FREDERICK S. PARDEE CENTER
FOR INTERNATIONAL FUTURES
JOSEF KORBEL SCHOOL OF INTERNATIONAL STUDIES
UNIVERSITY of DENVER

Global Indicators of Dyadic Engagement Codebook, Version 1.8

Collin J. Meisel, Jonathan D. Moyer, Austin S. Matthews, Whitney Doran, David K. Bohl, Haylie Castor, & Carole Green

AUGUST 2020

Recommended citation for this data series: Meisel, Collin J., Jonathan D. Moyer, Austin S. Matthews, Whitney Doran, David K. Bohl, Haylie Castor, and Carole Green. 2020. "Global Indicators of Dyadic Engagement (GIDE) Codebook." Version 1.8. Frederick S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver, Denver, CO.

Table of Contents

Introduction

Accurately measuring and forecasting relational power and influence is a vital component of analyzing interstate relations and fills a major gap left by traditional, materials-based examinations of bilateral power dynamics. The Global Indicators of Dyadic Engagement (GIDE) dataset seeks to provide an updated approach toward measuring and forecasting relational power and influence.

GIDE seeks to collect a broad sample of data series measuring bilateral nation-state interactions, while also selecting a narrow set of indicators from which to build a composite index of relational power. To make this collection more digestible for the user, the data series are grouped below into five broad categories: *identifying information*, *cultural*, *economic*, *political*, and *security*-related variables. The composite measure of relational power, the Formal Bilateral Influence Capacity Index (FBIC), and its sub-components are described in a separate section labelled *FBIC*.

The data gathered for the series have been thoroughly reviewed and, to the best of our ability, accurately reflect the sources and calculation methods described below. However, given the scope of this effort and number of individual data points (more than 600 million as of version 1.8), vetting is and will continue to be an ongoing effort, particularly with each annual update. Questions, concerns, and the reporting of errors can be directed to our team through the following contact: pardee.center@du.edu.

In moving towards our composite index, FBIC, we adopt a parsimonious approach, including only variables with both: a) a high degree of descriptive power for a key component of states' bilateral relations, such as total trade as a descriptor of economic ties; and b) descriptive power that is orthogonal to that of other variables, which is intended to avoid double-counting elements of power and influence.

We characterize interdependence between states as the interaction between bandwidth (the size of the relationship) and dependence (degree to which one relies on another) between two states. These elements are captured in FBIC through inclusion of the following variables in our series: bilateral foreign aid (i.e., official development assistance) as a share of the recipient country's GDP; bilateral foreign aid as a share of the recipient country's total inward aid; total bilateral goods trade as a share of the recipient country's GDP; total bilateral trade as a share of the recipient country's total goods trade; arms import stock as a share of the recipient country's total arms trade stock; arms import stock as a share of the recipient country's total military stock; the average level of diplomatic representation between the two countries; the shared weighted IGO membership count between the two countries; trade agreement between the two countries; total trade between the two countries; a military alliance index for the two countries; and the total arms stock transferred between the two countries. Together, these variables characterize influence dimensions covering economic dependence, security dependence, political bandwidth, economic bandwidth, and security bandwidth. As an example of FBIC's performance, see Moyer et al. (2018).

Frederick S. Pardee Center for International Futures

The Frederick S. Pardee Center for International Futures is home of the International Futures (IFs) model and a hub for long-term forecasting and global trend analysis. It is located at the Josef Korbel School of International Studies on the University of Denver campus. Our mission is to build and use data and tools to analyze our complex world and the long-term dynamics of change in human, social, and natural

systems. We share our resources with policymakers, academics, and others seeking to improve the ways we contemplate and plan for the global future. As part of this pursuit, we have built the IFs model, the most sophisticated and comprehensive forecasting modeling system available to the public.

The IFs model uses our best understanding of global systems to produce forecasts for nearly 500 variables across 11 human, social, and natural systems for 186 countries to the year 2100. Because IFs takes an integrated approach to forecasting, it is able to simulate how changes in one system lead to changes across all other systems. As a result, IFs endogenizes more relationships from a wider range of key global systems than any other model in the world.

Diplometrics

The Diplometrics research program at the Frederick S. Pardee Center for International Futures seeks to better understand and measure relationships in the international system by integrating three key efforts: data gathering, tool building, and analysis. The project focuses on dyadic state interactions that measure the depth and breadth of political, diplomatic, economic, security, and cultural ties between countries. The primary goal of the Diplometrics program is to understand what the international system is and to explore how states and other actors operate within its boundaries.

Acknowledgements

The authors would like to thank the staff members and students who helped gather the Diplometrics data as well as those individuals who helped compile, vet, or otherwise handle the numerous data series that comprise GIDE. This project would not have been possible without their perseverance and hard work. While these individuals are too numerous to name, special thanks to Charles Guan and Timothy Gilbert. Lastly, we extend our gratitude to the U.S. government for providing support for this project and the Diplometrics research program.

Identifying Information Variables

Variable Name: Year
Label: Year
Variable Category: Identifying Information
Variable Type: Numeric – Discrete
Unit: Year
Source: Gregorian calendar
Source Definition: The years in GIDE follow the Gregorian calendar and are coded from 1960 to 2018 (version 1.8). Data for a given variable are assigned to years based on coding rules of the original data source. For Diplometrics-sourced variables, flows are based on annual sums (i.e., total from January 1 through December 31) and stocks (e.g., diplomatic representation) are based upon the value at July 1 of that year, unless noted otherwise.

Variable Name: directeddyadid
Label: Directed dyad code
Variable Category: Identifying Information
Variable Type: Numeric – Discrete
Unit: Identification code
Source: Frederick S. Pardee Center for International Futures Diplometrics Project
Source Definition: Identification code created for the purposes of directed-dyadic statistical analysis.

Cultural Variables

Variable Name: sovietrepublica
Label: Country A Was A Soviet Republic in This Year
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: University of Gothenburg (source)
Source Definition: The Quality of Government Dataset includes an indicator called The Region of the Country. "This is a tenfold politico-geographic classification of world regions, based on a mixture of two considerations: geographical proximity (with the partial exception of category 5 below) and demarcation by area specialists having contributed to a regional understanding of democratization." The category entitled, "Eastern Europe and post-Soviet Union (including Central Asia)", acts as the guide variable for indicating if Country A was a Soviet Republic (= 1) in the selected year. (source)

Variable Name: sovietrepublicb
Label: Country B Was A Soviet Republic in This Year
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: University of Gothenburg (source)
Source Definition: The Quality of Government Dataset includes an indicator called The Region of the Country. "This is a tenfold politico-geographic classification of world regions, based on a mixture of two considerations: geographical proximity (with the partial exception of category 5 below) and demarcation by area specialists having contributed to a regional understanding of democratization." The category

entitled "Eastern Europe and post-Soviet Union (including Central Asia)" acts as the guide variable for indicating if Country B was a Soviet Republic (= 1) in the selected year. (source)

Variable Name: distanceatob
Label: Distance Between Most Populous Cities of A and B, CEPII
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Kilometers
Source: CEPII (source)
Source Definition: CEPII GeoDist provides several geographical variables, in particular, "bilateral distances [are] measured using city-level data to account for the geographic distribution of population inside each nation. Different measures of bilateral distances are available for 225 countries. For most of them, different calculations of 'intra-national distances' are also available."(source)

Variable Name: distancecapitalatob
Label: Distance Between Capital of A and B, CEPII
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Kilometers
Source: CEPII (source)
Source Definition:
CEPII GeoDist provides several geographical variables, in particular, "bilateral distances [are] measured using city-level data to account for the geographic distribution of population inside each nation. Different measures of bilateral distances are available for 225 countries. For most of them, different calculations of 'intra-national distances' are also available."(source)

Variable Name: distancepopwghtdatob
Label: Population-weighted distance A to B, CEPII
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Weighted kilometers
Source: CEPII (source)
Source Definition: CEPII GeoDist provides several geographical variables, in particular "bilateral distances [are] measured using city-level data to account for the geographic distribution of population inside each nation. Different measures of bilateral distances are available for 225 countries. For most of them, different calculations of 'intra-national distances are also available." The weighted population distance variable is calculated as follows,

$$d_{ij} = \left(\sum_{k \in i} (\text{pop}_k / \text{pop}_i) \sum_{\ell \in j} (\text{pop}_\ell / \text{pop}_j) d_{k\ell}^{\theta} \right)^{1/\theta}$$

where θ is set equal to 1. (source)

Variable Name: distancepopwghtdgravityatob
Label: Population-Weighted Distance with Gravity Coefficient, A to B, CEPII
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Weighted kilometers

Source: CEPII (source)
Source Definition: CEPII GeoDist provides several geographical variables, in particular "bilateral distances [are] measured using city-level data to account for the geographic distribution of population inside each nation. Different measures of bilateral distances are available for 225 countries. For most of them, different calculations of 'intra-national distances'' are also available." This specific variable is calculated as follows,

$$d_{ij} = \left(\sum_{k \in i} (\text{pop}_k / \text{pop}_i) \sum_{\ell \in j} (\text{pop}_\ell / \text{pop}_j) d_{k\ell}^{\theta} \right)^{1/\theta}$$

where θ is set equal to -1. (source)

Variable Name: distatob_searoute
Label: Shortest Distance Via Sea Route, CEPII
Variable Category: Cultural
Variable Type: Numeric
Unit: Kilometers
Source: CEPII (source)
Source Definition: "The Bilateral Trade Historical Series dataset has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data." This dataset includes "bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." Sea distance routes come from CEPII's use of Vesseltracker.com. (source)

Variable Name: sharedborder
Label: Shared (Contiguous) Border, CEPII
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: CEPII (source)
Source Definition: CEPII GeoDist provides several geographical variables, in particular "bilateral distances measured using city-level data to account for the geographic distribution of population inside each nation. Different measures of bilateral distances are available for 225 countries. For most of them, different calculations of "intra-national distances" are also available." (source) For countries that share a border, this variable is equal to 1.

Variable Name: populationa
Label: Population (thousands) Country A, UNPD-WPP
Variable Category: Cultural
Variable Type: Numeric – Discrete
Unit: Count of people, in thousands
Source: United Nations Population Division – World Population Prospects (source)
Source Definition: "With each successive revision of the World Population Prospects, the Population Division of the United Nations estimates historical demographic trends for the period from 1950 to the present and projects future population trends out to 2100. The estimates are based on all available sources of data on population size and levels of fertility, mortality and international migration for 235 distinct countries or areas comprising the total population of the world." (source) The population for Country A is measured in thousands of people.

Variable Name: populationb
Label: Population (Thousands) Country B, UNPD WPP
Variable Category: Cultural
Variable Type: Numeric – Discrete
Unit: Count of people, in thousands
Source: United Nations Population Division – World Population Prospects (source)
Source Definition: "With each successive revision of the World Population Prospects, the Population Division of the United Nations estimates historical demographic trends for the period from 1950 to the present and projects future population trends out to 2100. The estimates are based on all available sources of data on population size and levels of fertility, mortality and international migration for 235 distinct countries or areas comprising the total population of the world." (source) The population for Country B is measured in thousands of people.

Variable Name: migrantstockbina
Label: Migrant Stock B in A, UNPD, Measured Every 5 yrs
Variable Category: Cultural
Variable Type: Numeric – Discrete
Unit: Count of people, in thousands
Source: United Nations Population Division – World Population Prospects (source)
Source Definition: "This database is the core of the latest Revision of World Population Prospects, the United Nations estimations and projections of population for all countries of the world, covering the period 1950-2100. It incorporates the findings of the most recent national population censuses and of numerous specialized population surveys carried out around the world. The latest Revision provides the demographic data and indicators to assess trends at the global, regional and national levels and to calculate many other key indicators commonly used by the United Nations system." (source) This variable measures the stock of migrants from Country B in Country A.

Variable Name: migrantstockainb
Label: Migrant Stock A in B, UNPD, Measured Every 5 yrs
Variable Category: Cultural
Variable Type: Numeric – Discrete
Unit: Count of people
Source: United Nations Population Division – World Population Prospects (source)
Source Definition: "This database is the core of the latest Revision of World Population Prospects, the United Nations estimations and projections of population for all countries of the world, covering the period 1950-2100. It incorporates the findings of the most recent national population censuses and of numerous specialized population surveys carried out around the world. The latest Revision provides the demographic data and indicators to assess trends at the global, regional and national levels and to calculate many other key indicators commonly used by the United Nations system." (source) This variable measures the stock of migrants from Country A in Country B.

Variable Name: migr5yrflowatob_dminclosed_abel
Label: Previous 5yr Migration Flow Est. A to B, Closed Accounting From Guy Abel
Variable Category: Cultural
Variable Type: Numeric – Discrete
Unit: Count of people
Source: Guy Abel (source)

Source Definition: Five-year migration flow estimates from Country A to Country B using a demographic account. The minimization closed method was used. See Abel (2019) for a full definition and description of methods (source).

Variable Name: migr5yrflowatob_dapbclosed_abel
Label: Prev. 5yr Migration Flow Est. A to B, Pseudo-Bayesian Closed Accounting, Guy Abel
Variable Category: Cultural
Variable Type: Numeric – Discrete
Unit: Count of people
Source: Guy Abel (source)
Source Definition: Five-year migration flow estimates from Country A to Country B using a demographic account, pseudo-Bayesian close method. See Abel (2019) for a full definition and description of methods (source).

Variable Name: migr5yrflowbtoa_dapbclosed_abel
Label: Prev. 5yr Migration Flow Est. B to A Pseudo-Bayesian Closed Accounting, Guy Abel
Variable Category: Cultural
Variable Type: Numeric – Discrete
Unit: Count of people
Source: Guy Abel (source)
Source Definition: Five-year migration flow estimates from Country B to Country A using a demographic account, pseudo-Bayesian close method. See Abel (2019) for a full definition and description of methods (source).

Variable Name: colonialtiesCOW
Label: Colonial Ties, COW
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Correlates of War (COW) (source)
Source Definition: "Version 3.1 of the Correlates of War Colonial/Dependency Contiguity data identifies all contiguity relationships between states in the international system from 1816 through 2016 through their colonies or dependencies." (source) If Country A was either a colony or colonizer of Country B, this variable is equal to 1.

Variable Name: colonialties1945CEPII
Label: Colonial Ties Post-1945, CEPII
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: CEPII (source)
Source Definition: "The GeoDist webpage provides two distinct files: a country-specific one (geo_cepii) and a dyadic one (dist_cepii) including a set of different distance and common dummy variables used in gravity equations to identify particular sources between countries such as colonial past, common languages, contiguity." (source) If Country A was either a colony or colonizer of Country B the year 1945, this variable is equal to 1.

Variable Name: commoncolonizer
Label: Common Colonizer Post-1945, CEPII
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: CEPII (source)
Source Definition: "The GeoDist webpage provides two distinct files: a country-specific one (geo_cepii) and a dyadic one (dist_cepii) including a set of different distance and common dummy variables used in gravity equations to identify particular sources between countries such as colonial past, common languages, contiguity." (source) If Country A and Country B were both colonized at some point after the year 1945 by the same country, this variable is equal to 1.

Variable Name: pastcolonyofb
Label: Country A Was a Past Colony of B = 1, COW
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Correlates of War (COW) (source)
Source Definition: "Version 3.1 of the Correlates of War Colonial/Dependency Contiguity data identifies all contiguity relationships between states in the international system from 1816 through 2016 through their colonies or dependencies." (source) If Country A was once a colony of Country B, this variable is equal to 1.

Variable Name: pastcolonizerofb
Label: Country A Once Colonized B = 1, COW
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Correlates of War (COW) (source)
Source Definition: "Version 3.1 of the Correlates of War Colonial/Dependency Contiguity data identifies all contiguity relationships between states in the international system from 1816 through 2016 through their colonies or dependencies." (source) If Country A once colonized Country B, this variable is equal to 1.

