Al Hudabaydah, Ibb, Sana'a, Ta'izz	1989	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Pacific Islands Trust Territory	PCI	PCI	1985	Majuro, Ebeye, Kolonia, Wena, Koror	1988 (Majuro, Ebeye), 1984 (Kolonia, Koror), 1989 (Wena)	Lehmeyer [1999-2006]
Pakistan	PAK	PAK	1970	Bahawalpur, Dera Ghazikhan, Faisalabad, Gujranwala, Gujrat, Hyderabad, Islamabad, Jhang, Karachi, Kasur, Lahore, Larkana, Mardan, Multan, Nawabshah, Okara, Peshawar, Quetta, Rahim Yar Khan, Rawalpindi, Sargodha, Sheikhpura, Sialkot, Sukkur, Wab, Barisal, Bogra, Chittagong, Comilla, Dhaka, Khulna, Mymensingh, Rajshahi, Rangpur, Sylhet	1970	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Panama	PAN	PAN	1980	Panama City, Balboa	1980	United Nations, Department of Economic and Social Affairs, Population Division 2014 (Panama City), Lehmeyer [1999-2006] (Balboa)
Rhodesia	RHO	RHO	1978	Mazowe, Shamva, Victoria Falls, Zvishavane, Kwekwe, Plumtree, Beitbridge, Gwanda, Chiredzi, Masvingo, Karoi, Chinhoyi, Kariba, Hwange, Gweru, Mutare, Kadoma, Chitungwiza, Harare, Bulawayo	2015	Simplemaps.com [2015]
Romania	ROM	ROM	2001	Targu Jiu, Slatina, Alexandria, Tar-goviste, giurgiu, Slobozia, Alba Lulia, Bistrita, Deva, Zalu, Satu Mare, Rimnicu Vilcea, Sfintu-Gheorghe, Miercurea Ciuc, Piatra-Neamt, Braila, Vaslui, Drobeta-Turnu Severin, Tulcea, Arad, Oradea, Sibiu, Suceava, Buzau, Galati, Focsani, Craiova, Calarasi, Resita, Timisoara, Botosani, Baia Mare, Tirgu Mures, Pitesti, Brasov, Ploiesti, Bacau, Cluj-Napoca, Constanta, Iasi, Bucharest Basseterre, Charlestown	2015	Simplemaps.com [2015]
Saint Anguilla	KN1	KN1	1982		1980	Lehmeyer [1999-2006]
Saudi Arabia	SAU	SAU	1992	Ad-Dammam, Al-Madinah, Ar-Riyadh, Buraydah, Hafar al-Batin, Ha'il, Hufuf-Mubarraz, Jiddah, Jubayl, Khamis Mushayt, Makkah, Najran, Tabuk, Taif	1992	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Serbia	SRB	SBR	2007	Belgrade, Novi Sad, Nis, Kragujevac, Subotica, Prizren, Pristina	2002	Department of Economics and Social Affairs, Statistics Division [2016]
Serbia and Montenegro	SCG	SCG	2005	Belgrade, Novi Sad, Pristina, Nis, Kragujevac, Podgorica, Prizren, Subotica	2002, 2003 (Podgorica)	Department of Economics and Social Affairs, Statistics Division [2016]
Sikkim	SJM	SKM	1977		1981	Lehmeyer [1999-2006]
South Africa	ZAF	ZAF	1989	Bloemfontein, Cape Town, Durban, East London, Johannesburg, Pietermaritzburg, Port Elizabeth, Pretoria, Rustenburg, Shoshanguve, Vereeniging, Witbank	1989	United Nations, Department of Economic and Social Affairs, Population Division [2014]

Continued on next page

Table D5 – continued from previous page

Country	ISO 3-alpha 3-alpha	Code	Last year	Cities	Data year	Source
South Vietnam	VNM	VNM	1977	Bien Hoa, Can Tho, Hue, Nha Trang, Ho Chi Minh City, Vungtau	1977	United Nations, Department of Economic and Social Affairs, Population Division [2014]
South Yemen	YMD	YMD	1989	Aden, Al-Mukalla	1989	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Soviet Union	SVU	SVU	1991	Arkhangelsk, Astrankhan, Barnaul, Belgorod, Bryansk, Cheboksary, Chelyabinsk, Cherepovets, Chita, Irkutsk, Ivanovo, Izhevsk, Kaliningrad, Kaluga, Kazan, Kemerovo, Kharovsk, Kirov, Krasnodar, Kurgan, Kursk, Magnitogorsk, Makhachkala, Moscow, Naberezhnye Tselny, Nizhny Novgorod, Nizhny Tagil, Novokuvnetsk, Novosibirsk, Omsk, Orel, Orenburg, Penza, Perm, Rostov-on-Don, Ryazan, Samara, Saint Petersburg, Saratov, Smolensk, Sochi, Stavropol, Surgut, Tolynatti, Tomsk, Tula, Tyver, Tyuman, Ufa, Ulan-Ude, Ulyanovsk, Vladikavkaz, Vladimir, Vladivostok, Volgograd, Vologda, Volzhsky, Voronezh, Yakutsk, Yaroslavl, Yekaterinburg, Dnipropetrovsk, Donetsk, Kharkiv, Krivoi Rog, Kiev, Lugansk, Lvov, Makeyevka, Mariupol, Nikolaev, Odesa, Sevastopol, Simferopol, Vinnytsa, Zaporizhzhya, Brest, Gomel, Grodno, Minsk, Mogilev, Vitebsk, Riga, Vilnius, Aktyubinsk, Almaty, Astana, Karaganda, Pavlodar, Semipalatinsk, Shimkent, Taraz, Ust-Kamenogorsk, Bishkek, Tallinn, Tbilisi, Yerevan, Baku, Ganca, Sumquayit, Dushanbe, Ashgabat, Tashauz, Andizhan, Namangan, Samarkand, Tashkent	1991	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Sudan	SDN	SDN	2010	Al Gadarif, Al Obeid, Al-Khartum, Kassa, Nyala, Port Sudan, Wad Medani	2010	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Tanganyika	TAN	TAN	1963	Arusha, Dar es Salaam, Mbeya, Morogoro, Mwanza	1963	United Nations, Department of Economic and Social Affairs, Population Division [2014]
U.S. Miscellaneous Pacific Islands	PUS	PUS	1986	Howland Island, Jarvis Island	2017	CIA [2017]
Upper Volta	HVO	HVO	1983	Fada Ngourma, Orodara, Solenzo, Nouna, Dedougou, Gorom Gorom, Djibo, Tougan, Kombissiri, Ziniare, Yako, Reo, Leo, Sapouy, Boulsa, Zorgo, Koupela, Po, Manga, Diebougou, Gaoua, Bogande, Dori, Sebba, Diapaga, Koudougou, Ouahigouya, Kaya, Tenkodogo, Banfora, Bob Dioulasso, Ouagadougou	2015	Simplemaps.com [2015]
Wake Island	WAK	WAK	1986	Wake Island Airfield	2017	CIA [2017]

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Table D5 – continued from previous page