Variable Name: commonofficiallanguage
Label: Common Official Language, CEPII 2012
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: CEPII (source)
Source Definition: CEPII's Language project provides new series for Common Official Language (COL), "a binary one, either 0 or 1. With regard to COL, the usual source is the CIA World Factbook. Though [they] used it as well, [they] adopted a slightly broader definition of COL." (source)

Variable Name: commonspokenlanguage
Label: Common Spoken Language, CEPII 2012
Variable Category: Cultural

Variable Type: Numeric – Dichotomous
Unit: Binary
Source: CEPII (source)
Source Definition: Language provides data on the series Common Spoken Language (CSL) and requires "all languages to be spoken by at least 4% of the population in 2 countries." The Language project constructed the series for common native language and common spoken language for 195 countries. (source) If Country A and Country B share a common spoken language, this variable is equal to 1.

Variable Name: commonnativelanguage
Label: Common Native Language, CEPII 2012
Variable Category: Cultural
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: CEPII (source)
Source Definition: Language provides data on the series Common Native Language (CNL) and requires "all languages to be spoken by at least 4% of the population in 2 countries." The Language project constructed the series for common native language and common spoken language for 195 countries. (source) If Country A and Country B share a common native language, this variable is equal to 1.

Variable Name: commonlanguageindex
Label: Common Language Index, All Languages, CEPII
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Index
Source: CEPII (source)
Source Definition: The Language project provides the Common Language index (CL) as well, "a variable which depends, in turn, on Language Proximity and therefore is also data dependent." CEPII "constructed two separate measures of Linguistic Proximity, LP1 and LP2. LP1 is inspired by the idea in Fearon (2003) and Laitin (2000) of calculating linguistic proximities on the basis of the Ethnologue classification of language trees between trees, branches and sub-branches. As regards LP2, the source is an analysis of lexical similarity between 40 words that were compiled by the Automated Similarity Judgment Program (ASJP) project." (source)

Variable Name: sharedreligionindex
Label: Shared Religion Index
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Index
Source: Correlates of War (COW) (source)
Source Definition: COW's World Religion Project (WRP) "aims to provide detailed information about religious adherence worldwide from 1945 to 2010. It contains data about the number of adherents by religion in each of the states in the international system. These numbers are given for every half-decade period (1945, 1950, ..., 2010). The data record percentages of the state's population that practice a given religion. Some of the religions (as detailed in the Codebook) are divided into religious families. To the extent data are available, the breakdown of adherents within a given religion into religious families is also specified in the Codebook." (source)

To transformation these data into an index, researchers at the Pardee Center conduct the following calculation:

1. Multiply the percentage values of country A and country B for each religion type (columns D through AL in the raw Annual World Religion dataset). This calculated the probability of someone from Country A encountering someone in Country B who is of the same religion.
2. Sum up the calculated probabilities from above step.

YEAR	ISO3	COUNTRY	CHPRTPCT	CHCATPCT	.....	OTGENPCT	
1945	USA	United States	0.4722	0.2767	.....	0.00389877	
1945	CAN	Canada	0.3478	0.4379	.....	0.05799877	
			0.16423116	0.12116693	.....	0.00022612	0.28786324

In the example above, note that: First, CHPRTPCT values for the country-pair (dyad) are multiplied by one another (0.4772 x 0.3478 = 0.16423116). Then CHCATPCT values for the country-pair are multiplied by one another (0.2767 x 0.4379 = 0.12116693). Finally, the sum of these products is calculated (0.16423116 + 0.12116693 = 0.28786324). Note that the values are not rounded.

Variable Name: ethnicfracindexa
Label: Historical Ethnic Fractionalization Index Country A
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Index
Source: Historical Index of Ethnic Fractionalization (HIEF) (source)
Source Definition: "The Historical Index of Ethnic Fractionalization (HIEF) dataset contains an ethnic fractionalization index for 165 countries across all continents. The dataset covers annually the period 1945-2013. The ethnic fractionalization index corresponds to the probability that two randomly drawn individuals within a country are not from the same ethnic group. The new dataset is a natural extension of previous ethnic fractionalization indices and it allows its users to compare developments in ethnic fractionalization over time. The applications of HIEF pertain to the pattern of ethnic diversity across countries and over time." (source) This variable measures ethnic fractionalization within Country A.

Variable Name: ethnicfracindexb
Label: Historical Ethnic Fractionalization Index Country B
Variable Category: Cultural
Variable Type: Numeric – Continuous
Unit: Index
Source: Historical Index of Ethnic Fractionalization (HIEF) (source)
Source Definition: "The Historical Index of Ethnic Fractionalization (HIEF) dataset contains an ethnic fractionalization index for 165 countries across all continents. The dataset covers annually the period 1945-2013. The ethnic fractionalization index corresponds to the probability that two randomly drawn individuals within a country are not from the same ethnic group. The new dataset is a natural extension of previous ethnic fractionalization indices and it allows its users to compare developments in ethnic fractionalization over time. The applications of HIEF pertain to the pattern of ethnic diversity across countries and over time." (source) This variable measures ethnic fractionalization within Country B.

Economic Variables

Variable Name: gdpmer2011usda
Label: GDP at MER 2011USD (Singles USD) Country A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: World Bank World Development Indicators (source)
Source Definition: "GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources." (source) Data were originally recorded in constant 2010 USD millions at market exchange rates and is now converted to 2011 USD. This value is for Country A.

Variable Name: gdpmer2011usdb
Label: GDP at MER 2011USD (Singles) Country B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: World Bank World Development Indicators (source)
Source Definition: "GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources." (source) Data were originally recorded in constant 2010 USD millions at market exchange rates and is now converted to 2011 USD. This value is for Country B.

Variable Name: gdppppBil2011usda
Label: GDP at PPP 2011USD (Billions) Country A, IFs
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: World Bank World Development Indicators (WDI) (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: "This indicator provides values for gross domestic product (GDP) expressed in current international dollars, converted by purchasing power parity (PPP) conversion factor. GDP is the sum of gross value added by all resident producers in the country plus any product taxes and minus any subsidies not included in the value of the products. PPP conversion factor is a spatial price deflator and currency converter that eliminates the effects of the differences in price levels between countries." (source). Data for GIDE are pulled from the Pardee Center's International Futures tool, which uses the World Bank's WDI as a primary source (source). This value is for Country A.

Variable Name: gdppppBil2011usdb
Label: GDP at PPP 2011USD (Billions) Country B, IFs
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: World Bank World Development Indicators (WDI) (source); Frederick S. Pardee Center for International Futures (source)

Source Definition: "This indicator provides values for gross domestic product (GDP) expressed in current international dollars, converted by purchasing power parity (PPP) conversion factor. GDP is the sum of gross value added by all resident producers in the country plus any product taxes and minus any subsidies not included in the value of the products. PPP conversion factor is a spatial price deflator and currency converter that eliminates the effects of the differences in price levels between countries." (source). Data for GIDE are pulled from the Pardee Center's International Futures tool, which uses the World Bank's WDI as a primary source (source). This value is for Country B.

Variable Name: exportsallgoodatob_alldata
Label: All Goods Exports A to B 2011USD, TRADEHIST and BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: The Bilateral Trade Historical Series (TRADEHIST) from CEPII sourced data from 1960 through 1994. "The Bilateral Trade Historical Series dataset has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data (see Fouquin and Hugot Working paper n°2016-13, Mai 2016). The data set gathers five types of variables: i) bilateral nominal trade flows, ii) country level aggregate nominal exports and imports, iii) nominal GDPs, iv) exchange rates, and v) bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." TRADEHIST adopts a systematic approach to collecting all this data, with the exception of tariffs. For each variable, pre-existing (secondary) sources are merged with additional data directly extracted from primary sources, including "government publications, books and academic articles." TRADEHIST indicates that nominal values are systematically converted to the British pound sterling to make data internationally comparable. From 1995 onward, our source is CEPII's BACI trade series. Unless values are missing, in which case they are backfilled by TRADEHIST through 2014 (the last year where TRADEHIST data are available). CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." Both datasets can be accessed here: (source). The variable measures all goods exported from Country A to Country B.

Variable Name: importsallgoodafromb_alldata
Label: All Goods Imports A to B 2011USD, TRADEHIST and BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: The Bilateral Trade Historical Series (TRADEHIST) from CEPII is our source from 1960 through 1994. "The Bilateral Trade Historical Series dataset has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data (see Fouquin and Hugot Working paper n°2016-13, Mai 2016). The data set gathers five types of variables: i) bilateral nominal trade flows, ii) country level aggregate nominal exports and imports, iii) nominal GDPs, iv) exchange rates, and v) bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." TRADEHIST adopts a systematic approach to collecting all of this data, to the exception of tariffs. For each variable, pre-existing (secondary) sources are merged with additional data directly extracted from primary sources,

including "government publications, books and academic articles." TRADEHIST indicates that nominal values are systematically converted to the British pound sterling to make data internationally comparable. From 1995 onward, our source is CEPII's BACI trade series unless values are missing, in which case they are backfilled by TRADEHIST through 2014 (the last year where TRADEHIST data are available). CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." Both datasets can be found here: (source). The variable measures all goods imported to Country A from Country B.

Variable Name: totaltradeawithb
Label: Exports A to B + Imports A From B, 2011USD, BACI and TRADEHIST
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: The Bilateral Trade Historical Series (TRADEHIST) from CEPII is our source from 1960 through 1994. "The Bilateral Trade Historical Series dataset has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data (see Fouquin and Hugot Working paper n°2016-13, Mai 2016). The data set gathers five types of variables: i) bilateral nominal trade flows, ii) country level aggregate nominal exports and imports, iii) nominal GDPs, iv) exchange rates, and v) bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." TRADEHIST adopts a systematic approach to collecting all of this data, to the exception of tariffs. For each variable, pre-existing (secondary) sources are merged with additional data directly extracted from primary sources, including "government publications, books and academic articles." TRADEHIST indicates that nominal values are systematically converted to the British pound sterling to make data internationally comparable. From 1995 onward, our source is CEPII's BACI trade series unless values are missing, in which case they are backfilled by TRADEHIST through 2014 (the last year where TRADEHIST data are available). CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) This variable measures the sum of all goods imported from and exported to Country B vis-à-vis Country A.

Variable Name: exportsagriatob
Label: Agriculture Exports A to B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from the BACI dataset and the commodity level and are then mapped to the International Futures tool's six sectors of trade (source). This variable measures agriculture sector exports from Country A to Country B.

Variable Name: exportsmanuatob
Label: Manufacturing Exports A to B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from BACI and the commodity level and is then mapped to the International Futures tool's six sectors of trade (source). This variable measures manufacturing sector exports from Country A to Country B.

Variable Name: exportsmateatob
Label: Materials Exports A to B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from BACI and the commodity level and is then mapped to the International Futures tool's six sectors of trade (source). This variable measures materials sector exports from Country A to Country B.

Variable Name: exportseneratob
Label: Energy exports A to B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)

Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from BACI and the commodity level and is then mapped to the International Futures tool's six sectors of trade (source). This variable measures energy sector exports from Country A to Country B.

Variable Name: exportsictatob
Label: ICT Exports A to B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from BACI and the commodity level and is then mapped to the International Futures tool's six sectors of trade (source). This variable measures information communication technology sector exports from Country A to Country B.

Variable Name: exportsminerals_2011usdatob
Label: Minerals & Byproducts Exports A to B 2011 USD, BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures raw mineral exports from Country A to Country B.

Variable Name: exportselectricity2011usdatob
Label: Electricity Energy Exports A to B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures exports from Country A to Country B of electricity-related commodities.

Variable Name: exportscrops2011usdatob
Label: Edible Crops & Byproduct Exports A to B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures exports from Country A to Country B of edible crops and their byproducts. Summing this variable with meat exports approximates a measure of total food exports from A to B.

Variable Name: exportsoil2011usdatob
Label: Oil Energy Exports A to B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures exports from Country A to Country B of oil (energy) commodities.

Variable Name: exportsgas2011usdatob
Label: Gas Energy Exports A to B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures exports from Country A to Country B of natural gas.

Variable Name: exportscoal2011usdatob
Label: Coal Energy Exports A to B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures exports from Country A to Country B of coal commodities.

Variable Name: exportsmetals2011usdatob
Label: Metals & Byproduct Exports A to B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.

II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures exports from Country A to Country B of metals and their byproducts.

Variable Name: exportsmeats2011usdatob
Label: Animals, Meats, Fish, Dairy & Byproduct Exports A to B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures exports from Country A to Country B of animals, meats, fish, dairy, and associated byproducts. Summing this variable with crop exports approximates a measure of total food exports from A to B.

Variable Name: importsenerafromb
Label: Energy Imports A From B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data were pulled from BACI and the commodity level and mapped to the International Futures tool's six sectors of trade. This variable measures energy sector imports to Country A from Country B.

Variable Name: importsagriafromb
Label: Agriculture imports A from B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)

Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from BACI and the commodity level and are then mapped to the International Futures tool's six sectors of trade. This variable measures agriculture sector imports to Country A from Country B.

Variable Name: importsictafromb
Label: ICT imports A from B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from BACI and the commodity level and are then mapped to the International Futures tool's six sectors of trade. This variable measures information communication technology sector imports to Country A from Country B.

Variable Name: importsmateafromb
Label: Materials Imports A From B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value. " (source)

Trade data are pulled from BACI and the commodity level and are then mapped to the International Futures tool's six sectors of trade. This variable measures materials sector imports to Country A from Country B.

Variable Name: importsmanuafromb
Label: Manufacturing Imports A From B, 2011 USD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

Trade data are pulled from BACI and the commodity level and are then mapped to the International Futures tool's six sectors of trade. This variable measures energy sector imports to Country A from Country B.

Variable Name: importsminerals_2011usdafromb
Label: Minerals & Byproduct Imports to A from B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of raw minerals.

Variable Name: importselectricity2011usdafromb
Label: Electricity Energy Imports to A from B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.

II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of electricity-related commodities.

Variable Name: importscrops2011usdafromb
Label: Edible Crops & Byproduct Imports A from B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of edible crops and their byproducts. Summing this variable with meat imports approximates a measure of total food imports to A from B.

Variable Name: importsoil2011usdafromb
Label: Oil Energy Imports A From B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of oil (energy) commodities.

Variable Name: importsgas2011usdafromb
Label: Gas Energy Imports A From B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country

to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of natural gas.

Variable Name: importscoal2011usdafromb
Label: Coal Energy Imports A From B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of coal commodities.

Variable Name: importsmetals2011usdafromb
Label: Metals & Byproduct Imports A From B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)
Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of metals and their byproducts.

Variable Name: importsmeats2011usdafromb
Label: Animals, Meats, Fish, Dairy & Byproduct Imports A From B 2011 USD, CEPII BACI
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source)

Source Definition: CEPII's BACI dataset "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division. BACI provides a unique, reconciled trade flow by implementing a harmonization procedure whose two main ingredients are:

I. CIF costs are estimated and removed from import values to compute FOB import values.
II. The reliability of each country as a reporter of trade data is assessed. If a reporter tends to provide data that are very different from the ones of its partners, it will be considered as unreliable and will be assigned a lower weight in the determination of the reconciled trade flow value." (source)

This variable measures imports to Country A from Country B of animals, meats, fish, dairy, and associated byproducts. If summed with crop imports, this variable approximates a measure of total food imports to A from B.

Variable Name: wttariffsallgoodsaonb_combo
Label: Trade Weighted Tariffs A on B all goods, Diplometrics & CEPII
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's TRADEHIST series "reports about 8,000 observations of bilateral customs duties-to-imports ratios. This data can be used to proxy the level of bilateral tariff protection. The sources are always identical to those used for the bilateral trade data." The TRADEHIST variable "BITARIFF" is defined as a "Tariff imposed by country d on imports from country o (i.e. ratio of bilateral duties to imports, in percentage)". The variable "TARIFF_o(d)" is defined as "Average tariff imposed by country o (d) (i.e. ratio of total duties to imports, in percentage)." (source) These data are used for tariffs prior to 1995 or if the following WITS-based values after 1994 are missing.