Country	ISO 3-alpha 3-alpha	Code	Last year	Cities	Data year	Source
West Germany	DEU	DEU.X	1990	Bielefeld, Bochum, Bonn, Bremen, Dortmund, Duesseldorf, Duisburg, Essen, Frankfurt am Main, Hamburg, Hannover, Karlsruhe, Cologne, Mannheim, Westfalen, Munich, Nuremberg, Stuttgart, Wuppertal	1990	United Nations, Department of Economic and Social Affairs, Population Division [2014]
Yugoslavia	YUG	YUG	1991	Sarajevo, Zagreb, Belgrade, Skopje, Podgorica, Pristina	1991	United Nations, Department of Economic and Social Affairs, Population Division [2014] (Sarajevo, Zagreb, Belgrade), Lehmeier [1999–2006] (Podgorica, Pristina)
Yugoslavia	YUG	YUG.X	2002	Belgrade, Podgorica, Pristina	1999 (Podgorica, Pristina), 2002 (Belgrade)	United Nations, Department of Economic and Social Affairs, Population Division [2014] (Belgrade), Lehmeier [1999–2006] (Podgorica, Pristina)
Zaire	ZAR	ZAR	1997	Buluko, Zongo, Libenge, Bongandanga, Ikela, Binga, Basankusu, Boende, Gbadolite, Businga, Bosobolo, Yangambi, Aketi, Mongbwalu, Bafwasende, Bunia, Wamba, Basoko, Kenge, Bolobo, Kahemba, Bulungu, Lusanga, Mangai, Kasongo-Lunda, Mushie, Dibaya, Mwaka, Luebo, Demba, Ilebo, Moanda, Kimpese, Kasangulu, Mbanza-Ngungu, Tshela, Mwenga, Kampene, Kalima, Lubutu, Lubao, Lusambo, Gandajika, Lodja, Dilolo, Nyunzu, Kasaji, Luanza, Moba, Bukama, Kaniama, Kipushi, Kambove, Kongolo, Kabalo, Beni, Lisala, Gemena, Buta, Watsa, Isiro, Bondo, Inongo, Tshikapa, Boma, Bukavu, Ivira, Kindu, Mwene-Ditu, Likasi, Manono, Kamina, Mbandaka, Kisangani, Bandedu, Kananga, Kasongo, Mbujji-Mayi, Kalemie, Butembo, Goma, Bumba, Kikwit, Matadi, Kolwezi, Lubumbashi, Kinshasa	2015	Simplemaps.com [2015]

## E List of Trade Agreements and International Organization Members

Table E6: List of Included Trade Agreements

Agreement	Type	In Force	Inactive	Corrections
Agadir Agreement	FTA	27-Mar-07		
Andean Community (CAN)	CU	25-May-88		
Armenia - Kazakhstan	FTA	25-Dec-01		
Armenia - Moldova, Republic of	FTA	21-Dec-95		
Armenia - Turkmenistan	FTA	7-Jul-96		
Armenia - Ukraine	FTA	18-Dec-96		
ASEAN - Australia - New Zealand	FTA & EIA	1-Jan-10		
ASEAN - China (Goods)	FTA & EIA	1-Jan-05		
ASEAN - China (Services)	FTA & EIA	1-Jul-07		
ASEAN - India (Goods)	FTA & EIA	1-Jan-10		
ASEAN - India (Services)	FTA & EIA	1-Jul-15		
ASEAN - Japan	FTA	1-Dec-08		
ASEAN - Korea, Republic of (Goods)	FTA & EIA	1-Jan-10		
ASEAN - Korea, Republic of (Services)	FTA & EIA	14-Oct-10		
ASEAN Free Trade Area (AFTA)	FTA	1-Jan-93		
Asia Pacific Trade Agreement (APTA)	PSA	17-Jun-76		
Asia Pacific Trade Agreement (APTA) - Accession of China	PSA	1-Jan-02		China added as orig. signatory
Australia - Chile	FTA & EIA	6-Mar-09		
Australia - China	FTA & EIA	20-Dec-15		
Australia - New Zealand (ANZCERTA) (Goods)	FTA & EIA	1-Jan-83		
Australia - New Zealand (ANZCERTA) (Services)	FTA & EIA	1-Jan-89		
Australia - Papua New Guinea (PATCRA)	FTA	1-Feb-77		
Brunei Darussalam - Japan	FTA & EIA	31-Jul-08		
Canada - Chile	FTA & EIA	5-Jul-97		
Canada - Colombia	FTA & EIA	15-Aug-11		
Canada - Costa Rica	FTA	1-Nov-02		
Canada - Honduras	FTA & EIA	1-Oct-14		
Canada - Israel	FTA	1-Jan-97		
Canada - Jordan	FTA	1-Oct-12		
Canada - Korea, Republic of	FTA & EIA	1-Jan-15		
Canada - Panama	FTA & EIA	1-Apr-13		
Canada - Peru	FTA & EIA	1-Aug-09		
Caribbean Community and Common Market (CARICOM) (Goods)	CU & EIA	1-Aug-73		Accession countries added
Caribbean Community and Common Market (CARICOM) (Services)	CU & EIA	4-Jul-02		Accession countries added
Central American Common Market (CACM)	CU	4-Jun-61		Costa Rica added as accession country
Chile - China (Goods)	FTA & EIA	1-Oct-06		
Chile - China (Services)	FTA & EIA	1-Aug-10		
Chile - Colombia	FTA & EIA	8-May-09		
Chile - Costa Rica (Chile - Central America)	FTA & EIA	15-Feb-02		
Chile - El Salvador (Chile - Central America)	FTA & EIA	1-Jun-02		
Chile - Guatemala (Chile - Central America)	FTA & EIA	23-Mar-10		
Chile - Honduras (Chile - Central America)	FTA & EIA	19-Jul-08		
Chile - India	PSA	17-Aug-07		
Chile - Japan	FTA & EIA	3-Sep-07		
Chile - Malaysia	FTA	25-Feb-12		
Chile - Mexico	FTA & EIA	1-Aug-99		
Chile - Nicaragua (Chile - Central America)	FTA & EIA	19-Oct-12		
Chile - Viet Nam	FTA	1-Jan-14		
China - Costa Rica	FTA & EIA	1-Aug-11		
China - Hong Kong, China	FTA & EIA	29-Jun-03		
China - Korea, Republic of	FTA & EIA	20-Dec-15		
China - Macao, China	FTA & EIA	17-Oct-03		
China - New Zealand	FTA & EIA	1-Oct-08		
China - Singapore	FTA & EIA	1-Jan-09		
Colombia - Mexico	FTA & EIA	1-Jan-95		
Colombia - Northern Triangle (El Salvador, Guatemala, Honduras)	FTA & EIA	12-Nov-09		
Common Economic Zone (CEZ)	FTA	20-May-04		

Continued on next page

Table E6 – continued from previous page

Agreement	Type	In Force	Inactive	Corrections
Common Market for Eastern and Southern Africa (COMESA) - Accession of Egypt	CU	17-Feb-99		Entry and exit of countries added
Commonwealth of Independent States (CIS)	FTA	30-Dec-94		
Costa Rica - Colombia	FTA & EIA	1-Aug-16		
Costa Rica - Peru	FTA & EIA	1-Jun-13		
Costa Rica - Singapore	FTA & EIA	1-Jul-13		
Dominican Republic - Central America	FTA & EIA	4-Oct-01		
Dominican Republic - Central America - United States Free Trade Agreement (CAFTA-DR)	FTA & EIA	1-Mar-06		
East African Community (EAC) (Goods)	CU & EIA	7-Jul-00		Accession countries added
East African Community (EAC) (Services)	CU & EIA	1-Jul-10		Accession countries added
East African Community (EAC) - Accession of Burundi and Rwanda	CU	1-Jul-07		
EC (10) Enlargement	CU	1-Jan-81		
EC (12) Enlargement	CU	1-Jan-86		
EC (15) Enlargement	CU & EIA	1-Jan-95		
EC (25) Enlargement	CU & EIA	1-May-04		
EC (27) Enlargement	CU & EIA	1-Jan-07		
EC (9) Enlargement	CU	1-Jan-73		
EC Treaty	CU & EIA	1-Jan-58		EU accession countries added
Economic and Monetary Community of Central Africa (CEMAC)	CU	24-Jun-99		
Economic Community of West African States (ECOWAS)	CU	24-Jul-93		
Economic Cooperation Organization (ECO)	PSA	17-Feb-92		
EFTA - Accession of Iceland	FTA	1-Mar-70		Island added as orig. signatory
EFTA - Albania	FTA	1-Nov-10		
EFTA - Bosnia and Herzegovina	FTA	1-Jan-15		
EFTA - Canada	FTA	1-Jul-09		
EFTA - Central America (Costa Rica and Panama)	FTA & EIA	19-Aug-14		
EFTA - Chile	FTA & EIA	1-Dec-04		
EFTA - Colombia	FTA & EIA	1-Jul-11		
EFTA - Egypt	FTA	1-Aug-07		
EFTA - Former Yugoslav Republic of Macedonia	FTA	1-May-02		
EFTA - Hong Kong, China	FTA & EIA	1-Oct-12		
EFTA - Israel	FTA	1-Jan-93		
EFTA - Jordan	FTA	1-Sep-02		
EFTA - Korea, Republic of	FTA & EIA	1-Sep-06		
EFTA - Lebanon	FTA	1-Jan-07		
EFTA - Mexico	FTA & EIA	1-Jul-01		
EFTA - Montenegro	FTA	1-Sep-12		
EFTA - Morocco	FTA	1-Dec-99		
EFTA - Palestinian Authority	FTA	1-Jul-99		
EFTA - Peru	FTA	1-Jul-11		
EFTA - SACU	FTA	1-May-08		
EFTA - Serbia	FTA	1-Oct-10		
EFTA - Singapore	FTA & EIA	1-Jan-03		
EFTA - Tunisia	FTA	1-Jun-05		
EFTA - Turkey	FTA	1-Apr-92		
EFTA - Ukraine	FTA & EIA	1-Jun-12		
Egypt - Turkey	FTA	1-Mar-07		
El Salvador - Cuba	PSA	1-Aug-12		
El Salvador- Honduras - Chinese Taipei	FTA & EIA	1-Mar-08		
EU - Albania (Goods)	FTA & EIA	1-Dec-06		EU accession countries added
EU - Albania (Services)	FTA & EIA	1-Apr-09		EU accession countries added
EU - Algeria	FTA	1-Sep-05		EU accession countries added
EU - Andorra	CU	1-Jul-91		EU accession countries added
EU - Bosnia and Herzegovina (Goods)	FTA & EIA	1-Jul-08		EU accession countries added
EU - Bosnia and Herzegovina (Services)	FTA & EIA	1-Jun-15		EU accession countries added
EU - Cameroon	FTA	4-Aug-14		EU accession countries added
EU - CARIFORUM States EPA	FTA & EIA	1-Nov-08		EU accession countries added
EU - Central America	FTA & EIA	1-Aug-13		
EU - Chile	FTA & EIA	1-Feb-03		EU accession countries added
EU - Chile (Services)	FTA & EIA	1-Mar-05		EU accession countries added
EU - Colombia and Peru	FTA & EIA	1-Mar-13		
EU - Colombia and Peru - Accession of Ecuador	FTA & EIA	1-Jan-17		
EU - Cte d'Ivoire	FTA	3-Sep-16		EU accession countries added
EU - Eastern and Southern Africa States Interim EPA	FTA	14-May-12		EU accession countries added