The World Integrated Trade Solution dataset (WITS) "allows users to access and retrieve information on trade and tariffs… International organizations that assemble this dataset include the **WTO's Integrated Data Base** (IDB)" The IDB contains imports by commodity and partner countries, Most Favored Nation (MFN) application, and, where available, data on preferential tariffs at the most detailed commodity level of the national tariffs. The Consolidated Tariff Schedule Data Base (CTS) contains WTO-bound tariffs, Initial Negotiating Rights and other indicators." (source). These data are used for tariffs after 1994, when data are available. This variable measures trade-weighted tariffs imposed by Country A on imports from Country B.

Variable Name: wttariffsallgoodsbona_combo
Label: Trade Weighted Tariffs B on A All Goods, Diplometrics & CEPII
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: CEPII's TRADEHIST "reports about 8,000 observations of bilateral customs duties-to-imports ratios. This data can be used to proxy the level of bilateral tariff protection. The sources are always identical to those used for the bilateral trade data." The TRADEHIST variable "BITARIFF" is defined as "Tariff imposed by country d on imports from country o (i.e. ratio of bilateral duties to imports, in percentage)". The variable "TARIFF_o(d)" is defined as "Average tariff imposed by country o (d) (i.e. ratio

of total duties to imports, in percentage)." (source) These data are used for tariffs prior to 1995 or if WITS-based values after 1994 are missing.

The World Integrated Trade Solution dataset (WITS) "allows users to access and retrieve information on trade and tariffs… International organizations that assemble this dataset include: 1) UNSD COMTRADE: contains annual trade flow information covering imports, exports and re-exports since 1962. UN COMTRADE contains trade value and quantity by product category in SITC (since 1962 and HS since 1988 (more details on nomenclatures in Understanding Nomenclatures); 2) UNCTAD TRAINS: contains annual imports (values), tariffs structures (Bound, MFN Applied and Preferential tariffs, ad-valorem or not) and Non-Tariff Barriers information since 1988 at the National tariff line (NTL) level. The National tariff structure is country specific and may contain up to 15,000 distinct lines; and 3) the WTO's Integrated Data Base (IDB), which contains imports by commodity and partner countries and Most Favored Nation (MFN) applied and, where available, data on preferential tariffs at the most detailed commodity level of the national tariffs. The Consolidated Tariff Schedule Data Base (CTS) contains WTO-bound tariffs, Initial Negotiating Rights and other indicators." (source) These data are used for tariffs after 1994, when data are available. This variable measures trade-weighted tariffs imposed by Country B on imports from Country A.

Variable Name: wttariffaonbagri
Label: Tariff (Trade-Weighted, %) - Agriculture – A on B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology. This variable measures trade-weighted tariffs imposed by Country A on agriculture imports from Country B.

Variable Name: wttariffaonbmanu
Label: Tariff (Trade-Weighted, %) - Manufacturing – A on B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology. This variable measures trade-weighted tariffs imposed by Country A on manufacturing imports from Country B.

Variable Name: wttariffaonbmate
Label: Tariff (Trade-Weighted, %) - Materials - A on B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)

Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
This variable measures trade-weighted tariffs imposed by Country A on materials imports from Country B.

Variable Name: wttariffaonbener
Label: Tariff (Trade-Weighted, %) - Energy - A on B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
This variable measures trade-weighted tariffs imposed by Country A on energy imports from Country B.

Variable Name: wttariffaonbict
Label: Tariff (Trade-Weighted, %) - ICT - A on B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
This variable measures trade-weighted tariffs imposed by Country A on information communication technology imports from Country B.

Variable Name: wttariffbonaagri
Label: Tariff (Trade-Weighted, %) - Agriculture – B on A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
This variable measures trade-weighted tariffs imposed by Country B on agriculture imports from Country A.

Variable Name: wttariffbonamanu
Label: Tariff (Trade-Weighted, %) - Manufacturing – B on A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)

Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
Source Definition: See wttariffsallgoodsbona_combo definition for full WITS description. (source) Commodities were mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures trade-weighted tariffs imposed by Country B on manufacturing imports from Country A.

Variable Name: wttariffbonamate
Label: Tariff (Trade-Weighted, %) - Materials - B on A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
This variable measures trade-weighted tariffs imposed by Country B on materials imported from Country A.

Variable Name: wttariffbonaener
Label: Tariff (Trade-Weighted, %) - Energy - B on A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
This variable measures trade-weighted tariffs imposed by Country B on energy imports from Country A.

Variable Name: wttariffbonaict
Label: Tariff (Trade-Weighted, %) - ICT - B on A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Percentage
Source: World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) The World Bank's commodities are mapped to the pre-existing International Futures tool's five trade sectors: agriculture, manufacturing, materials, energy, information communication technology.
This variable measures trade-weighted tariffs imposed by Country B on information communication technology imports from Country A.

Variable Name: tariffrev2011usdafrombagri
Label: Tariff Receipts - Agriculture - A from B
Variable Category: Economic
Variable Type: Numeric – Continuous

Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country A on agriculture imports from Country B, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdafrombmanu
Label: Tariff Receipts - Manufacturing - A from B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures (source)

Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country A on manufacturing imports from Country B, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdafrombmate
Label: Tariff Receipts - Materials - A from B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country A on materials imports from Country B, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdafrombener
Label: Tariff Receipts - Energy - A from B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD

Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country A on energy imports from Country B, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdafrombict
Label: Tariff Receipts - ICT - A from B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source
CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country A on information communication technology imports from Country B, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdafromballgoods
Label: Tariff Receipts - All Goods - A from B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country A on all goods imports from Country B, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdbfromaagri
Label: Tariff Receipts - Agriculture - B from A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source:
CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures

Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country B on agriculture imports from Country A, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdbfromamanu
Label: Tariff Receipts - Manufacturing - B from A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source:
CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country B on manufacturing imports from Country A, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdbfromamate
Label: Tariff Receipts - Materials - B from A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country B on materials imports from Country A, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdbfromaener
Label: Tariff Receipts - Energy - B from A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures

tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country B on energy imports from Country A, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdbfromaict
Label: Tariff Receipts - ICT - B from A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country B on information communication technology imports from Country A, as calculated by multiplying import values by tariff rates.

Variable Name: tariffrev2011usdbfromaallgoods
Label: Tariff Receipts - All goods - B from A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: CEPII (source); World Bank (source); Frederick S. Pardee Center for International Futures
Source Definition: See wttariffsallgoodsaonb_combo definition for full WITS description. (source) CEPII's BACI "provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. The database is built from data directly reported by each country to the United Nations Statistical Division." (source) For both data series, commodities are mapped to the International Futures tool's five goods trade sectors: agriculture, energy, information communication technology, manufacturing, and materials. This variable measures tariff revenue gathered by Country B on all goods imports from Country A, as calculated by multiplying import values by tariff rates.

Variable Name: tciexaimbagri
Label: Trade Complementarity - Agriculture - A Exports B Imports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left|\frac{Import_{i}^{c}}{Import_{i}^{S}} - \frac{Export_{j}^{c}}{Export_{j}^{S}}\right| \div 2\right)\right)100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_{i}^{c}$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_{i}^{S}$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level; these data are then used to calculate TCI. The variable measures the complementarity of Country A's agriculture exports with Country B's agriculture imports, where a value of 1 indicates perfect complementarity.

Variable Name: tciexaimbmanu
Label: Trade Complementarity - Manufacturing - A Exports B Imports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left|\frac{Import_{i}^{c}}{Import_{i}^{S}} - \frac{Export_{j}^{c}}{Export_{j}^{S}}\right| \div 2\right)\right)100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_{i}^{c}$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_{i}^{S}$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's manufacturing exports with Country B's manufacturing imports, where a value of 1 indicates perfect complementarity.

Variable Name: tciexaimbmate
Label: Trade Complementarity - Materials - A Exports B Imports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left|\frac{Import_{i}^{c}}{Import_{i}^{S}} - \frac{Export_{j}^{c}}{Export_{j}^{S}}\right| \div 2\right)\right)100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_{i}^{c}$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_{i}^{S}$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade

in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are used to calculate TCI. The variable measures the complementarity of Country A's materials exports with Country B's materials imports, where a value of 1 indicates perfect complementarity.

Variable Name: tciexaimbener
Label: Trade Complementarity - Energy - A Exports, B Imports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left|\frac{Import_{i}^{c}}{Import_{i}^{S}} - \frac{Export_{j}^{c}}{Export_{j}^{S}}\right| \div 2\right)\right)100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_{i}^{c}$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_{i}^{S}$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's energy exports with Country B's energy imports, where a value of 1 indicates perfect complementarity.

Variable Name: tciexaimbict
Label: Trade Complementarity - ICT - A Exports, B Imports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left|\frac{Import_{i}^{c}}{Import_{i}^{S}} - \frac{Export_{j}^{c}}{Export_{j}^{S}}\right| \div 2\right)\right)100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_{i}^{c}$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_{i}^{S}$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level; these data are then used to calculate TCI. The variable measures the complementarity of Country A's information communication technology exports with Country B's information communication technology imports, where a value of 1 indicates perfect complementarity.

Variable Name: tciexaimballgoods
Label: Trade Complementarity - All goods - A Exports B Imports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left|\frac{Import_i^c}{Import_i^S} - \frac{Export_j^c}{Export_j^S}\right| \div 2\right)\right)100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_i^c$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_i^S$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's goods exports across all five sectors with Country B's goods imports across all five sectors, where a value of 1 indicates perfect complementarity.

Variable Name: tciimaexbagri
Label: Trade Complementarity - Agriculture - A Imports B Exports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left|\frac{Import_i^c}{Import_i^S} - \frac{Export_j^c}{Export_j^S}\right| \div 2\right)\right)100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_i^c$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_i^S$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's agriculture imports with Country B's agriculture exports, where a value of 1 indicates perfect complementarity.

Variable Name: tciimaexbmanu
Label: Trade Complementarity - Manufacturing - A Imports B Exports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous

Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left| \frac{Import_i^c}{Import_i^S} - \frac{Export_j^c}{Export_j^S} \right| \div 2\right)\right) 100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_i^c$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_i^S$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's manufacturing imports with Country B's manufacturing exports, where a value of 1 indicates perfect complementarity.

Variable Name: tciimaexbmate
Label: Trade Complementarity - Materials - A Imports B Exports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left| \frac{Import_i^c}{Import_i^S} - \frac{Export_j^c}{Export_j^S} \right| \div 2\right)\right) 100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_i^c$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_i^S$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's materials imports with Country B's materials exports, where a value of 1 indicates perfect complementarity.

Variable Name: tciimaexbener
Label: Trade Complementarity - Energy - A Imports, B Exports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade

portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left| \frac{Import_i^c}{Import_i^S} - \frac{Export_j^c}{Export_j^S} \right| \div 2\right)\right) 100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_i^c$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_i^S$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's energy imports with Country B's energy exports, where a value of 1 indicates perfect complementarity.

Variable Name: tciimaexbict
Label: Trade Complementarity - ICT - A Imports, B Exports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left| \frac{Import_i^c}{Import_i^S} - \frac{Export_j^c}{Export_j^S} \right| \div 2\right)\right) 100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_i^c$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_i^S$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's information communication technology imports with Country B's information communication technology exports, where a value of 1 indicates perfect complementarity.

Variable Name: tciimaexballgoods
Label: Trade Complementarity - All goods - A Imports B Exports (1=perfect match)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source); CEPII (source)
Source Definition: "The trade complementarity index (TCI) is a commonly used index that aims to provide insight regarding the potential for trade between two economies by comparing their trade portfolios. It is a directional index that compares one country's exports against another country's imports, measuring the degree to which the export pattern of one country matches the import pattern of another. The calculation for sector-specific TCI is described as:

$$TCI_{ij}^{S} = \left(1 - \left(\sum_{c} \left| \frac{Import_{i}^{c}}{Import_{i}^{S}} - \frac{Export_{j}^{c}}{Export_{j}^{S}} \right| \div 2\right)\right) 100$$

"where TCI_{ij}^{S} is the TCI in sector *S* between importer *i* and exporter *j*, $Import_{i}^{c}$ is the total value in commodity *c* that country *i* imported from all other countries in a year, and $Import_{i}^{S}$ is the total value in sector *S* that country *i* imported from all other countries in a year." (source) CEPII BACI values for trade in goods are mapped to the IFs five sectors of goods trade at the commodity level, the data for which are then used to calculate TCI. The variable measures the complementarity of Country A's goods imports across all five sectors with Country B's goods exports across all five sectors, where a value of 1 indicates perfect complementarity.

Variable Name: tradeagreement_psa
Label: = 1 if Country A & Country B in Partial Scope Trade Agreement in Year Y, WTO
Variable Category: Economic
Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization Regional Trade Agreements (source)
Source Definition: The WTO Regional Trade Agreement Database User Guide identifies a "Partial Scope" Agreement (PS), as "meaning that the agreement covers only certain products. Partial Scope agreements are notified under paragraph 4(a) of the Enabling Clause within the November 28, 1979 decision by signatories to the General Agreement on Tariffs and Trade (GATT)." (source) This variable is equal to one if both country A and country B had a Partial Scope agreement in a given year.

Variable Name: tradeagreement_eia
Label: = 1 if A & B in Economic Integration Agreement in Year Y, WTO
Variable Category: Economic
Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization (source)
Source Definition: WTO defines an Economic Integration Agreement (EIA) in Article V of GATS stating, "This Agreement shall not prevent any of its Members from being a party to or entering into an agreement liberalizing trade in services between or among the parties to such an agreement, provided that such an agreement:

> (a) has substantial sectoral coverage (1), and
> (b) provides for the absence or elimination of substantially all discrimination, in the sense of Article XVII, between or among the parties, in the sectors covered under subparagraph (a), through elimination of existing discriminatory measures, and/or prohibition of new or more discriminatory measures, either at the entry into force of that agreement or on the basis of a reasonable time-frame, except for measures permitted under Articles XI, XII, XIV and XIV bis. In evaluating whether the conditions under paragraph 1(b) are met, consideration may be given to the relationship of the agreement to a wider process of economic integration or trade liberalization among the countries concerned…" (source)

This variable is equal to one if both countries A and B had an Economic Integration agreement in a given year.

Variable Name: tradeagreement_bta
Label: = 1 if A & B in Bilateral Trade Agreement in Year Y, WTO
Variable Category: Economic
Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization (source)
Source Definition: WTO defines bilateral trade agreements as those agreements composed of two signatories. (source) This variable is equal to one if both countries A and B had at least one bilateral trade agreement in a given year.

Variable Name: tradeagreement_btaeia
Label: = 1 if A & B in Bilateral Trade Agreement With Econ. Integ. in Year Y, WTO
Variable Category: Economic
Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization (source)
Source Definition: WTO defines bilateral trade agreements as those agreements composed of two signatories. WTO defines an Economic Integration Agreement (EIA) in Article V of GATS stating:

> "This Agreement shall not prevent any of its Members from being a party to or entering into an agreement liberalizing trade in services between or among the parties to such an agreement, provided that such an agreement:
> (a) has substantial sectoral coverage (1), and
> (b) provides for the absence or elimination of substantially all discrimination, in the sense of Article XVII, between or among the parties, in the sectors covered under subparagraph (a), through elimination of existing discriminatory measures, and/or prohibition of new or more discriminatory measures, either at the entry into force of that agreement or on the basis of a reasonable time-frame, except for measures permitted under Articles XI, XII, XIV and XIV bis. In evaluating whether the conditions under paragraph 1(b) are met, consideration may be given to the relationship of the agreement to a wider process of economic integration or trade liberalization among the countries concerned…" (source)

This variable is equal to one if countries A and B had a bilateral trade agreement that includes trade in services (referred to by the WTO as an economic integration agreement) in a given year.

Variable Name: tradeagreement_rta
Label: = 1 if A & B in Regional Trade Agreement in Year Y, WTO
Variable Category: Economic
Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization (source)
Source Definition: WTO defines Regional Trade Agreements (RTA) as referring to "reciprocal trade agreements between two or more partners to liberalize tariffs and services. They include free trade areas and customs unions and economic integration agreements on services." This variable is equal to one if both countries A and B had a regional trade agreement in a given year.

Variable Name: tradeagreement_rtaeia
Label: = 1 if A & B in Regional Trade Agreement With Econ. Integr. in Year Y, WTO
Variable Category: Economic

Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization (source)
Source Definition: WTO defines Regional Trade Agreements as referring to "reciprocal trade agreements between two or more partners to liberalize tariffs and services. They include free trade areas and customs unions and economic integration agreements on services." WTO defines an Economic Integration Agreement (EIA) in Article V of GATS stating:

> "This Agreement shall not prevent any of its Members from being a party to or entering into an agreement liberalizing trade in services between or among the parties to such an agreement, provided that such an agreement:
> (a) has substantial sectoral coverage (1), and
> (b) provides for the absence or elimination of substantially all discrimination, in the sense of Article XVII, between or among the parties, in the sectors covered under subparagraph (a), through elimination of existing discriminatory measures, and/or prohibition of new or more discriminatory measures, either at the entry into force of that agreement or on the basis of a reasonable time-frame, except for measures permitted under Articles XI, XII, XIV and XIV bis. In evaluating whether the conditions under paragraph 1(b) are met, consideration may be given to the relationship of the agreement to a wider process of economic integration or trade liberalization among the countries concerned…" (source)

This variable is equal to one if both countries A and B had a regional trade agreement that includes trade in services (referred to by the WTO as an economic integration agreement) in a given year.

Variable Name: tradeagreement_cu
Label: = 1 if A & B in Customs Union in Year Y, WTO
Variable Category: Economic
Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization (source)
Source Definition: WTO defines Customs Union in Paragraph 8(a) of Article XXIV of GATT 1994, wherein members apply a common external tariff (e.g. the European Union). Paragraph 8(a) of Article XXIV of GATT 1994 states, "For the purposes of this Agreement a customs territory shall be understood to mean any territory with respect to which separate tariffs or other regulations of commerce are maintained for a substantial part of the trade of such territory with other territories." (source) This variable is equal to one if both countries A and B had a customs union in a given year.

Variable Name: tradeagreement_cueia
Label: = 1 if A & B in Customs Union With Econ. Integ. in Year Y, WTO
Variable Category: Economic
Variable Type: Discrete - Dichotomous
Unit: Binary
Source: World Trade Organization (source)
Source Definition: WTO defines Customs Union in Paragraph 8(a) of Article XXIV of GATT 1994, wherein members apply a common external tariff (e.g. the European Union). Paragraph 8(a) of Article XXIV of GATT 1994 states, "For the purposes of this Agreement a customs territory shall be understood to mean any territory with respect to which separate tariffs or other regulations of commerce are maintained for a substantial part of the trade of such territory with other territories."
WTO defines an Economic Integration Agreement (EIA) in Article V of GATS stating:

> "This Agreement shall not prevent any of its Members from being a party to or entering into an agreement liberalizing trade in services between or among the parties to such an agreement, provided that such an agreement:
> (a) has substantial sectoral coverage (1), and
> (b) provides for the absence or elimination of substantially all discrimination, in the sense of Article XVII, between or among the parties, in the sectors covered under subparagraph (a), through elimination of existing discriminatory measures, and/or prohibition of new or more discriminatory measures, either at the entry into force of that agreement or on the basis of a reasonable time-frame, except for measures permitted under Articles XI, XII, XIV and XIV bis. In evaluating whether the conditions under paragraph 1(b) are met, consideration may be given to the relationship of the agreement to a wider process of economic integration or trade liberalization among the countries concerned…" (source)

This variable is equal to one if both countries A and B had a customs union that includes trade in services (referred to by the WTO as an economic integration agreement) in a given year.

Variable Name: tradeagreementindex
Label: =PSA*1 + EIA*1 + BTA*3 + BTAEIA*4 + RTA*5 + RTA *8 + CU*15 + CUEIA*20
Variable Category: Economic
Variable Type: Numeric – Discrete
Unit: Index
Source: World Trade Organization (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: An index created by the Pardee Center; it is meant to measure the level of trade restrictions between countries, where higher scores mean fewer restrictions. The index is calculated as follows: tradeagreement_psa*1 + tradeagreement_eia*1 + tradeagreement_bta*3 + tradeagreement_btaeia*4 + tradeagreement_rta*8 + tradeagreement_cu*15 + tradeagreement_cueia*20, where the maximum score is equal to 52.

Variable Name: xch_rate_to_usda
Label: Exchange Rate From Local to USD Current Country A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Multiplier
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's TRADEHIST dataset "has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data (see Fouquin and Hugot Working paper n°2016-13, Mai 2016). The data set gathers five types of variables: i) bilateral nominal trade flows, ii) country level aggregate nominal exports and imports, iii) nominal GDPs, iv) exchange rates, and v) bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." TRADEHIST adopts a systematic approach to collecting all this data, with the exception of tariffs. For each variable, pre-existing (secondary) sources are merged with additional data directly extracted from primary sources, including "government publications, books and academic articles." TRADEHIST indicates that nominal values are systematically converted to the British pound sterling to make data internationally comparable. (source) This variable provides an exchange rate for Country A's currency to US dollars in that year. Values are converted from CEPII's exchange rate to British pounds.

Variable Name: xch_rate_to_usdb
Label: Exchange Rate From Local to USD Current Country B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Multiplier
Source: CEPII (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: CEPII's TRADEHIST dataset "has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data (see Fouquin and Hugot Working paper n°2016-13, Mai 2016). The data set gathers five types of variables: i) bilateral nominal trade flows, ii) country level aggregate nominal exports and imports, iii) nominal GDPs, iv) exchange rates, and v) bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." TRADEHIST adopts a systematic approach to collecting all of this data, to the exception of tariffs. For each variable, pre-existing (secondary) sources are merged with additional data directly extracted from primary sources, including "government publications, books and academic articles." TRADEHIST indicates that nominal values are systematically converted to the British pound sterling to make data internationally comparable. (source) This variable provides an exchange rate for Country B's currency to US dollars in that year. Values are converted from CEPII's exchange rate to British pounds.

Variable Name: xch_rate_to_britpoundsa
Label: Exchange Rate From Local to GBR Pounds Country CEPII
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Multiplier
Source: CEPII (source)
Source Definition: CEPII's TRADEHIST dataset "has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data (see Fouquin and Hugot Working paper n°2016-13, Mai 2016). The data set gathers five types of variables: i) bilateral nominal trade flows, ii) country level aggregate nominal exports and imports, iii) nominal GDPs, iv) exchange rates, and v) bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." TRADEHIST adopts a systematic approach to collecting all of this data, to the exception of tariffs. For each variable, pre-existing (secondary) sources are merged with additional data directly extracted from primary sources, including "government publications, books and academic articles." TRADEHIST indicates that nominal values are systematically converted to the British pound sterling to make data internationally comparable. (source) This variable provides an exchange rate for Country A's currency to British pounds in that year.

Variable Name: xch_rate_to_britpoundsb
Label: Exchange Rate From Local to GBR Pounds Country CEPII
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: Multiplier
Source: CEPII (source)
Source Definition: CEPII's TRADEHIST dataset "has been built in order to analyze in historical perspective, using gravity equations, the globalization process through bilateral International trade data (see Fouquin and Hugot Working paper n°2016-13, Mai 2016). The data set gathers five types of variables: i) bilateral nominal trade flows, ii) country level aggregate nominal exports and imports, iii) nominal GDPs, iv)

exchange rates, and v) bilateral factors that are known to favor or hamper trade, including geographical distance, common borders, colonial and linguistic sources, as well as bilateral tariffs." TRADEHIST adopts a systematic approach to collecting all of this data, to the exception of tariffs. For each variable, pre-existing (secondary) sources are merged with additional data directly extracted from primary sources, including "government publications, books and academic articles." TRADEHIST indicates that nominal values are systematically converted to the British pound sterling to make data internationally comparable. (source) This variable provides an exchange rate for Country B's currency to British pounds in that year.

Variable Name: fdiinflows2011usdafromb_alldata
Label: FDI Inflows With OECD and Inflows Data Prioritized (backfill=UNCTAD, mirror)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: OECD (source); UNCTAD (source)
Source Definition: OECD dictates that "Foreign Direct Investment (FDI) stocks measure the total level of direct investment at a given point in time, usually the end of a quarter or of a year. The outward FDI stock is the value of the resident investors' equity in and net loans to enterprises in foreign economies. The inward FDI stock is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy. FDI stocks are measured in USD and as a share of GDP. FDI creates stable and long-lasting sources between economies." (source)

UNCTAD defines Foreign Direct Investment (FDI) as "an investment involving a long term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate). FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates, both incorporated and unincorporated. FDI may be undertaken by individuals as well as business entities." (source)

For GIDE, FDI data from the OECD are prioritized. UNCTAD data are used to fill in missing OECD values, if UNCTAD data are available. FDI inflows data are prioritized, and mirrored outflows are used to fill gaps in the inflows data. This means that outflows data are primarily mirrored inflows, with reported outflows used only to backfill missing values. We chose to prioritize OECD data due to higher-quality reporting. We chose to prioritize inflows for the same reasons as the IMF:

"The new estimates are based on inward FDI positions for two reasons. First, inward FDI data are generally of better quality than outward FDI data because it is easier to identify and obtain information about resident rather than non-resident direct investment enterprises via business registers, particularly for unlisted companies. Second, information about ultimate ownership is currently only available for inward FDI. Since the new global FDI estimates are based on inward FDI, estimates for "ultimate outward FDI" are generated as the mirror data from the new FDI network." (source)

The variable measures FDI inflows to Country A from Country B.

Variable Name: fdioutflows2011usdatob_alldata
Label: FDI Outflows With OECD and *Inflows* Data Prioritized (backfill=UNCTAD, reported)

Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: OECD (source); UNCTAD (source)
Source Definition: OECD dictates that "Foreign Direct Investment (FDI) stocks measure the total level of direct investment at a given point in time, usually the end of a quarter or of a year. The outward FDI stock is the value of the resident investors' equity in and net loans to enterprises in foreign economies. The inward FDI stock is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy. FDI stocks are measured in USD and as a share of GDP. FDI creates stable and long-lasting sources between economies." (source)

UNCTAD defines Foreign Direct Investment (FDI) as "an investment involving a long term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate).2 FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates, both incorporated and unincorporated. FDI may be undertaken by individuals as well as business entities" (source)

For GIDE, FDI data from the OECD are prioritized. UNCTAD data are used to fill in missing OECD values, if UNCTAD data are available. FDI inflows data are prioritized, and mirrored outflows are used to fill gaps in the inflows data. This means that outflows data are primarily mirrored inflows, with reported outflows used only to backfill missing values. We chose to prioritize OECD data due to higher-quality reporting. We chose to prioritize inflows for the same reasons as the IMF:

"The new estimates are based on inward FDI positions for two reasons. First, inward FDI data are generally of better quality than outward FDI data because it is easier to identify and obtain information about resident rather than non-resident direct investment enterprises via business registers, particularly for unlisted companies. Second, information about ultimate ownership is currently only available for inward FDI. Since the new global FDI estimates are based on inward FDI, estimates for "ultimate outward FDI" are generated as the mirror data from the new FDI network." (source)

The variable measures FDI outflows to Country B from Country A.

Variable Name: fdiinstocks2011usdafromb_alldata
Label: FDI Instocks With OECD and Instocks Data Prioritized (backfill=UNCTAD, mirror)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: OECD (source); UNCTAD (source)
Source Definition: OECD dictates that "Foreign Direct Investment (FDI) stocks measure the total level of direct investment at a given point in time, usually the end of a quarter or of a year. The outward FDI stock is the value of the resident investors' equity in and net loans to enterprises in foreign economies. The inward FDI stock is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy. FDI stocks are measured in USD and as a share of GDP. FDI creates stable and long-lasting sources between economies." (source)

UNCTAD defines Foreign Direct Investment (FDI) as “an investment involving a long term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate).2 FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates, both incorporated and unincorporated. FDI may be undertaken by individuals as well as business entities” (source)

For GIDE, FDI data from the OECD are prioritized. UNCTAD data are used to fill in missing OECD values, if UNCTAD data are available. FDI inflows data are prioritized, and mirrored outflows are used to fill gaps in the inflows data. This means that outflows data are primarily mirrored inflows, with reported outflows used only to backfill missing values. We chose to prioritize OECD data due to higher-quality reporting. We chose to prioritize inflows for the same reasons as the IMF:

"The new estimates are based on inward FDI positions for two reasons. First, inward FDI data are generally of better quality than outward FDI data because it is easier to identify and obtain information about resident rather than non-resident direct investment enterprises via business registers, particularly for unlisted companies. Second, information about ultimate ownership is currently only available for inward FDI. Since the new global FDI estimates are based on inward FDI, estimates for “ultimate outward FDI” are generated as the mirror data from the new FDI network." (source)

The variable measures FDI instocks in Country A originating from Country B.

Variable Name: fdioutstocks2011usdatob_alldata
Label: FDI Outstocks With OECD and *Instocks* Data Prioritized (backfill=UNCTAD, report)
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: OECD (source); UNCTAD (source)
Source Definition: OECD dictates that “Foreign Direct Investment (FDI) stocks measure the total level of direct investment at a given point in time, usually the end of a quarter or of a year. The outward FDI stock is the value of the resident investors' equity in and net loans to enterprises in foreign economies. The inward FDI stock is the value of foreign investors' equity in and net loans to enterprises resident in the reporting economy. FDI stocks are measured in USD and as a share of GDP. FDI creates stable and long-lasting sources between economies.” (source)

UNCTAD defines Foreign Direct Investment (FDI) as “an investment involving a long term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate).2 FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates, both incorporated and unincorporated. FDI may be undertaken by individuals as well as business entities” (source)

For GIDE, FDI data from the OECD are prioritized. UNCTAD data are used to fill in missing OECD values, if UNCTAD data are available. FDI inflows data are prioritized, and mirrored outflows are used to fill gaps in the inflows data. This means that outflows data are primarily mirrored inflows, with reported outflows used only to backfill missing values. We chose to prioritize OECD data due to higher-quality reporting. We chose to prioritize inflows for the same reasons as the IMF:

"The new estimates are based on inward FDI positions for two reasons. First, inward FDI data are generally of better quality than outward FDI data because it is easier to identify and obtain information about resident rather than non-resident direct investment enterprises via business registers, particularly for unlisted companies. Second, information about ultimate ownership is currently only available for inward FDI. Since the new global FDI estimates are based on inward FDI, estimates for "ultimate outward FDI" are generated as the mirror data from the new FDI network." (source)

The variable measures FDI outstocks in Country B originating from Country A.