Continued on next page

Table E6 – continued from previous page

Agreement	Type	In Force	Inactive	Corrections
EU - Egypt	FTA	1-Jun-04		EU accession countries added
EU - Faroe Islands	FTA	1-Jan-97		EU accession countries added
EU - Former Yugoslav Republic of Macedonia (Goods)	FTA & EIA	1-Jun-01		EU accession countries added
EU - Former Yugoslav Republic of Macedonia (Services)	FTA & EIA	1-Apr-04		EU accession countries added
EU - Georgia	FTA & EIA	1-Sep-14		
EU - Iceland	FTA	1-Apr-73		EU accession countries added
EU - Israel	FTA	1-Jun-00		EU accession countries added
EU - Jordan	FTA	1-May-02		EU accession countries added
EU - Korea, Republic of	FTA & EIA	1-Jul-11		EU accession countries added
EU - Lebanon	FTA	1-Mar-03		EU accession countries added
EU - Mexico (Goods)	FTA & EIA	1-Jul-00		EU accession countries added
EU - Mexico (Services)	FTA & EIA	1-Oct-00		EU accession countries added
EU - Moldova, Republic of	FTA & EIA	1-Sep-14		
EU - Montenegro (Goods)	FTA & EIA	1-Jan-08		EU accession countries added
EU - Montenegro (Services)	FTA & EIA	1-May-10		EU accession countries added
EU - Morocco	FTA	1-Mar-00		EU accession countries added
EU - Norway	FTA	1-Jul-73		EU accession countries added
EU - OCT	FTA	1-Jan-71		EU accession countries and colonies added
EU - Palestinian Authority	FTA	1-Jul-97		EU accession countries added
EU - Papua New Guinea / Fiji	FTA	20-Dec-09		EU accession countries added
EU - San Marino	CU	1-Apr-02		EU accession countries added
EU - Serbia (Goods)	FTA & EIA	1-Feb-10		EU accession countries added
EU - Serbia (Services)	FTA & EIA	1-Sep-13		EU accession countries added
EU - South Africa	FTA	1-Jan-00		EU accession countries added
EU - Switzerland - Liechtenstein	FTA	1-Jan-73		EU accession countries added
EU - Syria	FTA	1-Jul-77		EU accession countries added
EU - Tunisia	FTA	1-Mar-98		EU accession countries added
EU - Turkey	CU	1-Jan-96		EU accession countries added
EU - Ukraine	FTA & EIA	23-Apr-14		
EU (28) Enlargement	CU & EIA	1-Jul-13		
Eurasian Economic Community (EAEC)	CU	8-Oct-97		
Eurasian Economic Union (EAEU)	CU & EIA	1-Jan-15		
Eurasian Economic Union (EAEU) - Accession of Armenia	CU & EIA	2-Jan-15		
Eurasian Economic Union (EAEU) - Accession of the Kyrgyz Republic	CU & EIA	12-Aug-15		
European Economic Area (EEA)	EIA	1-Jan-94		EU accession countries added
European Free Trade Association (EFTA)	FTA	3-May-60		Entry and exit of countries added
Faroe Islands - Norway	FTA	1-Jul-93		
Faroe Islands - Switzerland	FTA	1-Mar-95		
Georgia - Armenia	FTA	11-Nov-98		
Georgia - Azerbaijan	FTA	10-Jul-96		
Georgia - Kazakhstan	FTA	16-Jul-99		
Georgia - Russian Federation	FTA	10-May-94		
Georgia - Turkmenistan	FTA	1-Jan-00		
Georgia - Ukraine	FTA	4-Jun-96		
Global System of Trade Preferences among Developing Countries (GSTP)	PSA	19-Apr-89		Romania added as orig. signatory
Guatemala - Chinese Taipei	FTA & EIA	1-Jul-06		
Gulf Cooperation Council (GCC)	CU	1-Jan-03		
Gulf Cooperation Council (GCC) - Singapore	FTA & EIA	1-Sep-13		
Hong Kong, China - Chile	FTA & EIA	9-Oct-14		
Hong Kong, China - New Zealand	FTA & EIA	1-Jan-11		
Iceland - China	FTA & EIA	1-Jul-14		
Iceland - Faroe Islands	FTA & EIA	1-Nov-06		
India - Afghanistan	PSA	13-May-03		
India - Bhutan	FTA	29-Jul-06		
India - Japan	FTA & EIA	1-Aug-11		
India - Malaysia	FTA & EIA	1-Jul-11		
India - Nepal	PSA	27-Oct-09		
India - Singapore	FTA & EIA	1-Aug-05		
India - Sri Lanka	FTA	15-Dec-01		
Israel - Mexico	FTA	1-Jul-00		
Japan - Australia	FTA & EIA	15-Jan-15		
Japan - Indonesia	FTA & EIA	1-Jul-08		
Japan - Malaysia	FTA & EIA	13-Jul-06		
Japan - Mexico	FTA & EIA	1-Apr-05		
Japan - Mongolia	FTA & EIA	7-Jun-16		
Japan - Peru	FTA & EIA	1-Mar-12		
Japan - Philippines	FTA & EIA	11-Dec-08		
Japan - Singapore	FTA & EIA	30-Nov-02		
Japan - Switzerland	FTA & EIA	1-Sep-09		
Japan - Thailand	FTA & EIA	1-Nov-07		
Japan - Viet Nam	FTA & EIA	1-Oct-09		

Continued on next page

Table E6 – continued from previous page

Agreement	Type	In Force	Inactive	Corrections
Jordan - Singapore	FTA & EIA	22-Aug-05		
Korea, Republic of - Colombia	FTA & EIA	15-Jul-16		
Korea, Republic of - Australia	FTA & EIA	12-Dec-14		
Korea, Republic of - Chile	FTA & EIA	1-Apr-04		
Korea, Republic of - India	FTA & EIA	1-Jan-10		
Korea, Republic of - New Zealand	FTA & EIA	20-Dec-15		
Korea, Republic of - Singapore	FTA & EIA	2-Mar-06		
Korea, Republic of - Turkey	FTA	1-May-13		
Korea, Republic of - United States	FTA & EIA	15-Mar-12		
Korea, Republic of - Viet Nam	FTA & EIA	20-Dec-15		
Kyrgyz Republic - Armenia	FTA	27-Oct-95		
Kyrgyz Republic - Kazakhstan	FTA	11-Nov-95		
Kyrgyz Republic - Moldova, Republic of	FTA	21-Nov-96		
Kyrgyz Republic - Ukraine	FTA	19-Jan-98		
Kyrgyz Republic - Uzbekistan	FTA	20-Mar-98		
Lao People's Democratic Republic - Thailand	PSA	20-Jun-91		
Latin American Integration Association (LAIA)	PSA	18-Mar-81		Accession countries added
Malaysia - Australia	FTA & EIA	1-Jan-13		
Mauritius - Pakistan	PSA	30-Nov-07		
Melanesian Spearhead Group (MSG)	PSA	1-Jan-94		
MERCOSUR - India	PSA	1-Jun-09		
Mexico - Central America	FTA & EIA	1-Sep-12		
Mexico - Panama	FTA & EIA	1-Jul-15		
Mexico - Uruguay	FTA & EIA	15-Jul-04		
New Zealand - Chinese Taipei	FTA & EIA	1-Dec-13		
New Zealand - Malaysia	FTA & EIA	1-Aug-10		
New Zealand - Singapore	FTA & EIA	1-Jan-01		
Nicaragua - Chinese Taipei	FTA & EIA	1-Jan-08		
North American Free Trade Agreement (NAFTA)	FTA & EIA	1-Jan-94		
Pacific Alliance	FTA & EIA	1-May-16		
Pacific Island Countries Trade Agreement (PICTA)	FTA	13-Apr-03		
Pakistan - China	FTA & EIA	1-Jul-07		
Pakistan - China (Services)	FTA & EIA	10-Oct-09		
Pakistan - Malaysia	FTA & EIA	1-Jan-08		
Pakistan - Sri Lanka	FTA	12-Jun-05		
Panama - Dominican Republic	PSA	8-Jun-87		
Panama - Chile	FTA & EIA	7-Mar-08		
Panama - Chinese Taipei	FTA & EIA	1-Jan-04		
Panama - Costa Rica (Panama - Central America)	FTA & EIA	23-Nov-08		
Panama - El Salvador (Panama - Central America)	FTA & EIA	11-Apr-03		
Panama - Guatemala (Panama - Central America)	FTA & EIA	20-Jun-09		
Panama - Honduras (Panama - Central America )	FTA & EIA	9-Jan-09		
Panama - Nicaragua (Panama - Central America)	FTA & EIA	21-Nov-09		
Panama - Peru	FTA & EIA	1-May-12		
Panama - Singapore	FTA & EIA	24-Jul-06		
Pan-Arab Free Trade Area (PAFTA)	FTA	1-Jan-98		
Peru - Chile	FTA & EIA	1-Mar-09		
Peru - China	FTA & EIA	1-Mar-10		
Peru - Korea, Republic of	FTA & EIA	1-Aug-11		
Peru - Mexico	FTA & EIA	1-Feb-12		
Peru - Singapore	FTA & EIA	1-Aug-09		
Protocol on Trade Negotiations (PTN)	PSA	11-Feb-73		Greece, India, and Spain added as orig. signatories
Russian Federation - Azerbaijan	FTA	17-Feb-93		
Russian Federation - Belarus - Kazakhstan	CU	3-Dec-97		
Russian Federation - Serbia	FTA	3-Jun-06		
Russian Federation - Tajikistan	FTA	8-Apr-93		
Russian Federation - Turkmenistan	FTA	6-Apr-93		
Russian Federation - Uzbekistan	FTA	25-Mar-93		
Singapore - Australia	FTA & EIA	28-Jul-03		
Singapore - Chinese Taipei	FTA & EIA	19-Apr-14		
South Asian Free Trade Agreement (SAFTA)	FTA	1-Jan-06		
South Asian Free Trade Agreement (SAFTA) - Accession of Afghanistan	FTA	7-Aug-11		
South Asian Preferential Trade Arrangement (SAPTA)	PSA	7-Dec-95		

Continued on next page

Table E6 – continued from previous page

Agreement	Type	In Force	Inactive	Corrections
South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA)	PSA	1-Jan-81		
Southern African Customs Union (SACU)	CU	15-Jul-04		
Southern African Development Community (SADC)	FTA	1-Sep-00		Accession countries added
Southern African Development Community (SADC) - Accession of Seychelles	FTA	25-May-15		
Southern Common Market (MERCOSUR) (Goods)	CU & EIA	29-Nov-91		
Southern Common Market (MERCOSUR) (Services)	CU & EIA	7-Dec-05		
Switzerland - China	FTA & EIA	1-Jul-14		
Thailand - Australia	FTA & EIA	1-Jan-05		
Thailand - New Zealand	FTA & EIA	1-Jul-05		
Trans-Pacific Strategic Economic Partnership	FTA & EIA	28-May-06		
Treaty on a Free Trade Area between members of the Commonwealth of Independent States (CIS)	FTA	20-Sep-12		
Turkey - Albania	FTA	1-May-08		
Turkey - Bosnia and Herzegovina	FTA	1-Jul-03		
Turkey - Chile	FTA	1-Mar-11		
Turkey - Former Yugoslav Republic of Macedonia	FTA	1-Sep-00		
Turkey - Georgia	FTA	1-Nov-08		
Turkey - Israel	FTA	1-May-97		
Turkey - Jordan	FTA	1-Mar-11		
Turkey - Malaysia	FTA	1-Aug-15		
Turkey - Mauritius	FTA	1-Jun-13		
Turkey - Moldova, Republic of	FTA	1-Nov-16		
Turkey - Montenegro	FTA	1-Mar-10		
Turkey - Morocco	FTA	1-Jan-06		
Turkey - Palestinian Authority	FTA	1-Jun-05		
Turkey - Serbia	FTA	1-Sep-10		
Turkey - Syria	FTA	1-Jan-07		
Turkey - Tunisia	FTA	1-Jul-05		
Ukraine - Azerbaijan	FTA	2-Sep-96		
Ukraine - Belarus	FTA	11-Nov-06		
Ukraine - Former Yugoslav Republic of Macedonia	FTA	5-Jul-01		
Ukraine - Kazakhstan	FTA	19-Oct-98		
Ukraine - Moldova, Republic of	FTA	19-May-05		
Ukraine - Montenegro	FTA & EIA	1-Jan-13		
Ukraine - Tajikistan	FTA	11-Jul-02		
Ukraine - Uzbekistan	FTA	1-Jan-96		
Ukraine - Turkmenistan	FTA	4-Nov-95		
United States - Australia	FTA & EIA	1-Jan-05		
United States - Bahrain	FTA & EIA	1-Aug-06		
United States - Chile	FTA & EIA	1-Jan-04		
United States - Colombia	FTA & EIA	15-May-12		
United States - Israel	FTA	19-Aug-85		
United States - Jordan	FTA & EIA	17-Dec-01		
United States - Morocco	FTA & EIA	1-Jan-06		
United States - Oman	FTA & EIA	1-Jan-09		
United States - Panama	FTA & EIA	31-Oct-12		
United States - Peru	FTA & EIA	1-Feb-09		
United States - Singapore	FTA & EIA	1-Jan-04		
West African Economic and Monetary Union (WAEMU)	CU	1-Jan-00		
African Common Market	CU	1-Jul-63	31-Dec-98	
Albania - Bosnia and Herzegovina	FTA	1-Dec-04	1-May-07	
Albania - Bulgaria	FTA	1-Sep-03	1-Jan-07	
Albania - Former Yugoslav Republic of Macedonia	FTA	1-Jul-02	1-May-07	
Albania - Moldova	FTA	1-Nov-04	1-May-07	
Albania - Romania	FTA	1-Jan-04	1-Jan-07	
Albania - Serbia and Montenegro	FTA	1-Sep-04	1-May-07	
Albania - UNMIC/Kosovo	FTA	1-Oct-03	1-May-07	
Arab Common Market	CU	1-Jan-65	31-Dec-98	
Armenia - Russian Federation	FTA	25-Mar-93	17-Oct-12	
Arusha Agreement	FTA	1-Jan-71	1-Apr-76	
Australia - New Zealand Free Trade Agreement	FTA	1-Jan-66	1-Jan-83	
Borneo Free Trade Area	FTA	1-Jan-62	31-Dec-69	
Bulgaria - Bosnia and Herzegovina	FTA	1-Dec-04	1-Jan-07	
Bulgaria - Estonia	FTA	1-Jan-02	1-May-04	