Variable Name: portfinvest2011usdsainb
Label: Portfolio Investment 2011USD A in B, IMF CPIS
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: International Monetary Fund's Coordinated Portfolio Investment Survey (CPIS) (source)
Source Definition: The Coordinated Portfolio Investment Survey (CPIS) is "a voluntary data collection exercise conducted under the auspices of the IMF that collects an economy's data on its holdings of portfolio investment securities (data are separately requested for equity and investment fund shares, long-term debt instruments, and short-term debt instruments). All economies are encouraged to participate. The IMF augments the data that are reported in the CPIS with data from two other surveys, i.e., Securities Held as Foreign Exchange Reserves (SEFER), and Securities Held by International Organizations (SSIO). SEFER provides geographic and instrument detail on securities that are held as reserve assets, and SSIO provides the geographic and instrument detail on securities that are held by international organizations. Data from the CPIS and SSIO surveys provide comprehensive information on holdings of portfolio investment securities and, together with data from the SEFER survey, the geographic detail captured in these three surveys can be used to derive estimates of portfolio investment liabilities for every economy." (source) This variable measures portfolio investment (i.e., less than 10% ownership) positions in Country B held by investors from Country A.

Variable Name: portfinvest2011usdbina
Label: Portfolio Investment 2011USD B in A, IMF CPIS
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: International Monetary Fund's Coordinated Portfolio Investment Survey (CPIS) (source)
Source Definition: The Coordinated Portfolio Investment Survey (CPIS) is "a voluntary data collection exercise conducted under the auspices of the IMF that collects an economy's data on its holdings of portfolio investment securities (data are separately requested for equity and investment fund shares, long-term debt instruments, and short-term debt instruments). All economies are encouraged to participate. The IMF augments the data that are reported in the CPIS with data from two other surveys, i.e., Securities Held as Foreign Exchange Reserves (SEFER), and Securities Held by International

Organizations (SSIO). SEFER provides geographic and instrument detail on securities that are held as reserve assets, and SSIO provides the geographic and instrument detail on securities that are held by international organizations. Data from the CPIS and SSIO surveys provide comprehensive information on holdings of portfolio investment securities and, together with data from the SEFER survey, the geographic detail captured in these three surveys can be used to derive estimates of portfolio investment liabilities for every economy." (source) This variable measures portfolio investment (i.e., less than 10% ownership) positions in Country A held by investors from Country B.

Variable Name: portfoliodebtowed2011usdatob
Label: Portfolio Investment Debt Securities Owed A to B 2011USD, IMF CPIS
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: International Monetary Fund's Coordinated Portfolio Investment Survey (CPIS) (source)
Source Definition: The Coordinated Portfolio Investment Survey (CPIS) is "a voluntary data collection exercise conducted under the auspices of the IMF that collects an economy's data on its holdings of portfolio investment securities (data are separately requested for equity and investment fund shares, long-term debt instruments, and short-term debt instruments). All economies are encouraged to participate. The IMF augments the data that are reported in the CPIS with data from two other surveys, i.e., Securities Held as Foreign Exchange Reserves (SEFER), and Securities Held by International Organizations (SSIO). SEFER provides geographic and instrument detail on securities that are held as reserve assets, and SSIO provides the geographic and instrument detail on securities that are held by international organizations. Data from the CPIS and SSIO surveys provide comprehensive information on holdings of portfolio investment securities and, together with data from the SEFER survey, the geographic detail captured in these three surveys can be used to derive estimates of portfolio investment liabilities for every economy." (source)

Variable Name: portfoliocredit2011usdbtoa
Label: Portfolio Credit Issued (Mirror of Debt) B to A 2011USD, IMF CPIS
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: International Monetary Fund's Coordinated Portfolio Investment Survey (CPIS) (source)
Source Definition: The Coordinated Portfolio Investment Survey (CPIS) is "a voluntary data collection exercise conducted under the auspices of the IMF that collects an economy's data on its holdings of portfolio investment securities (data are separately requested for equity and investment fund shares, long-term debt instruments, and short-term debt instruments). All economies are encouraged to participate. The IMF augments the data that are reported in the CPIS with data from two other surveys, i.e., Securities Held as Foreign Exchange Reserves (SEFER), and Securities Held by International Organizations (SSIO). SEFER provides geographic and instrument detail on securities that are held as reserve assets, and SSIO provides the geographic and instrument detail on securities that are held by international organizations. Data from the CPIS and SSIO surveys provide comprehensive information on holdings of portfolio investment securities and, together with data from the SEFER survey, the geographic detail captured in these three surveys can be used to derive estimates of portfolio investment liabilities for every economy." (source)

Variable Name: foreignaid2011usdatob
Label: Foreign Aid (ODA) From A to B 2011 USD, OECD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: OECD (source); AidData (source); Morgan and Zheng (2019)
Source Definition: "Official development assistance (ODA) is defined as government aid designed to promote the economic development and welfare of developing countries. Loans and credits for military purposes are excluded. Aid may be provided bilaterally, from donor to recipient, or channeled through a multilateral development agency such as the United Nations or the World Bank. Aid includes grants, "soft" loans (where the grant element is at least 25% of the total) and the provision of technical assistance. The OECD maintains a list of developing countries and territories; only aid to these countries counts as ODA. The list is periodically updated and currently contains over 150 countries or territories with per capita incomes below USD 12 276 in 2010. A long-standing United Nations target is that developed countries should devote 0.7% of their gross national income to ODA. This indicator is measured as a percentage of gross national income and million USD constant prices, using 2018 as the base year." (source) For Chinese aid data from 2000 through 2014, the source is William & Mary Research Lab's AidData project, and values reflects aid commitments rather than disbursements. Chinese aid data from 1960 through 1999 were kindly provided by Morgan and Zheng (2019). This variable measures ODA or ODA-like foreign aid commitments in a given year from Country A to Country B

Variable Name: foreignaid2011usdafromb
Label: Foreign Aid (ODA) to A From B 2011 USD (Mirror of Debt) OECD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: OECD (source); AidData (source); Morgan and Zheng (2019)
Source Definition: "Official development assistance (ODA) is defined as government aid designed to promote the economic development and welfare of developing countries. Loans and credits for military purposes are excluded. Aid may be provided bilaterally, from donor to recipient, or channeled through a multilateral development agency such as the United Nations or the World Bank. Aid includes grants, "soft" loans (where the grant element is at least 25% of the total) and the provision of technical assistance. The OECD maintains a list of developing countries and territories; only aid to these countries counts as ODA. The list is periodically updated and currently contains over 150 countries or territories with per capita incomes below USD 12 276 in 2010. A long-standing United Nations target is that developed countries should devote 0.7% of their gross national income to ODA. This indicator is measured as a percentage of gross national income and million USD constant prices, using 2018 as the base year." (source) For Chinese aid data from 2000 through 2014, the source is William & Mary Research Lab's AidData project, and values reflects aid commitments rather than disbursements. Chinese aid data from 1960 through 1999 were kindly provided by Morgan and Zheng (2019). This variable measures ODA or ODA-like foreign aid commitments in a given year from Country B to Country A

Variable Name: remittances2011usdatob
Label: Remittance Estimates 2011USD A to B, World Bank
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD

Source: World Bank (source)
Source Definition: "The World Bank Group is deepening its engagement on international migration agenda, including; Providing evidence-based policy advice on migration, remittances and diaspora issues. Monitoring and forward-looking analysis of global flows of migration and remittances. Strengthening global partnerships in leveraging migration for global development. Developing and monitoring indicators for implementing the Sustainable Development Goals of reducing remittance costs and reducing recruitment costs. Mobilizing diaspora investments for development, e.g., via diaspora bonds, and leveraging remittances for financial inclusion." (source) "Unlike official aid, which must be navigated through official agencies, remittances flow directly to recipients (Ratha 2014). And unlike capital flows, which tend to be highly cyclical, remittances are relatively stable and often consumption-smoothing, acting as insurance during economic crises or after natural disasters (De et al. 2016; Bettin and Zazzaro 2016)." (source) This variable measures remittances from Country A to Country B.

Variable Name: remittances2011usdafromb
Label: Inward Remittance Estimates 2011USD to A From B World Bank
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD
Source: World Bank (source)
Source Definition:
"The World Bank Group is deepening its engagement on international migration agenda, including; Providing evidence-based policy advice on migration, remittances and diaspora issues. Monitoring and forward-looking analysis of global flows of migration and remittances. Strengthening global partnerships in leveraging migration for global development. Developing and monitoring indicators for implementing the Sustainable Development Goals of reducing remittance costs and reducing recruitment costs. Mobilizing diaspora investments for development, e.g., via diaspora bonds, and leveraging remittances for financial inclusion." (source) "Unlike official aid, which must be navigated through official agencies, remittances flow directly to recipients (Ratha 2014). And unlike capital flows, which tend to be highly cyclical, remittances are relatively stable and often consumption-smoothing, acting as insurance during economic crises or after natural disasters (De et al. 2016; Bettin and Zazzaro 2016)." (source)
This variable measures remittances from Country B to Country A.

Variable Name: gvc_outputaTotal
Label: Output From A-Owned Firms in A, 2011USDMil
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE (multinational enterprises) activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms. This new database distinguishes between three types of firms: foreign affiliates (firms with at least 50% foreign ownership), domestic MNEs (domestic firms with foreign affiliates) and domestic firms not involved in international investment. To understand the breakdown of firm types we can take the Japanese automotive industry as an example. From the perspective of Japan, a majority Japanese-owned car manufacturer with affiliates in other countries would be classified as a domestic MNE; the majority owned affiliate of a French car

manufacturer in Japan would be a foreign affiliate; and a majority Japanese-owned parts supplier with no foreign affiliates would fall into the category of domestic firms not involved in international investment." This variable documents the total dollar amount of firm output by owners from Country A in Country A. (source)

Variable Name: gvc_outputbTotal
Label: Output From B-Owned Firms in A, 2011USDMil
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms. This new database distinguishes between three types of firms: foreign affiliates (firms with at least 50% foreign ownership), domestic MNEs (domestic firms with foreign affiliates) and domestic firms not involved in international investment." This variable documents the total dollar amount of firm output by owners from Country B in Country A. (source)

Variable Name: gvc_outputaA
Label: Output From A-Owned Firms in A, 2011USDMil, A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as A (Agriculture, Forestry, and Fishing Industry). (source)

Variable Name: gvc_outputbA
Label: Output From B-Owned Firms in A, 2011USDMil, A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as A (Agriculture, Forestry, and Fishing Industry). (source)

Variable Name: gvc_outputaB
Label: Output From A-Owned Firms in A, 2011USDMil, M
Variable Category: Economic
Variable Type: Numeric – Continuous

Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as B (Mining and extraction of energy producing products). (source)

Variable Name: gvc_outputbB
Label: Output From B-Owned Firms in A, 2011USDMil, B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total firms output from owned by Country B in Country A for industries coded as B (Mining and extraction of energy producing products). (source)

Variable Name: gvc_outputaC10T12
Label: Output From A-Owned Firms in A, 2011USDMil, C10T12
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total firms output from owned by Country A in Country A for industries coded as C10T12 (Food products, beverages and tobacco). (source)

Variable Name: gvc_outputbC10T12
Label: Output From B-Owned Firms in A, 2011USDMil, C10T12
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C10T12 (Food products, beverages and tobacco). (source)

Variable Name: gvc_outputaC13T15
Label: Output From A-Owned Firms in A, 2011USDMil, C13T15
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C13T15 (Textiles, wearing apparel, leather and related products). (source)

Variable Name: gvc_outputbC13T15
Label: Output From B-Owned Firms in A, 2011USDMil, C13T15
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C13T15 (Textiles, wearing apparel, leather and related products). (source)

Variable Name: gvc_outputaC16
Label: Output From A-Owned Firms in A, 2011USDMil, C16
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C16 (Wood and products of wood and cork). (source)

Variable Name: gvc_outputbC16
Label: Output From B-Owned Firms in A, 2011USDMil, C16
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis

of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C16 (Wood and products of wood and cork). (source)

Variable Name: gvc_outputaC17T18
Label: Output From A-Owned Firms in A, 2011USDMil, C17T18
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C17T18 (Paper products and printing). (source)

Variable Name: gvc_outputbC17T18
Label: Output From B-Owned Firms in A, 2011USDMil, C17T18
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C17T18 (Paper products and printing). (source)

Variable Name: gvc_outputaC19
Label: Output From A-Owned Firms in A, 2011USDMil, C19
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C19 (Coke and refined petroleum products). (source)

Variable Name: gvc_outputbC19
Label: Output From B-Owned Firms in A, 2011USDMil, C19
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output

(ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C19 (Coke and refined petroleum products). (source)

Variable Name: gvc_outputaC20T21
Label: Output From A-Owned Firms in A, 2011USDMil, C20T21
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C20T21 (Chemicals and pharmaceutical products). (source)

Variable Name: gvc_outputbC20T21
Label: Output From B-Owned Firms in A, 2011USDMil, C20T21
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C20T21 (Chemicals and pharmaceutical products). (source)

Variable Name: gvc_outputaC22
Label: Output From A-Owned Firms in A, 2011USDMil, C22
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C22 (Rubber and plastic). (source)

Variable Name: gvc_outputbC22
Label: Output From B-Owned Firms in A, 2011USDMil, C22
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)

Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C22 (Rubber and plastic). (source)

Variable Name: gvc_outputaC23
Label: Output From A-Owned Firms in A, 2011USDMil C23
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C23 (Other non-metallic mineral products). (source)

Variable Name: gvc_outputbC23
Label: Output From B-Owned Firms in A, 2011USDMil, C23
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C23 (Other non-metallic mineral products). (source)

Variable Name: gvc_outputaC24
Label: Output From A-Owned Firms in A, 2011USDMil, C24
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C24 (Basic metals). (source)

Variable Name: gvc_outputbC24
Label: Output From B-Owned Firms in A, 2011USDMil, C24
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions

Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C24 (Basic metals). (source)

Variable Name: gvc_outputaC25
Label: Output From A-Owned Firms in A, 2011USDMil, C25
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C25 (Fabricated metal products). (source)

Variable Name: gvc_outputbC25
Label: Output From B-Owned Firms in A, 2011USDMil, C25
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C25 (Fabricated metal products). (source)

Variable Name: gvc_outputaC26
Label: Output From A-Owned Firms in A, 2011USDMil, C26
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C26 (Computer, electronic, and optical products). (source)

Variable Name: gvc_outputbC26
Label: Output From B-Owned Firms in A, 2011USDMil, C26
Variable Category: Economic
Variable Type: Numeric – Continuous

Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C26 (Computer, electronic, and optical products). (source)

Variable Name: gvc_outputaC27
Label: Output From A-Owned Firms in A, 2011USDMil, C27
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C27 (Electrical equipment). (source)

Variable Name: gvc_outputbC27
Label: Output From B-Owned Firms in A, 2011USDMil, C27
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C27 (Electrical equipment). (source)

Variable Name: gvc_outputaC28
Label: Output From A-Owned Firms in A, 2011USDMil, C28
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C28 (Machinery and equipment). (source)

Variable Name: gvc_outputbC28
Label: Output From B-Owned Firms in A, 2011USDMil, C28
Variable Category: Economic

Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C28 (Machinery and equipment). (source)

Variable Name: gvc_outputaC29
Label: Output From A-Owned Firms in A, 2011USDMil, C28
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C29 (Motor vehicles, trailers and semi-trailers). (source)

Variable Name: gvc_outputbC29
Label: Output From B-Owned Firms in A, 2011USDMil, C29
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C29 (Motor vehicles, trailers and semi-trailers). (source)

Variable Name: gvc_outputaC30
Label: Output From A-Owned Firms in A, 2011USDMil, C30
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C30 (Other transport equipment). (source)

Variable Name: gvc_outputbC30
Label: Output From B-Owned Firms in A, 2011USDMil, C30

Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C30 (Other transport equipment). (source)

Variable Name: gvc_outputaC31T33
Label: Output From A-Owned Firms in A, 2011USDMil, C31T33
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as C31T33 (Other manufacturing; repair and installation of machinery). (source)

Variable Name: gvc_outputbC31T33
Label: Output From B-Owned Firms in A, 2011USDMil, C31T33
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as C31T33 (Other manufacturing; repair and installation of machinery). (source)

Variable Name: gvc_outputaDTE
Label: Output From A-Owned Firms in A, 2011USDMil, DTE
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by