Continued on next page

Table E6 – continued from previous page

Agreement	Type	In Force	Inactive	Corrections
Bulgaria - Former Yugoslav Republic of Macedonia	FTA	1-Jan-00	1-Jan-07	
Bulgaria - Israel	FTA	1-Jan-02	1-Jan-07	
Bulgaria - Latvia	FTA	1-Apr-03	1-May-04	
Bulgaria - Lithuania	FTA	1-Mar-02	1-May-04	
Bulgaria - Serbia and Montenegro	FTA	1-Jun-04	1-Jan-07	
Bulgaria - Slovak Republic Free Trade Agreement	FTA	11-Mar-96	1-Jan-99	
Bulgaria - Slovenia	FTA	1-Jan-97	1-Jan-99	
Bulgaria - Turkey	FTA	1-Jan-99	1-Jan-07	
Canada - US Free Trade Agreement (CUSFTA)	FTA	1-Jan-89	1-Jan-94	
Caribbean Free Trade Association (CARIFTA)	FTA	1-May-68	1-Aug-73	
Central American Free Trade Area	FTA	2-Jun-59	12-Oct-61	
Central European Free Trade Agreement (CEFTA)	FTA	1-Mar-93	1-May-04	County exits added
Central European Free Trade Agreement (CEFTA) - Accession of Bulgaria	FTA	1-Jan-99	1-Jan-07	
Central European Free Trade Agreement (CEFTA) - Accession of Croatia	FTA	1-Mar-03	1-Jan-07	
Central European Free Trade Agreement (CEFTA) - Accession of Romania	FTA	1-Jul-97	1-Jan-07	
Central European Free Trade Agreement (CEFTA) - Accession of Slovenia	FTA	1-Jan-96	1-May-04	
Costa Rica - Mexico	FTA & EIA	1-Jan-95	1-Jul-13	
Croatia - Albania	FTA	1-Jun-03	1-May-07	
Croatia - Bosnia and Herzegovina	FTA	1-Jan-01	1-May-07	
Croatia - Former Yugoslav Republic of Macedonia	FTA	30-Oct-97	1-May-07	
Croatia - Serbia and Montenegro	FTA	1-Jul-04	1-May-07	
Czech Republic - Bulgaria Free Trade Agreement	FTA	7-Jun-96	1-Jan-99	
Czech Republic - Estonia	FTA	12-Feb-98	1-May-04	
Czech Republic - Israel	FTA	1-Dec-97	1-May-04	
Czech Republic - Latvia	FTA	1-Sep-97	1-May-04	
Czech Republic - Lithuania	FTA	1-Jul-97	1-May-04	
Czech Republic - Romania Free Trade Agreement	FTA	1-Jan-95	12-Apr-97	
Czech Republic - Slovak Republic Customs Union	CU	1-Jan-93	1-May-04	
Czech Republic - Slovenia	FTA	1-Jan-94	25-Nov-95	
Czech Republic - Turkey	FTA	1-Sep-98	1-May-04	
EC - Algeria	FTA	1-Jul-76	1-Sep-05	
EC - Algeria Interim Agreement of 1976	FTA	1-Jul-76	1-Nov-78	
EC - Austria Agreement of 1972	FTA	1-Oct-72	1-Jan-95	
EC - Bulgaria Europe Agreement	FTA & EIA	1-Feb-95	1-Jan-07	
EC - Bulgaria Interim Agreement	FTA	31-Dec-93	1-Feb-95	
EC - Cyprus Association Agreement	CU	1-Jun-73	1-May-04	
EC - Czech and Slovak Federal Republic Interim Agreement	FTA	1-Mar-92	1-Feb-95	
EC - Czech Republic Europe Agreement	FTA & EIA	1-Feb-95	1-May-04	
EC - Egypt Agreement of 1972	FTA	1-Nov-73	1-Jan-77	
EC - Egypt Cooperation Agreement	FTA	1-Nov-78	1-Jun-04	
EC - Egypt Interim Agreement of 1977	FTA	1-Jul-77	1-Nov-78	
EC - Estonia Agreement	FTA & EIA	1-Jan-95	1-May-04	
EC - Faeroe Islands Agreement of 1992	FTA	1-Jan-92	1-Jan-97	
EC - Finland Agreement	FTA	1-Jan-74	1-Jan-94	
EC - Greece Additional Protocol	FTA	1-Jul-75	1-Jan-81	
EC - Hungary Europe Agreement	FTA & EIA	1-Feb-94	1-May-04	
EC - Hungary Interim Agreement of 1991	FTA	1-Mar-92	1-Feb-94	
EC - Israel Agreement of 1970	FTA	1-Oct-70	1-Jul-75	
EC - Israel Agreement of 1975	FTA	1-Jul-75	1-Jun-00	
EC - Jordan Cooperation Agreement	FTA	1-Nov-78	1-May-02	
EC - Jordan Interim Agreement of 1977	FTA	1-Jul-77	1-Nov-78	
EC - Latvia Agreement	FTA & EIA	1-Jan-95	1-May-04	
EC - Lebanon Agreement of 1972	FTA	1-Nov-73	1-Jan-77	
EC - Lebanon Cooperation Agreement	FTA	1-Nov-78	1-Mar-03	
EC - Lebanon Interim Agreement of 1977	FTA	1-Jul-77	1-Nov-78	
EC - Lithuania	FTA & EIA	1-Jan-95	1-May-04	
EC - Malta Association Agreement	CU	1-Apr-71	1-May-04	
EC - Morocco Association Agreement of 1969	FTA	1-Sep-69	1-Jul-76	
EC - Morocco Cooperation Agreement	FTA	1-Nov-78	1-Mar-00	
EC - Morocco Interim Agreement	FTA	1-Jul-76	1-Nov-78	
EC - Poland Europe Agreement	FTA & EIA	1-Feb-94	1-May-04	
EC - Poland Interim Agreement of 1991	FTA	1-Mar-92	1-Feb-94	

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Table E6 – continued from previous page