Country A in Country A for industries coded as DTE (Electricity, gas, water supply, sewerage, waste and remediation). (source)

Variable Name: gvc_outputbDTE
Label: Output From B-Owned Firms in A, 2011USDMil, DTE
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as DTE (Electricity, gas, water supply, sewerage, waste and remediation). (source)

Variable Name: gvc_outputaF
Label: Output From A-Owned Firms in A, 2011USDMil, F
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as F (Construction). (source)

Variable Name: gvc_outputbF
Label: Output From B-Owned Firms in A, 2011USDMil, F
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as F (Construction). (source)

Variable Name: gvc_outputaG
Label: Output From A-Owned Firms in A, 2011USDMil, G
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)

Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as G (Wholesale and retail trade; repair of motor vehicles). (source)

Variable Name: gvc_outputbG
Label: Output From B-Owned Firms in A, 2011USDMil, G
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as G (Wholesale and retail trade; repair of motor vehicles). (source)

Variable Name: gvc_outputaH
Label: Output From A-Owned Firms in A, 2011USDMil, H
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as H (Transportation and storage). (source)

Variable Name: gvc_outputbH
Label: Output From B-Owned Firms in A, 2011USDMil, H
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as H (Transportation and storage). (source)

Variable Name: gvc_outputaI
Label: Output From A-Owned Firms in A, 2011USDMil, I
Variable Category: Economic

Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as I (Accommodation and food services). (source)

Variable Name: gvc_outputbI
Label: Output From B-Owned Firms in A, 2011USDMil, I
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as I (Accommodation and food services). (source)

Variable Name: gvc_outputaJ58T60
Label: Output From A-Owned Firms in A, 2011USDMil, J58T60
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as J58T60 (Publishing, audiovisual and broadcasting activities). (source)

Variable Name: gvc_outputbJ58T60
Label: Output From B-Owned Firms in A, 2011USDMil, J58T60
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as J58T60 (Publishing, audiovisual and broadcasting activities). (source)

Variable Name: gvc_outputaJ61
Label: Output From A-Owned Firms in A, 2011USDMil, J61
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as J61 (Telecommunications). (source)

Variable Name: gvc_outputbJ61
Label: Output From B-Owned Firms in A, 2011USDMil, J61
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as J61 (Telecommunications). (source)

Variable Name: gvc_outputaJ62T63
Label: Output From A-Owned Firms in A, 2011USDMil, J62T63
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as J62T63 (IT and other information services). (source)

Variable Name: gvc_outputbJ62T63
Label: Output From B-Owned Firms in A, 2011USDMil, J62T63
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as J62T63 (IT and other information services). (source)

Variable Name: gvc_outputaK
Label: Output From A-Owned Firms in A, 2011USDMil, K
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as K (Financial and insurance activities). (source)

Variable Name: gvc_outputbK
Label: Output From B-Owned Firms in A, 2011USDMil, K
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as K (Financial and insurance activities). (source)

Variable Name: gvc_outputaL
Label: Output From A-Owned Firms in A, 2011USDMil, L
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as L (Real estate activities). (source)

Variable Name: gvc_outputbL
Label: Output From B-Owned Firms in A, 2011USDMil, L
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis

of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as L (Real estate activities). (source)

Variable Name: gvc_outputaMTN
Label: Output From A-Owned Firms in A, 2011USDMil, MTN
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as MTN (Other business sector services). (source)

Variable Name: gvc_outputbMTN
Label: Output From B-Owned Firms in A, 2011USDMil, MTN
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as MTN (Other business sector services). (source)

Variable Name: gvc_outputaO
Label: Output From A-Owned Firms in A, 2011USDMil, O
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as O (Public admin. and defense; compulsory social security). (source)

Variable Name: gvc_outputbO
Label: Output From B-Owned Firms in A, 2011USDMil, O
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)

Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as O (Public admin. and defense; compulsory social security). (source)

Variable Name: gvc_outputaP
Label: Output From A-Owned Firms in A, 2011USDMil, P
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as P (Education). (source)

Variable Name: gvc_outputbP
Label: Output From B-Owned Firms in A, 2011USDMil, P
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as P (Education). (source)

Variable Name: gvc_outputaQ
Label: Output From A-Owned Firms in A, 2011USDMil, Q
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as Q (Human health and social work). (source)

Variable Name: gvc_outputbQ
Label: Output From B-Owned Firms in A, 2011USDMil, Q
Variable Category: Economic
Variable Type: Numeric – Continuous

Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as Q (Human health and social work). (source)

Variable Name: gvc_outputaRTS
Label: Output From A-Owned Firms in A, 2011USDMil, RTS
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as RTS (Arts, entertainment, recreation and other service activities). (source)

Variable Name: gvc_outputbRTS
Label: Output From B-Owned Firms in A, 2011USDMil, RTS
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as RTS (Arts, entertainment, recreation and other service activities). (source)

Variable Name: gvc_outputaT
Label: Output From A-Owned Firms in A, 2011USDMil, T
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country A in Country A for industries coded as T (Private households with employed persons). (source)

Variable Name: gvc_outputbT
Label: Output From B-Owned Firms in A, 2011USDMil, T
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2011 USD, millions
Source: OECD (source)
Source Definition: "The OECD has developed a new and comprehensive database on MNE activities across countries and industries. By sourcing to TiVA and the OECD Inter-country Inter-Industry Input-Output (ICIO) database, the Analytical Activities of MNEs (AMNE) database for the first time allows for the analysis of MNE activities in value-added terms." This variable measures the total output from firms owned by Country B in Country A for industries coded as T (Private households with employed persons). (source)

Security Variables

Variable Name: milex2011USDmila
Label: Military Spending 2011USD (millions) Country A SIPRI
Variable Category: Security
Variable Type: Numeric – Continuous
Unit: 2011 USD (millions)
Source: Stockholm International Peace Research Institute (SIPRI) (source); ACDA WMEAT (source)
Source Definition: SIPRI military expenditure data "include all current and capital expenditure on the armed forces, including peacekeeping forces; defense ministries and other government agencies engaged in defense projects; paramilitary forces, when judged to be trained and equipped for military operations; and military space activities. This should include expenditure on:

i. personnel, including:
    a. salaries of military and civil personnel;
    b. retirement pensions of military personnel, and;
    c. social services for personnel;
ii. operations and maintenance;
iii. procurement;
iv. military research and development;
v. military infrastructure spending, including military bases, and;
vi. military aid (in the military expenditure of the donor country).

"Civil defense and current expenditures on previous military activities, such as veterans' benefits, demobilization, conversion and weapon destruction are excluded."

"In practice it is not possible to apply this definition for all countries, and in many cases SIPRI is confined to using the national data provided. Priority is then given to the choice of a uniform definition over time for each country in order to achieve consistency over time, rather than to adjusting the figures for single years according to a common definition. In the light of these difficulties, military expenditure data is most appropriately used for comparisons over time, and may be less suitable for close comparison between individual countries. Reference should always be made, when comparing data for different countries, to the footnotes and special notes attached to the data for these countries, which indicate deviations from the SIPRI definition, where these are known." (source)For a few observations, such as the Soviet Union, values come from the U.S. Arms Control and Disarmament Agency's (ACDA) World Military Expenditures

and Arms Trade (WMEAT) dataset. (source) This variable measures military spending by Country A in millions of 2011 US dollars.

Variable Name: milex2011USDmilb
Label: Military Spending 2011USD (Millions) Country B SIPRI 2019
Variable Category: Security
Variable Type: Numeric – Continuous
Unit: 2011 USD (millions)
Source: Stockholm International Peace Research Institute (SIPRI) (source); ACDA WMEAT (source)
Source Definition: SIPRI military expenditure data "include all current and capital expenditure on: the armed forces, including peacekeeping forces; defense ministries and other government agencies engaged in defense projects; paramilitary forces, when judged to be trained and equipped for military operations; and military space activities. This should include expenditure on:

i. personnel, including:
    a. salaries of military and civil personnel;
    b. retirement pensions of military personnel, and;
    c. social services for personnel;
ii. operations and maintenance;
iii. procurement;
iv. military research and development;
v. military infrastructure spending, including military bases, and;
vi. military aid (in the military expenditure of the donor country).

"Civil defense and current expenditures on previous military activities, such as veterans' benefits, demobilization, conversion and weapon destruction are excluded."

"In practice it is not possible to apply this definition for all countries, and in many cases SIPRI is confined to using the national data provided. Priority is then given to the choice of a uniform definition over time for each country in order to achieve consistency over time, rather than to adjusting the figures for single years according to a common definition. In the light of these difficulties, military expenditure data is most appropriately used for comparisons over time, and may be less suitable for close comparison between individual countries. Reference should always be made, when comparing data for different countries, to the footnotes and special notes attached to the data for these countries, which indicate deviations from the SIPRI definition, where these are known." (source)

For a few observations, such as the Soviet Union, values come from the U.S. Arms Control and Disarmament Agency's (ACDA) World Military Expenditures and Arms Trade (WMEAT) dataset (source). This variable measures military spending by Country B in millions of 2011 US dollars.

Variable Name: armsexportsatob
Label: SIPRI Arms Exports From Country A to Country B in Trend-Indicator-Value Units
Variable Category: Security
Variable Type: Numeric – Continuous
Unit: SIPRI Trend Indicator Values (TIVs) expressed in millions
Source: Stockholm International Peace Research Institute (SIPRI) (source)
Source Definition: "SIPRI statistical data on arms transfers relates to actual deliveries of major conventional weapons. To permit comparison between the data on such deliveries of different weapons

and to identify general trends, SIPRI has developed a unique system to measure the volume of international transfers of major conventional weapons using a common unit, the trend-indicator value (TIV).

"The TIV is based on the known unit production costs of a core set of weapons and is intended to represent the transfer of military resources rather than the financial value of the transfer. Weapons for which a production cost is not known are compared with core weapons based on: size and performance characteristics (weight, speed, range and payload); type of electronics, loading or unloading arrangements, engine, tracks or wheels, armament and materials; and the year in which the weapon was produced. A weapon that has been in service in another armed force is given a value 40 per cent of that of a new weapon. A used weapon that has been significantly refurbished or modified by the supplier before delivery is given a value of 66 per cent of that of a new weapon.

"SIPRI calculates the volume of transfers to, from and between all parties using the TIV and the number of weapon systems or subsystems delivered in a given year. This data is intended to provide a common unit to allow the measurement if trends in the flow of arms to particular countries and regions over time. Therefore, the main priority is to ensure that the TIV system remains consistent over time, and that any changes introduced are backdated.

"In cases where deliveries are identified but it is not possible to identify either the supplier or the recipient with an acceptable degree of certainty, transfers are registered as coming from 'unknown' suppliers or going to 'unknown' recipients. In cases where there is an arms transfer agreement for weapons that are produced by two or more cooperating countries, and if it is not clear which country will make the final delivery, the suppliers is listed as 'multiple'.

"SIPRI TIV figures do not represent sales prices for arms transfers. They should therefore *not* be directly compared with gross domestic product (GDP), military expenditure, sales values or the financial value of export licenses in an attempt to measure the economic burden of arms imports or the economic benefits of exports. They are best used as the raw data for calculating trends in international arms transfers over periods of time, global percentages for suppliers and recipients, and percentages for the volume of transfers to or from particular states." (source) This variable measures arms exports from Country A to Country B.

Variable Name: armsimportsafromb
Label: SPIRI Arms Imports to Country A From Country B in Trend-Indicator-Value Units
Variable Category: Security
Variable Type: Numeric – Continuous
Unit: SIPRI Trend Indicator Values (TIVs) expressed in millions
Source: Stockholm International Peace Research Institute (SIPRI) (source)
Source Definition: "SIPRI statistical data on arms transfers relates to actual deliveries of major conventional weapons. To permit comparison between the data on such deliveries of different weapons and to identify general trends, SIPRI has developed a unique system to measure the volume of international transfers of major conventional weapons using a common unit, the trend-indicator value (TIV).

"The TIV is based on the known unit production costs of a core set of weapons and is intended to represent the transfer of military resources rather than the financial value of the transfer. Weapons for which a production cost is not known are compared with core weapons based on: size and performance

characteristics (weight, speed, range and payload); type of electronics, loading or unloading arrangements, engine, tracks or wheels, armament and materials; and the year in which the weapon was produced. A weapon that has been in service in another armed force is given a value 40 per cent of that of a new weapon. A used weapon that has been significantly refurbished or modified by the supplier before delivery is given a value of 66 per cent of that of a new weapon.

SIPRI calculates the volume of transfers to, from and between all parties using the TIV and the number of weapon systems or subsystems delivered in a given year. This data is intended to provide a common unit to allow the measurement if trends in the flow of arms to particular countries and regions over time. Therefore, the main priority is to ensure that the TIV system remains consistent over time, and that any changes introduced are backdated.

"In cases where deliveries are identified but it is not possible to identify either the supplier or the recipient with an acceptable degree of certainty, transfers are registered as coming from 'unknown' suppliers or going to 'unknown' recipients. In cases where there is an arms transfer agreement for weapons that are produced by two or more cooperating countries, and if it is not clear which country will make the final delivery, the suppliers is listed as 'multiple'.

"SIPRI TIV figures do not represent sales prices for arms transfers. They should therefore *not* be directly compared with gross domestic product (GDP), military expenditure, sales values or the financial value of export licenses in an attempt to measure the economic burden of arms imports or the economic benefits of exports. They are best used as the raw data for calculating trends in international arms transfers over periods of time, global percentages for suppliers and recipients, and percentages for the volume of transfers to or from particular states." (source) This variable measures arms imports to Country A from Country B.

Variable Name: atopally
Label: A & B Are Allies = 1 (Binary), ATOP
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Alliance Treaty Obligations and Provisions (ATOP) (source)
Source Definition: The Alliance Treaty Obligations and Provisions (ATOP) project provides data regarding the content of military alliance agreements signed by all countries of the world between 1815 and 2016. ATOP defines alliance as "written agreements, signed by official representatives of at least two independent states, that include promises to aid a partner in the event of military conflict, to remain neutral in the event of conflict, to refrain from military conflict with one another, or to consult/cooperate in the event of international crises that create a potential for military conflict." (source) Allies are coded as 1, non-allies as 0.

Variable Name: atopdefense
Label: A & B Have Defense Commitment = 1 (Binary), ATOP
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Alliance Treaty Obligations and Provisions (ATOP) (source)
Source Definition: The Alliance Treaty Obligations and Provisions (ATOP) project provides data regarding the content of military alliance agreements signed by all countries of the world between 1815 and 2016.

ATOP defines Defense Commitments as "promises to assist an ally militarily in the event of attack on the ally's sovereignty or territorial integrity." (source) Country-pairs with a defense pact are coded at 1.

Variable Name: atopoffense
Label: A & B Have Offense Commitment = 1 (Binary), ATOP
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Alliance Treaty Obligations and Provisions (ATOP) (source)
Source Definition: The Alliance Treaty Obligations and Provisions (ATOP) project provides data regarding the content of military alliance agreements signed by all countries of the world between 1815 and 2016. ATOP defines offense pact as "any promise of active military support under conditions not directly in response to an attack on an ally's sovereignty or territorial integrity is coded as an offense commitment. Thus, any time that allies commit to engage in coordinated military action outside the territory of any alliance member and in the absence of a direct attack, they have formed an offense pact, regardless of whether their intentions are to maintain or revise the status quo." (source) Country-pairs with an offense pact are coded at 1.