Agreement	Type	In Force	Inactive	Corrections
EC - Portugal Agreement of 1972	FTA	1-Jan-73	1-Jan-76	
EC - Portugal Interim Agreement	FTA	1-Nov-76	1-Jan-86	
EC - Romania Europe Agreement	FTA & EIA	1-Feb-95	1-Jan-07	
EC - Romania Interim Agreement	FTA	1-May-93	1-Feb-95	
EC - Slovak Republic Europe Agreement	FTA & EIA	1-Feb-95	1-May-04	
EC - Slovenia Cooperation Agreement	FTA	19-Jul-93	1-Jan-97	
EC - Slovenia Europe Agreement	EIA	1-Feb-99	1-May-04	
EC - Slovenia Interim Agreement	FTA	1-Jan-97	1-May-04	
EC - Spain Agreement of 1970	FTA	1-Oct-70	1-Jan-86	
EC - Sweden Agreement	FTA	1-Jan-73	1-Jan-95	
EC - Syria Interim Agreement of 1977	FTA	1-Jul-77	1-Nov-78	
EC - Tunisia Association Agreement of 1969	FTA	1-Sep-69	1-Jul-76	
EC - Tunisia Cooperation Agreement	FTA	1-Nov-78	1-Mar-98	
EC - Tunisia Interim Agreement of 1976	FTA	1-Jul-76	1-Nov-78	
EC - Turkey Additional Protocol	FTA	1-Jan-73	1-Jan-74	
EC - Turkey Association Agreement of 1973	CU	1-Jan-74	1-Jan-96	
EC - Yugoslavia, Socialist Federal Republic of, Interim Agreement	FTA	1-Jul-80	27-Nov-91	
EC Overseas Countries and Territories 1	CU	1-Jun-64	1-Jan-71	
EEC - Greece Association Agreement	CU	1-Nov-62	1-Jan-81	
EEC - Turkey Association Agreement of 1963	FTA	1-Dec-64	1-Jan-73	
EFTA - Bulgaria	FTA	1-Jul-93	1-Jan-07	
EFTA - Croatia	FTA	1-Apr-02	24-Nov-13	
EFTA - Czech Republic Agreement	FTA	1-Jul-92	1-May-04	
EFTA - Czechoslovakia	FTA	1-Jul-92	19-Mar-93	
EFTA - Estonia Free Trade Agreement	FTA	1-Jun-96	1-May-04	
EFTA - Hungary Agreement	FTA	1-Oct-93	1-May-04	
EFTA - Latvia	FTA	1-Jun-96	1-May-04	
EFTA - Lithuania	FTA	1-Aug-96	1-May-04	
EFTA - Poland Agreement	FTA	15-Nov-93	1-May-04	
EFTA - Romania Free Trade Agreement	FTA	1-May-93	1-Jan-07	
EFTA - Slovak Republic Agreement	FTA	1-Jul-92	1-May-04	
EFTA - Slovenia	FTA	1-Jul-95	1-May-04	
EFTA - Spain Agreement	FTA	1-May-80	1-Jan-86	
El Salvador - Nicaragua Free Trade Area	FTA	21-Aug-51	2-Jun-59	
Equatorial Customs Union - Cameroon Association	FTA	1-Jul-62	31-Dec-64	
Estonia - Faeroe Islands	FTA	1-Dec-98	1-May-04	
Estonia - Latvia - Lithuania	FTA	1-Apr-94	1-May-04	
Estonia - Norway Free Trade Agreement	FTA	15-Jun-92	1-Jun-96	
Estonia - Sweden Free Trade Agreement	FTA	1-Jul-92	1-Jan-95	
Estonia - Switzerland Free Trade Agreement	FTA	1-Apr-93	1-Jun-96	
Estonia - Ukraine	FTA	14-Mar-96	1-May-04	
EU - Croatia	FTA & EIA	1-Mar-02	1-Jul-13	
EU - Croatia	FTA & EIA	1-Feb-05	1-Jul-13	
Eurasian Economic Community (EAEC)	CU	8-Oct-97	1-Jan-15	
Faeroe Islands - Iceland	FTA	1-Jul-93	1-Nov-06	
Finland-European Free Trade Association (FINEFTA)	FTA	26-Jun-61	10-Feb-86	
Finland - Bulgaria	FTA	1-Jan-75	1-Jul-93	
Finland - Czechoslovakia Agreement	FTA	1-Jan-75	1-Jul-92	
Finland - Estonia Protocol	FTA	1-Dec-92	1-Jan-95	
Finland - German Democratic Republic Agreement	FTA	1-Jul-75	3-Nov-89	
Finland - Hungary Agreement	FTA	1-Jan-75	1-Oct-93	
Finland - Latvia Protocol	FTA	1-Jul-93	1-Jan-95	
Finland - Lithuania Protocol	FTA	1-Jul-93	1-Jan-95	
Finland - Poland Agreement	FTA	1-Apr-78	15-Nov-93	
First Convention of Lom	FTA	1-Apr-76	1-Jan-81	
Former Yugoslav Republic of Macedonia - Bosnia and Herzegovina	FTA	15-Jul-02	1-May-07	
Ghana - Upper Volta Trade Agreement	FTA	9-May-62	31-Dec-66	
Gulf Cooperation Council (GCC)	CU	1-Jan-82	1-Jan-03	
Hungary - Estonia	FTA	1-Mar-01	1-May-04	
Hungary - Israel	FTA	1-Feb-98	1-May-04	
Hungary - Latvia	FTA	1-Jan-00	1-May-04	
Hungary - Lithuania	FTA	1-Mar-00	1-May-04	
Hungary - Slovenia Free Trade Agreement	FTA	1-Jan-95	25-Nov-95	
Hungary - Turkey	FTA	1-Apr-98	1-May-04	
Ireland - United Kingdom Free Trade Area	FTA	1-Jul-66	1-Jan-73	
Kyrgyz Republic - Russian Federation	FTA	24-Apr-93	13-Dec-13	

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Table E6 – continued from previous page

Agreement	Type	In Force	Inactive	Corrections
Latin American Free Trade Area (LAFTA)	FTA	2-Jun-61	1-Jan-80	
Latvia - Norway Free Trade Agreement	FTA	16-Jun-92	1-Jun-96	
Latvia - Sweden Free Trade Agreement	FTA	1-Jul-92	1-Jan-95	
Latvia - Switzerland Free Trade Agreement	FTA	1-Apr-93	1-Jun-96	
Lithuania - Norway Free Trade Agreement	FTA	16-Jun-92	1-Aug-96	
Lithuania - Sweden Free Trade Agreement	FTA	1-Jul-92	1-Jan-95	
Lithuania - Switzerland Free-Trade Agreement	FTA	1-Apr-93	1-Aug-96	
Mexico - El Salvador (Mexico - Northern Triangle)	FTA & EIA	15-Mar-01	1-Sep-12	
Mexico - Guatemala (Mexico - Northern Triangle)	FTA & EIA	15-Mar-01	1-Sep-13	
Mexico - Honduras (Mexico - Northern Triangle)	FTA & EIA	1-Jun-01	1-Jan-13	
Mexico - Nicaragua	FTA & EIA	1-Jul-98	1-Sep-12	
Moldova - Bosnia and Herzegovina	FTA	1-May-04	1-May-07	
Moldova - Bulgaria	FTA	1-Dec-04	1-Jan-07	
Moldova - Croatia	FTA	1-Oct-04	1-May-07	
Moldova - Former Yugoslav Republic of Macedonia	FTA	1-Dec-04	1-May-07	
Moldova - Serbia and Montenegro	FTA	1-Sep-04	1-May-07	
Poland - Faeroe Islands	FTA	1-Jun-98	1-May-04	
Poland - Israel	FTA	1-Mar-98	1-May-04	
Poland - Latvia	FTA	1-Jun-99	1-May-04	
Poland - Lithuania	FTA	30-Dec-97	1-May-04	
Romania - Bosnia and Herzegovina	FTA	24-Oct-03	1-Jan-07	
Romania - Former Yugoslav Republic of Macedonia	FTA	1-Jan-04	1-Jan-07	
Romania - Israel	FTA	1-Jul-01	1-Jan-07	
Romania - Moldova	FTA	1-Jan-95	1-Jan-07	
Romania - Serbia and Montenegro	FTA	1-Jul-04	1-Jan-07	
Romania - Turkey	FTA	1-Feb-98	1-Jan-07	
Russian Federation - Belarus	FTA	20-Apr-93	20-Sep-12	
Russian Federation - Kazakhstan	FTA	7-Jun-93	8-Dec-12	
Russian Federation - Republic of Moldova	FTA	30-Mar-93	9-Dec-12	
Russian Federation - Tajikistan	FTA	8-Apr-93	20-Sep-12	
Second Convention of Lom	FTA	1-Jan-81	1-Mar-86	
Slovak Republic - Estonia	FTA	13-Mar-98	1-May-04	
Slovak Republic - Israel	FTA	1-Jan-97	1-May-04	
Slovak Republic - Latvia	FTA	1-Jul-97	1-May-04	
Slovak Republic - Lithuania	FTA	14-Nov-97	1-May-04	
Slovak Republic - Romania Free Trade Agreement	FTA	1-Jan-95	12-Apr-97	
Slovak Republic - Slovenia Free Trade Agreement	FTA	1-Jan-94	25-Nov-95	
Slovak Republic - Turkey	FTA	1-Aug-98	1-May-04	
Slovenia - Bosnia and Herzegovina	FTA	1-Jan-02	1-May-04	
Slovenia - Croatia	FTA	1-Jan-98	1-May-04	
Slovenia - Estonia	FTA	1-Jan-97	1-May-04	
Slovenia - Former Yugoslav Republic of Macedonia	FTA	1-Sep-96	1-May-04	
Slovenia - Israel	FTA	1-Sep-98	1-May-04	
Slovenia - Latvia	FTA	1-Aug-96	1-May-04	
Slovenia - Lithuania	FTA	1-Mar-97	1-May-04	
South Africa - Southern Rhodesia Customs Union	CU	1-Apr-49	1-Jan-55	
Third Convention of Lom	FTA	1-Mar-86	1-Sep-91	
Tripartite Agreement	PSA	1-Apr-68	31-Dec-90	
Turkey - Croatia	FTA	1-Jul-03	1-Jul-13	
Turkey - Estonia	FTA	1-Jul-98	1-May-04	
Turkey - Latvia	FTA	1-Jul-00	1-May-04	
Turkey - Lithuania	FTA	1-Mar-98	1-May-04	
Turkey - Poland	FTA	1-May-00	1-May-04	
Turkey - Slovenia	FTA	1-Jun-00	1-May-04	
Ukraine - Russian Federation	FTA	21-Feb-94	20-Sep-12	
Yaound I	FTA	1-Jan-64	1-Jan-71	
Yaound II	FTA	1-Jan-71	1-Apr-76	

Table E7: GATT and WTO member accession dates

Country	Iso3	Code	GATT Accession	WTO Accession
Afghanistan	AFG	AFG		7/29/2016
Albania	ALB	ALB		9/8/2000
Angola	AGO	AGO	4/8/1994	11/23/1996
Antigua and Barbuda	ATG	ATG	3/30/1987	1/1/1995
Argentina	ARG	ARG	10/11/1967	1/1/1995
Armenia	ARM	ARM		2/5/2003
Australia	AUS	AUS	1/1/1948	1/1/1995
Austria	AUT	AUT	10/19/1951	1/1/1995
Bahrain	BHR	BHR	12/13/1993	1/1/1995
Bangladesh	BGD	BGD	12/16/1972	1/1/1995
Barbados	BRB	BRB	2/15/1967	1/1/1995
Belgium	BEL	BEL	1/1/1948	1/1/1995
Belize	BLZ	BLZ	10/7/1983	1/1/1995
Benin	BEN	BEN	9/12/1963	2/22/1996
Bolivia	BOL	BOL	9/8/1990	9/12/1995
Botswana	BWA	BWA	8/28/1987	5/31/1995
Brazil	BRA	BRA	7/30/1948	1/1/1995
Brunei	BRN	BRN	12/9/1993	1/1/1995
Bulgaria	BGR	BGR		12/1/1996
Burkina Faso	BFA	BFA	5/3/1963	6/3/1995
Burma	BUR	BUR	7/29/1948	
Burundi	BDI	BDI	3/13/1965	7/23/1995
Cambodia	KHM	KHM		10/13/2004
Cameroon	CMR	CMR	5/3/1963	12/13/1995
Canada	CAN	CAN	1/1/1948	1/1/1995
Cape Verde	CPV	CPV		7/23/2008
Central African Republic	CAF	CAF	5/3/1963	5/31/1995
Ceylon	LKA	LKA	7/29/1948	
Chad	TCO	TCO	7/12/1963	10/19/1996
Chile	CHL	CHL	3/16/1949	1/1/1995
China	CHN	CHN		12/11/2001
Colombia	COL	COL	10/3/1981	4/30/1995
Congo, Democratic Republic of the	COD	COD		1/1/1997
Congo, Republic of the	COG	COG	5/3/1963	3/27/1997
Costa Rica	CRI	CRI	11/24/1990	1/1/1995
Cote d'Ivoire	CIV	CIV	12/31/1963	1/1/1995
Croatia	HRV	HRV		11/30/2000
Cuba	CUB	CUB	1/1/1948	4/20/1995
Cyprus	CYP	CYP	7/15/1963	7/30/1995
Czech Republic	CZE	CZE	4/15/1993	1/1/1995
Dahomey	DHY	DHY	9/12/1963	
Denmark	DNK	DNK	5/28/1950	1/1/1995
Djibouti	DJI	DJI	12/16/1994	5/31/1995
Dominica	DMA	DMA	4/20/1993	1/1/1995
Dominican Republic	DOM	DOM	5/19/1950	3/9/1995
Ecuador	ECU	ECU		1/21/1996
Egypt, Arab Rep.	EGY	EGY	5/9/1970	6/30/1995
El Salvador	SLV	SLV	5/22/1991	5/7/1995
Estonia	EST	EST		11/13/1999
European Union	EUN	EUN		1/1/1995
Federation of Rhodesia and Nyasaland	ZW1	ZW1	7/11/1948	
Fiji	FJI	FJI	11/16/1993	1/14/1996
Finland	FIN	FIN	5/25/1950	1/1/1995
France	FRA	FRA	1/1/1948	1/1/1995
Gabon	GAB	GAB	5/3/1963	1/1/1995
Gambia, The	GMB	GMB	2/22/1965	10/23/1996
Georgia	GEO	GEO		6/14/2000
Germany	DEU	DEU	10/1/1951	1/1/1995
Ghana	GHA	GHA	10/17/1957	1/1/1995
Greece	GRC	GRC	3/1/1950	1/1/1995
Grenada	GRD	GRD	2/9/1994	2/22/1996
Guatemala	GTM	GTM	10/10/1991	7/21/1995
Guinea	GIN	GIN	12/8/1994	10/25/1995
Guinea-Bissau	GNB	GNB	3/17/1994	5/31/1995
Guyana	GUY	GUY	7/5/1966	1/1/1995
Haiti	HTI	HTI	1/1/1950	1/30/1996
Honduras	HND	HND	4/10/1994	1/1/1995
Hong Kong	HKG	HKG	4/23/1986	1/1/1995
Hungary	HUN	HUN	9/9/1973	1/1/1995
Iceland	ISL	ISL	4/21/1968	1/1/1995
India	IND	IND	7/8/1948	1/1/1995
Indonesia	IDN	IDN	2/24/1950	1/1/1995
Ireland	IRL	IRL	12/22/1967	1/1/1995
Israel	ISR	ISR	7/5/1962	4/21/1995
Italy	ITA	ITA	5/30/1950	1/1/1995

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Table E7 – continued from previous page