Variable Name: atopneutral
Label: A & B Have Neutrality Commitment = 1 (Binary), ATOP
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Alliance Treaty Obligations and Provisions (ATOP) (source)
Source Definition: The Alliance Treaty Obligations and Provisions (ATOP) project provides data regarding the content of military alliance agreements signed by all countries of the world between 1815 and 2016. ATOP defines neutrality pact as "directed towards conflicts that may arise between alliance members and third parties. A neutrality pact commits a member to refrain from assisting an ally's adversary in a conflict. Alliance members who promise neutrality not only commit not to join the conflict against their ally, but also to facilitate their ally's success. Sometimes leaders spell out particular means through which the allies might assist one another– for instance, by defending the neutrality of their territory or providing diplomatic support for their ally." (source) Country-pairs with a neutrality pact are coded at 1.

Variable Name: atopconsul
Label: A & B Have Consultation Commitment = 1 (Binary), ATOP
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Alliance Treaty Obligations and Provisions (ATOP) (source)
Source Definition: The Alliance Treaty Obligations and Provisions (ATOP) project provides data regarding the content of military alliance agreements signed by all countries of the world between 1815 and 2016. ATOP dictates that consultation pacts "do not specifically commit the members to active military support of one another in the event of conflict, but they do commit the members to attempt to develop coordinated action. Consultation pacts obligate members to communicate with one another in the event of crises that have the potential to result in military conflict with the goal of creating a joint response." (source) Country-pairs with a consultation pact are coded at 1.

Variable Name: atopnonagg
Label: A & B Have Nonaggression Commitment = 1 (Binary), ATOP
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Alliance Treaty Obligations and Provisions (ATOP) (source)
Source Definition: The Alliance Treaty Obligations and Provisions (ATOP) project provides data regarding the content of military alliance agreements signed by all countries of the world between 1815 and 2016. ATOP defines nonaggression pacts as involving promises to refrain from military conflict with an ally and are "primarily aimed at keeping peace among alliance members." (source) Country-pairs with a non-aggression pact are coded at 1.

Variable Name: allianceindex
Label: (nonagg*5)+(neutral*10)+(consul*20)+(defense*75)"
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Index
Source: Alliance Treaty Obligations and Provisions (ATOP) (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: The Alliance Treaty Obligations and Provisions (ATOP) project provides data regarding the content of military alliance agreements signed by all countries of the world between 1815 and 2016. This index is meant to reflect the closeness of two nations as measured by their willingness to support one another during wartime. The alliance index, sourced from ATOP, is calculated as follows: non-aggression pact*5 + neutrality pact*5 + consultation pact*1 + defense pact*75 + offense pact*200. Dyads with none of these alliance pacts are coded as zero. (source)

Variable Name: suballiancesctytreatcumulative
Label: Cumulative Sub-Alliance Security Treaties Year to Date, Diplometrics
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of treaties
Source: Frederick S. Pardee Center for International Futures (source); UN Treaty Collection (source)
Source Definition: This variable measures the running cumulative sum of sub-alliance security treaties signed by a countries within a dyad. These data are gathered by the Pardee Center's Dr. Austin S. Matthews. Note: these data have a known reporting bias for US dyads. These data are best used to compare the United States' bilateral security relationships with other countries. (source)

Variable Name: jmescore
Label: Sum of JME Scores A With B in Year Y; Score = ParticipA*ParticipB*Durat, Diplo
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Index
Source: IISS (source); Frederick S. Pardee Center for International Futures (source)
Source Definition: Military Balance+, the online database from the IISS Defence and Military Analysis team, provides indispensable information on military capability of various countries. The country entries "assess personnel strengths, organization and equipment holdings of the world's armed forces. Force-strength and equipment-inventory data are based on the most accurate data available, or on the best

estimate that can be made. In estimating a country's total capabilities, old equipment may be counted where it is considered that it may still be deployable."

"Military Balance documents data on training activities which they define as "selected exercises, which involve two or more states and are designed to improve interoperability or test new doctrine, forces, or equipment." Furthermore, certain exceptions are made for particularly important exercises held by a single state which "indicates significant capability or equipment developments." (source)

This score is calculated as follows. Individual exercises are coded as 2 (where one nation is the host), 1 (where both are full participants, but neither is the host), or as 0.5 (in the case of observers). The dyadic relationship can then me measured by the product of the countries' two scores. So, for example, Canada participating in a Joint Military Exercise (JME) in the US gives that dyadic relationship a 2 (1 x 2). Canada and the US both participating in a JME in Europe gives that dyadic relationship a 1 (1 x 1). Canada and the US both observing a JME in China gives that dyadic relationship a .25 (0.5 x 0.5). We can then multiply this weight by the duration to get a score for that exercise, and the annual score of the dyadic relationship would be the sum of those scores over the course of the year.

Variable Name: jmeduration
Label: Cumulative Duration of All JMEs With A and B in Year Y, IISS
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of days
Source: IISS (source)
Source Definition: Military Balance+, the online database from the IISS Defence and Military Analysis team, provides indispensable information on military capability of various countries. The country entries "assess personnel strengths, organization and equipment holdings of the world's armed forces. Force-strength and equipment-inventory data are based on the most accurate data available, or on the best estimate that can be made. In estimating a country's total capabilities, old equipment may be counted where it is considered that it may still be deployable."

"Military Balance documents data on training activities which they define as "selected exercises, which involve two or more states and are designed to improve interoperability or test new doctrine, forces, or equipment." Furthermore, certain exceptions are made for particularly important exercises held by a single state, which "indicates significant capability or equipment developments." (source) This variable measures the total numbers of days that Country A participated in a joint military exercise (JME) with Country B in a given year. This value can exceed 365 in the case of concurrent exercises.

Variable Name: jmeawithb
Label: A & B Had at Least 1 JME in Year Y = 1, IISS
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: IISS (source)
Source Definition: Military Balance+, the online database from the IISS Defence and Military Analysis team, provides indispensable information on military capability of various countries. The country entries "assess personnel strengths, organization and equipment holdings of the world's armed forces. Force-strength and equipment-inventory data are based on the most accurate data available, or on the best

estimate that can be made. In estimating a country's total capabilities, old equipment may be counted where it is considered that it may still be deployable."

"Military Balance documents data on training activities which they define as "selected exercises, which involve two or more states and are designed to improve interoperability or test new doctrine, forces, or equipment." Furthermore, certain exceptions are made for particularly important exercises held by a single state which "indicates significant capability or equipment developments." (source) This variable is coded as 1 if Country A and Country B were involved in the same joint military exercise (JME) at least once in a given year.

Variable Name: multilateraltroopsainb
Label: Multilateral Troops Country A in B,
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of troops
Source: IISS (source)
Source Definition: IISS's Military Balance primarily "lists permanent bases and operational deployments, including peacekeeping operations, which are often discussed in the regional text. Information in the country-data sections details, first, deployments of troops and, second, military observers and, where available, the role and equipment of deployed units." (source) Multilateral troops are those involved in a multilateral deployment (in US military parlance, a combined joint task force), such as the International Security Assistance Force in Afghanistan.

Variable Name: unilateraltroopsainb
Label: Unilateral Troops A in B
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of troops
Source: IISS (source)
Source Definition: IISS's Military Balance primarily "lists permanent bases and operational deployments, including peacekeeping operations, which are often discussed in the regional text. Information in the country-data sections details, first, deployments of troops and, second, military observers and, where available, the role and equipment of deployed units." (source) Unilateral troops are those not directly assigned to a multilateral mission (not in US military parlance, nor a combined joint task force).

Variable Name: totaltroopsainb
Label: Total Troops A in B
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of troops
Source: IISS (source)
Source Definition: IISS's Military Balance primarily "lists permanent bases and operational deployments, including peacekeeping operations, which are often discussed in the regional text. Information in the country-data sections details, first, deployments of troops and, second, military observers and, where available, the role and equipment of deployed units." (source) This is the sum of unilateral and multilateral troops from Country A deployed to Country B.

Variable Name: mid
Label: Militarized Interstate Dispute Between A & B in Year Y
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Correlates of War (COW) (source)
Source Definition: The Militarized Interstate Dispute (MID) data collection compiled by the Correlates of War Project in COW's Version 4 provides information about conflicts in which one or more states threaten, display, or use force against one or more other states between 1816 and 2010. By definition, "Militarized interstate disputes are united 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. Disputes are composed of incidents that range in intensity from threats to use force to actual combat short of war" (Jones et al. 1996: 163). (source) This variable is coded as 1 if Country A and Country B were involved in a MID in a given year.

Variable Name: midcumulativeduration
Label: Total Length of Given MID Between A & B, COW
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of days
Source: Correlates of War (COW) (source)
Source Definition: The Militarized Interstate Dispute (MID) data collection compiled by the Correlates of War Project's Version 4 provides information about conflicts in which one or more states threaten, display, or use force against one or more other states between 1816 and 2010. By definition, "Militarized interstate disputes are united 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. Disputes are composed of incidents that range in intensity from threats to use force to actual combat short of war" (Jones et al. 1996: 163). (source) This is the total length, in days, of a MID between Country A and Country B.

Variable Name: midannualduration
Label: Length of Given MID for Year Y Only, COW
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of days
Source: Correlates of War (COW) (source)
Source Definition: COW's Version 4 of the Militarized Interstate Dispute (MID) data collection compiled by the Correlates of War Project provides information about conflicts in which one or more states threaten, display, or use force against one or more other states between 1816 and 2010. By definition, "Militarized interstate disputes are united 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. Disputes are composed of incidents that range in intensity from threats to use force to actual combat short of war" (Jones et al. 1996: 163). (source) This variable measures the number of days of a MID between Country A and Country B for the given year.

Variable Name: war
Label: War Between A & B in Year Y = 1, COW
Variable Category: Security
Variable Type: Numeric – Dichotomous
Unit: Binary
Source: Correlates of War (COW) (source)
Source Definition: The COW Project introduced COW Wars v4.0, 1816-2007 in 2010. The paper "The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)" by Meredith Reid Sarkees, gives an overview of the COW war typology, including the descriptions of the basic variables, coding rules, and some of the changes since "Resort to Arms."

"David Singer and Mel Small began the Correlates of War Project with an attempt to define war in a way that they hoped would be both discriminating and complex in order to differentiate war from other types of violence. Their definition of war hinged on two primary criteria: the threshold of battle-related fatalities of troops in combat, and the status of the war participants. Singer and Small ultimately decided on a threshold of 1,000 battle-related deaths as the level of hostilities that differentiates war from other types of conflict. In terms of the second criterion, the status of the war participants, wars had to have participants on both sides that had organizations able to conduct combat (armed forces). Thus, their overarching definition of war was: sustained combat, involving organized armed forces, resulting in a minimum of 1,000 battle-related fatalities (later specified as 1,000 battle-related fatalities within a twelve month period)." (source) This variable is coded as 1 if Country A and Country B were involved in a war in a given year.

Variable Name: waroutcomea
Label: Ultimate Outcome of War Between A & B, Country A
Variable Category: Security
Variable Type: Categorical
Unit: Win/Lose/Draw
Source: Correlates of War (COW) (source)
Source Definition: The COW Project introduced COW Wars v4.0, 1816-2007 in 2010. The paper "The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)" by Meredith Reid Sarkees gives an overview of the COW war typology, the descriptions of the basic variables, coding rules and some of the changes since "Resort to Arms." In March 2010, the New COW War List was released. On June 30, 2010, the Non-State War Data (v4.0) became available. On October 28, 2010, the Intra-State War Data (v4.0) was released and on April 6, 2020 the Intra-State War Data (v5.1) became available online. On March 1, 2011, the Inter-State War Data (v4.0) became available online. Finally, we released the Extra-State War Data (v4.0) on December 8, 2011." (source) This variable is coded as follows: 1 = Country A eventually wins; 2 = Country B eventually wins; 3 = draw/compromise between Country A and Country B.

Variable Name: waroutcomeb
Label: Ultimate Outcome of War Between A & B, Country B
Variable Category: Security
Variable Type: Categorical
Unit: Win/Lose/Draw
Source: Correlates of War (COW) (source)
Source Definition: The COW Project introduced COW Wars v4.0, 1816-2007 in 2010. The paper "The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)" by Meredith Reid Sarkees gives

an overview of the COW war typology. (source) This variable is coded as follows: 1 = Country B eventually wins; 2 = Country A eventually wins; 3 = draw/compromise between Country A and Country B.

Variable Name: warbattledeathsa
Label: All Battle Deaths Country A From Entire War With B
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of people
Source: Correlates of War (COW) (source)
Source Definition: The COW Project introduced COW Wars v4.0, 1816-2007 in 2010. The paper "The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)" by Meredith Reid Sarkees gives an overview of the COW war typology, the descriptions of the basic variables, coding rules and some of the changes since "Resort to Arms." (source) This variable measures the cumulative battle deaths suffered by Country A's forces during a given war with Country B.

Variable Name: warbattledeathsb
Label: All Battle Deaths Country B From Entire War With A
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of people
Source: Correlates of War (COW) (source)
Source Definition: The COW Project introduced COW Wars v4.0, 1816-2007 in 2010. The paper "The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)" by Meredith Reid Sarkees gives an overview of the COW war typology, the descriptions of the basic variables, coding rules and some of the changes since "Resort to Arms." (source) This variable measures the cumulative battle deaths suffered by Country B's forces during a given war with Country A.

Variable Name: wartotalbattledeaths
Label: All Battle Deaths A + B From Entire War (if >1000)
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Count of people
Source: Correlates of War (COW) (source)
Source Definition: The COW Project introduced COW Wars v4.0, 1816-2007 in 2010. The paper "The COW Typology of War: Defining and Categorizing Wars (Version 4 of the Data)" by Meredith Reid Sarkees gives an overview of the COW war typology, the descriptions of the basic variables, coding rules and some of the changes since "Resort to Arms." (source) This variable measures the cumulative battle deaths suffered by both Country A and Country B during a given war (minimum value of 1,000 due to COW coding rules).

Political Variables

Variable Name: polity2a
Label: Polity 2 Score +10 Country A, Center for Systemic Peace
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Index
Source: Center for Systemic Peace (source)

Source Definition: The Polity IV Project covers "Political Regime Characteristics and Transitions from 1800-2018 in annual, cross-national, time-series and polity-case formats, coding democratic and autocratic "patterns of authority" and regime changes in all independent countries with total population greater than 500,000 in 2018 (167 countries in 2018)." (source)

"Combined Polity Score: The POLITY score is computed by subtracting the AUTOC (Autocratic) score from the DEMOC (Democratic) score; the resulting unified polity scale ranges from +10 (strongly democratic) to -10 (strongly autocratic)." (source)

For the purposes of GIDE, we transform these data by adding 10 to all values (thus the minimum score is 0). This variable measures the Polity score for Country A in a given year.

Variable Name: polity2b
Label: Polity 2 Score +10 Country B, Center for Systemic Peace
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Index
Source: Center for Systemic Peace (source)
Source Definition: The Polity IV Project covers "Political Regime Characteristics and Transitions from 1800-2018 in annual, cross-national, time-series and polity-case formats coding democratic and autocratic "patterns of authority" and regime changes in all independent countries with total population greater than 500,000 in 2018 (167 countries in 2018)." (source)

"Combined Polity Score: The POLITY score is computed by subtracting the AUTOC (Autocratic) score from the DEMOC (Democratic) score; the resulting unified polity scale ranges from +10 (strongly democratic) to -10 (strongly autocratic)." (source)

For the purposes of GIDE, we transform these data by adding 10 to all values (thus the minimum score is 0). This variable measures the Polity score for Country B in a given year.

Variable Name: polity2affinity
Label: = 20 - abs(Polity2a - Polity2b)
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Index
Source: Center for Systemic Peace (source)
Source Definition: The Polity IV Project covers "Political Regime Characteristics and Transitions from 1800-2018 in annual, cross-national, time-series and polity-case formats coding democratic and autocratic "patterns of authority" and regime changes in all independent countries with total population greater than 500,000 in 2018 (167 countries in 2018)." (source)

"Combined Polity Score: The POLITY score is computed by subtracting the AUTOC score from the DEMOC score; the resulting unified polity scale ranges from +10 (strongly democratic) to -10 (strongly autocratic)." (source) For the purposes of GIDE, we transform these data by adding 10 to all values (thus the minimum score is 0). This variable measures the Polity score similarity between Country A and Country B in a given year.