Country	Iso3	Code	GATT Accession	WTO Accession
Jamaica	JAM	JAM	12/31/1963	3/9/1995
Japan	JAP	JAP	9/10/1955	1/1/1995
Jordan	JOR	JOR		4/11/2000
Kazakhstan	KAZ	KAZ		11/30/2015
Kenya	KEN	KEN	2/5/1964	1/1/1995
Korea, South	KOR	KOR	4/14/1967	1/1/1995
Kuwait	KWT	KWT	5/3/1963	1/1/1995
Kyrgyzstan	KGZ	KGZ		12/20/1998
Laos	LAO	LAO		2/2/2013
Latvia	LVA	LVA		2/10/1999
Lesotho	LSO	LSO	1/8/1988	5/31/1995
Liberia	LBR	LBR		7/14/2016
Liechtenstein	LIE	LIE	3/29/1994	9/1/1995
Lithuania	LTU	LTU		5/31/2001
Luxembourg	LUX	LUX	1/1/1948	1/1/1995
Macao	MAC	MAC	1/11/1991	1/1/1995
Macedonia	MKD	MKD		4/4/2003
Madagascar	MDG	MDG	9/30/1963	11/17/1995
Malagasy Republic	MDG	MDG	9/30/1963	
Malawi	MWI	MWI	8/28/1964	5/31/1995
Malaya	MYS	MYS	10/24/1957	
Malaysia	MYS	MYS.X	10/24/1957	
Malaysia	MYS	MYS.Y	10/24/1957	1/1/1995
Maldives	MDV	MDV	4/19/1983	5/31/1995
Mali	MLI	MLI	1/11/1993	5/31/1995
Malta	MLT	MLT	11/17/1964	1/1/1995
Mauritania	MRT	MRT	9/30/1963	5/31/1995
Mauritius	MUS	MUS	9/2/1970	1/1/1995
Mexico	MEX	MEX	8/24/1986	1/1/1995
Moldova	MDA	MDA		7/26/2001
Mongolia	MNG	MNG		1/29/1997
Montenegro	MNT	MNT		4/29/2012
Morocco	MAR	MAR	6/17/1987	1/1/1995
Mozambique	MOZ	MOZ	7/27/1992	8/26/1995
Myanmar	MMR	MMR	7/29/1948	1/1/1995
Namibia	NAM	NAM	9/15/1992	1/1/1995
Nepal	NPL	NPL		4/23/2004
Netherlands	NLD	NLD	1/1/1948	1/1/1995
New Zealand	NZL	NZL	7/30/1948	1/1/1995
Nicaragua	NIC	NIC	5/28/1950	9/3/1995
Niger	NER	NER	12/31/1963	12/13/1996
Nigeria	NGA	NGA	11/18/1960	1/1/1995
Norway	NOR	NOR	7/10/1948	1/1/1995
Oman	OMN	OMN		11/9/2000
Pakistan	PAK	PAK	7/30/1948	
Pakistan	PAK	PAK.X	7/30/1948	1/1/1995
Panama	PAN	PAN.X		9/6/1997
Papua New Guinea	PNG	PNG	12/16/1994	6/9/1996
Paraguay	PRY	PRY	1/6/1994	1/1/1995
Peru	PER	PER	10/7/1951	1/1/1995
Philippines	PHL	PHL	12/27/1979	1/1/1995
Poland	POL	POL	10/18/1967	7/1/1995
Portugal	PRT	PRT	5/6/1962	1/1/1995
Qatar	QAT	QAT	4/7/1994	1/13/1996
Rhodesia	RHO	RHO	7/11/1948	
Romania	ROM	ROM	11/14/1971	1/1/1995
Romania	ROU	ROU	11/14/1971	1/1/1995
Russia	RUS	RUS		8/22/2012
Rwanda	RWA	RWA	1/1/1966	5/22/1996
Saint Kitts and Nevis	KNA	KNA	3/24/1994	2/21/1996
Saint Lucia	LCA	LCA	4/13/1993	1/1/1995
Saint Vincent and the Grenadines	VCT	VCT	5/18/1993	1/1/1995
Samoa	WSM	WSM		5/10/2012
Saudi Arabia	SAU	SAU.X		12/11/2005
Senegal	SEN	SEN	9/27/1963	1/1/1995
Seychelles	SYC	SYC		4/26/2015
Sierra Leone	SLE	SLE	5/19/1961	7/23/1995
Singapore	SGP	SGP	8/20/1973	1/1/1995
Slovakia	SVK	SVK	4/15/1993	1/1/1995
Slovenia	SVN	SVN	10/30/1994	7/30/1995
Solomon Islands	SLB	SLB	12/28/1994	7/26/1996
South Africa	ZAF	ZAF	6/13/1948	1/1/1995
South Africa	ZAF	ZAF.X	6/13/1948	1/1/1995
Spain	ESP	ESP	8/29/1963	1/1/1995
Sri Lanka	LKA	LKA	7/29/1948	1/1/1995
Suriname	SUR	SUR	3/22/1978	1/1/1995
Swaziland	SWZ	SWZ	2/8/1993	1/1/1995

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Table E7 – continued from previous page

Country	Iso3	Code	GATT Accession	WTO Accession
Sweden	SWE	SWE	4/30/1950	1/1/1995
Switzerland	CHE	CHE	8/1/1966	7/1/1995
Taiwan	TWN	TWN		1/1/2002
Tajikistan	TJK	TJK		3/2/2013
Tanganyika	TAN	TAN	12/9/1961	
Tanzania	TZA	TZA	12/9/1961	1/1/1995
Thailand	THA	THA	11/20/1982	1/1/1995
Togo	TGO	TGO	3/20/1964	5/31/1995
Tonga	TON	TON		7/27/2007
Trinidad and Tobago	TTO	TTO	10/23/1962	3/1/1995
Tunisia	TUN	TUN	8/29/1990	3/29/1995
Turkey	TUR	TUR	10/17/1951	3/26/1995
Uganda	UGA	UGA	10/23/1962	1/1/1995
Ukraine	UKR	UKR		5/16/2008
United Arab Emirates	ARE	ARE	3/8/1994	4/10/1996
United Kingdom	GBR	GBR	1/1/1948	1/1/1995
United States	USA	USA	1/1/1948	1/1/1995
Upper Volta	HVO	HVO	5/3/1963	
Uruguay	URY	URY	12/6/1953	1/1/1995
Vanuatu	VUT	VUT		8/24/2012
Venezuela	VEN	VEN	8/31/1990	1/1/1995
Vietnam	VNM	VNM.X		1/11/2007
West Germany	DEU	DEU.X	10/1/1951	
Yemen	YEM	YEM.X		6/26/2014
Yugoslavia	YUG	YUG	8/25/1966	
Yugoslavia	YUG	YUG.X	8/25/1966	
Zaire	ZAR	ZAR	9/11/1971	
Zambia	ZMB	ZMB	2/10/1982	1/1/1995
Zimbabwe	ZWE	ZWE	7/11/1948	3/5/1995
Zimbabwe-Rhodesia	RHO	RHO	7/11/1948	

## F List of Countries Without Polity Scores

Table F8: Countries with some years of polity scores missing

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Afghanistan	India	Rhodesia
Bangladesh	Iraq	Solomon Islands
Bosnia and Herzegovina	Japan	Somalia
German Democratic Republic	Kampuchea	South Vietnam
Germany	Kuwait	Syria
Ghana	Laos	Taiwan
Haiti	Lebanon	Tunisia
Hungary	Macao	Uganda

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Table F9: Countries with all years of polity scores missing

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Aland Islands	Mayotte
American Samoa	Micronesia, Federated States of
Andorra	Midway Islands
Anguilla	Monaco
Antarctica	Montserrat
Antigua and Barbuda	Nauru
Aruba	Netherlands Antilles
Bahamas, The	Neutral Zone
Barbados	New Caledonia
Belize	New Hebrides
Bermuda	Niue
Bonaire, Sint Eustatius and Saba	Norfolk Island
Bouvet Island	Northern Marianas
British Antarctic Territories	Pacific Islands Trust Territory
British Indian Ocean Territories	Palau
British Virgin Islands	Palestine
Brunei	Panama Canal Zone
Byelorussian SSR	Pitcairn
Cayman Islands	Puerto Rico
Christmas Island	Reunion
Cocos (Keeling) Islands	Saint Barthélemy
Cook Islands	Saint Christopher-Nevis-Anguilla
Curacao	Saint Helena, Ascension, and Tristan da Cunha
Dominica	Saint Kitts and Nevis
Faeroe Islands	Saint Lucia
Falkland Islands	Saint Pierre and Miquelon
Federation of Rhodesia and Nyasaland	Saint Vincent
Former Panama Canal Zone	Saint Vincent and the Grenadines
French Guiana	Saint-Martin
French Polynesia	Samoa
French Southern Territories	San Marino
Gaza Strip	Sao Tome and Principe
Gibraltar	Seychelles
Gilbert and Ellice Islands	Sikkim
Greenland	Sint Maarten
Grenada	South Georgia and South Sandwich Islands
Guadeloupe	Spanish Sahara
Guam	Svalbard and Jan Mayen Islands
Guernsey	Tanganyika
Heard Island and McDonald Islands	Tokelau
Holy See	Tonga
Hong Kong	Turks and Caicos Islands
Iceland	Tuvalu
Isle of Man	U.S. Minor Outlying Islands
Jersey	U.S. Miscellaneous Pacific Islands
Johnston Island	U.S. Virgin Islands
Kiribati	Vanuatu
Liechtenstein	Vatican City
Macedonia	Wake Island
Maldives	Wallis and Futuna Islands
Malta	Western Sahara
Marshall Islands	Western Samoa
Martinique	Zanzibar

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