PolityAffinity	Index	An index on a 0-20 scale measuring the distance between each country's polity scores with 20 being most similar. The calculation is (20-Abs(polity_score_a - polity_score_b))
PolityScoreA	Categorical	Polity combined score for CountryA, converted to a 0-20 scale by taking the polity score+10
PolityScoreB	Categorical	Polity combined score for CountryB, converted to a 0-20 scale by taking the polity score+10

Variable Name: hogstripsatob
Label: Number of Head of State/Gov Trips A to B in Year Y Diplometrics COLT
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Count of trips
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Types of Head of Government/State (HOGS) trips recorded include multilateral events, multilateral ministerial events, bilateral meetings between leaders that occur outside of the countries in which they represent, visits to cultural, religious, or historical sites, meetings, forums, seminars between a HOGS and private sector leaders, bilateral meetings between the leader being coded and the leader of a major Intergovernmental Organization (IGO), and Other. Other constitutes "anything that does not constitute a bilateral or multilateral visit: Public address, Personal/Social, Economic/Business, Security, Cultural, Travel, Diplomatic, Private, and Unknown." (source) This variable measures the total number of HOGS trips from Country A to Country B in a given year.

Variable Name: hogstripdaysatob
Label: Number of Head of State/Gov Trip Days A to B in Year Y, Diplometrics COLT
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Count of days
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Trip Duration is calculated by noting Start Date (Day arrived in country, not counting travel days, or days at sea) and End Date (Day departed from country, not counting travel days, or days at sea). Length of visit is calculated as end date minus start date plus 1, this is to assume for overnights. There are exceptions when it is clear that their travel did not involve an overnight stay. (source) This variable measures the total number of HOGS trip days from Country A to Country B in a given year.

Variable Name: hogstripsafromb
Label: Number of Head of State/Gov Trips A From B, Diplometrics COLT
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Count of trips
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Types of Head of Government trips recorded include multilateral events, multilateral ministerial events, bilateral meetings between leaders that are meeting outside of the country's in which they represent, visits to cultural, religious, or historical sites, meetings, forums, seminars between a HOG and private sector leaders, bilateral meetings between the leader being coded and the leader of a major Intergovernmental Organization, and Other. Other constitutes "anything that does not constitute a

bilateral or multilateral visit: Public address, Personal/Social, Economic/Business, Security, Cultural, Travel, Diplomatic, Private, and Unknown." (source) This variable measures the total number of HOGS trips from Country B to Country A in a given year.

Variable Name: hogstripdaysafromb
Label: Number of Head of State/Gov Trip Days to A From B Diplometrics COLT
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Count of days
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Trip Duration is calculated by noting Start Date (Day arrived in country, not counting travel days, or days at sea) and End Date (Day departed from country, not counting travel days, or days at sea). Length of visit is calculated as end date minus start date plus 1, this is to assume for overnights. There are exceptions when it is clear that their travel did not involve an overnight stay. (source) This variable measures the total number of HOGS trip days from Country B to Country A in a given year.

Variable Name: embassycodeainb
Label: Simplified Embassy Code Country A in B, Diplometrics
Variable Category: Political
Variable Type: Numeric – Ordinal
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Simplified Embassy Code is an "ordinal variable describing the level at which representation is maintained. The category of Other (9) can be interpreted as having similar status to that of Ambassador." (source) This variable describes the highest level diplomat that Country A posts in Country B in a given year.

9	Other
6	Ambassador, Nuncio, Secretary of the People's Bureau
5	Minister/Envoy
4	Charge d'affaires
3	Interest Desk
2	Interests Served by
1	Unknown

Variable Name: embassyfocusainb
Label: Simplified Embassy Focus Code Country A in B, Diplometrics
Variable Category: Political
Variable Type: Categorical
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Simplified Focus Code is a "categorical level variable describing the degree of focus a mission is able to devote to a relationship." Categories include: Single focus, Multiple focus and Expulsion, severance, recall, withdrawal. (source) This variable measures the level of focus that the top diplomat from Country A has in Country B in a given year.

1	Single focus
2	Multiple focus
3	Expulsion, severance, recall, withdrawal

Variable Name: embassylorainb
Label: Level of Diplomatic Representation Index Value A in B, Diplometrics
Variable Category: Political
Variable Type: Numeric – Ordinal
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Level of Representation is "an index of values from 0 to 1 calculated to combine the formal level of accreditation with the focus devoted to that relationship:

1 - Ambassador, Nuncio, or Secretary of the People's Bureau (embassy = 6); singular focus (focus = 1): indicative of strong relationship
0.75 - Unknown (1), charge d'affaires (4), or minister (5); singular focus (focus = 1)
0.5 - Ambassador, Nuncio, Secretary of the People's Bureau; multiple focus (focus = 2)
0.375 – Unknown, charge d'affaires, minister; multiple focus (focus = 2)
0.125 – Interest desk (embassy = 3); multiple focus (focus = 2)
0.1 – Interests served by (embassy = 2); multiple focus (focus = 2)
0.0 – Expelled, Recalled, Withdrawn (focus = 3): indicative of no relationship." (source)

This variable measures the level of diplomatic representation that Country A has in Country B in a given year.

Variable Name: embassycodebina
Label: Simplified Embassy Code Country B in A, Diplometrics
Variable Category: Political
Variable Type: Ordinal
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Simplified Embassy Code is an "ordinal variable describing the level at which representation is maintained. The category of Other (9) can be interpreted as having similar status to that of Ambassador." (source) This variable describes the highest level diplomat that Country B posts in Country A in a given year.

9	Other
6	Ambassador, Nuncio, Secretary of the People's Bureau
5	Minister/Envoy
4	Charge d'affaires
3	Interest Desk
2	Interests Served by
1	Unknown

Variable Name: embassyfocusbina
Label: Simplified Embassy Focus Code Country B in A, Diplometrics
Variable Category: Political

Variable Type: Categorical
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Simplified Focus is a "categorical level variable describing the degree of focus a mission is able to devote to a relationship." Categories include: Single focus, Multiple focus and Expulsion, severance, recall, withdrawal. (source) This variable measures the level of focus that the top diplomat from Country A has in Country B in a given year.

1	Single focus
2	Multiple focus
3	Expulsion, severance, recall, withdrawal

Variable Name: embassylorbina
Label: Level of Diplomatic Representation Index Value B in A, Diplometrics
Variable Category: Political
Variable Type: Numeric – Ordinal
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Level of Representation is "an index of values from 0 to 1 calculated to combine the formal level of accreditation with the focus devoted to that relationship:

1 - Ambassador, Nuncio, or Secretary of the People's Bureau (embassy = 6); singular focus (focus = 1)
0.75 - Unknown (1), charge d'affaires (4), or minister (5); singular focus (focus = 1)
0.5 - Ambassador, Nuncio, Secretary of the People's Bureau; multiple focus (focus = 2)
0.375 – Unknown, charge d'affaires, minister; multiple focus (focus = 2)
0.125 – Interest desk (embassy = 3), multiple focus (focus = 2)
0.1 – Interests served by (embassy = 2), multiple focus (focus = 2)
0.0 – Expelled, Recalled, Withdrawn (focus = 3): indicative of no relationship." (source)

This variable measures the level of diplomatic representation that Country B has in Country A in a given year.

Variable Name: bilatrtascumulative_wto
Label: Cumulative Bilateral RTAs, WTO RTA Database
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Count of RTAs
Source: World Trade Organization Regional Trade Agreements (source)
Source Definition: The WTO defines RTAs (regional trade agreements) as "reciprocal preferential trade agreements between two or more parties and the database is a repository of the legal texts and annexes of all RTAs notified to the WTO." This variable calculates the cumulative sum of bilateral RTAs between A and B (two signatories). (source)

Variable Name: multilatrtascumulative_wto
Label: Cumulative Multilateral RTAs, WTO RTA Databases
Variable Category: Political
Variable Type: Numeric – Discrete

Unit: Count of RTAs
Source: World Trade Organization Regional Trade Agreements (source)
Source Definition: The WTO defines RTAs (regional trade agreements) as "reciprocal preferential trade agreements between two or more parties and the database is a repository of the legal texts and annexes of all RTAs notified to the WTO." This variable calculates the cumulative sum of multilateral RTAs between A and B (more than two signatories). (source)

Variable Name: wtoannualcomplaintsatob
Label: WTO Complaints A to B in Year Y, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of complaints initiated
Source: World Trade Organization (source)
Source Definition: "Resolving trade disputes is one of the core activities of the WTO. A dispute arises when a member government believes another member government is violating an agreement or a commitment that it has made in the WTO. The WTO has one of the most active international dispute settlement mechanisms in the world. Since 1995, 595 disputes have been brought to the WTO and over 350 rulings have been issued." (source) This variable measures how many times Country A initiated an official WTO complaint (i.e., a consultation was requested) against Country B in a given year.

Variable Name: wtocumulativecomplaintsatob
Label: Total WTO Complaints A to B Year to Date, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of complaints initiated
Source: World Trade Organization (source)
Source Definition: "Resolving trade disputes is one of the core activities of the WTO. A dispute arises when a member government believes another member government is violating an agreement or a commitment that it has made in the WTO. The WTO has one of the most active international dispute settlement mechanisms in the world. Since 1995, 595 disputes have been brought to the WTO and over 350 rulings have been issued." (source) This variable measures to total number of WTO complaints (i.e. consultations requested) initiated by Country A against Country B since the WTO was founded.

Variable Name: wtoannualcomplaintsbtoa
Label: WTO Complaints B to A in Year Y, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of complaints initiated
Source: World Trade Organization (source)
Source Definition: "Resolving trade disputes is one of the core activities of the WTO. A dispute arises when a member government believes another member government is violating an agreement or a commitment that it has made in the WTO. The WTO has one of the most active international dispute settlement mechanisms in the world. Since 1995, 595 disputes have been brought to the WTO and over 350 rulings have been issued." (source) This variable measures how many times Country B initiated an official WTO complaint (i.e., a consultation was requested) against Country A in a given year.

Variable Name: wtocumulativecomplaintsbtoa
Label: Total WTO Complaints B to A Year to Date, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of complaints initiated
Source: World Trade Organization (source)
Source Definition: "Resolving trade disputes is one of the core activities of the WTO. A dispute arises when a member government believes another member government is violating an agreement or a commitment that it has made in the WTO. The WTO has one of the most active international dispute settlement mechanisms in the world. Since 1995, 595 disputes have been brought to the WTO and over 350 rulings have been issued." (source) This variable measures to total number of WTO complaints (i.e. consultations requested) initiated by Country B against Country A since the WTO was founded.

Variable Name: ingosainb
Label: Number of Programmatic INGOs Headquartered in A Opening in B, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of INGOs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: The Pardee Center INGO Research gathered "metadata on INGOs including aims, location of headquarters, and confidence score. Data were collected on both the static attributes of the INGO, including founding date, governing structure, and aims, as well as information on country membership in each IGO by year. Sources for information on INGOs and members over time included organization websites and archives, collections of data on INGOs hosted at worldstatesmen.org, and the Union of International Associations yearbook series, which contained information for the year 1948-2014." (source) This variable measures how many programmatic international non-governmental organizations headquartered in Country A were operating in Country B in a given year.

Variable Name: ingosbina
Label: Number of Programmatic INGOs Headquartered in B Opening in A, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of INGOs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Pardee Center INGO Research gathered "metadata on INGOs including aims, location of headquarters, and confidence score. Data were collected on both the static attributes of the IGO, including founding date, governing structure, and aims, as well as information on country membership in each IGO by year. Sources for information on IGOs and members over time included organization websites and archives, collections of data on international IGOs hosted at worldstatesmen.org, and the Union of International Associations yearbook series, which contained information for the year 1948-2014)." (source) This variable measures how many programmatic international non-governmental organizations headquartered in Country B were operating in Country A in a given year.

Variable Name: sharedigocount
Label: Shared IGO memberships A&B, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete

Unit: Number of IGOs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable is referred to in the dataset as, "Count of shared IGO memberships." (source) This variable measures the number of international governmental organizations (IGOs) in which both Country A and Country B were members in a given year.

Variable Name: sharedigoweighted
Label: Shared weighted IGO memberships A&B (weighted), Diplometrics
Variable Category: Political
Variable Type: Numeric – Continuous
Unit: Weighted count of IGOs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This is referred to in the dataset as "Shared weighted IGO membership, where each membership is weighted by number of search results on ProQuest." (source) This variable measures the weighted count of international governmental organizations in which both Country A and Country B were members in a given year, where IGOs are weighted by their search results on ProQuest.

Formal Bilateral Influence Capacity (FBIC) Variables

Variable Name: fbic
Label: Formal Bilateral Influence Capacity (FBIC)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: "The Foreign Bilateral Influence Capacity (FBIC) Index is built upon the idea that two main factors affect the ability of states to exert influence in the international system. First, the extent of interaction across economic, political, and security dimensions creates opportunities for states to influence each other. Second, the relative dependence of one state on another for crucial aspects of economic prosperity or security creates opportunities for the more dominant state to cause the more dependent state to make decisions that they would not have otherwise made. We call these two sub-indices Bandwidth and Dependence." (source) FBIC is measured from 0 to 1, where 0 indicates no influence from Country A on Country B, and 1 indicates the most influence ever measured between two countries from 1960 through 2018

Variable Name: bandwidth
Label: FBIC input: Bandwidth Between A and B (max-minimalized)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Bandwidth refers to, "The size of the relationship ('pipeline volume') between countries A and B based on economic, military, and political indicators." (source) Bandwidth is measured from 0 to 1, where 0 indicates no bandwidth between Country A on Country B, and 1 indicates the most bandwidth ever measured between two countries from 1960 through 2018.

Variable Name: politicalbandwidth
Label: FBIC Input: (norm_lor_avg_ma*0.11) + (norm_ig *0.19)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Political Bandwidth is measured through indicators such as level of representation and intergovernmental membership. (source) Specifically, this is calculated as the sum of the normalized moving average level of diplomatic of representation between Countries A and B multiplied by 0.11 plus the normalized shared weighted IGO membership of Countries A and B multiplied by 0.19. These weights were determined by a survey of USG United States Government analysts.

Variable Name: economicbandwidth
Label: FBIC Input: (norm_tradeagreement_ma*0.14) + (lntotaltrade_ma*0.35)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Economic Bandwidth is measured through FBIC indicators total trade, trade agreements and trade (% of total trade). Specifically, this is calculated as the sum of the normalized moving average trade agreement index value for Countries A and B multiplied by 0.14 plus the moving average of the natural log of total trade between Countries A and B multiplied by 0.35. These weights were determined by a survey of USG analysts. (source)

Variable Name: securitybandwidth
Label: FBIC Input: (norm_allianceindex_ma*0.13) + (normstotalstock_ma*0.08)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Security Bandwidth is measured through FBIC indicators of total arms transfers, military alliances, and arms imports (% of total arms imports). (source) Specifically, this is calculated as the sum of the normalized moving average of the alliance index score for Country A and Country B multiplied by 0.13 plus the normalized moving average sum of total arms stock for Countries A and B multiplied by 0.08. For the total arms stock there is a 10% annual depreciating in the 10-year sum of military spending. These weights were determined by a survey of USG United States Government analysts.

Variable Name: dependence
Label: FBIC Input: Dependence of B on A (max-min normalized)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: FBIC defines dependence as "the relational context that governs which side of the dyad can leverage observed bandwidth to its advantage more credibly." (source) Dependence is measured from 0 to 1, where 0 indicates no dependence from Country B on Country A, and 1 indicates the most dependence ever measured between two countries from 1960 through 2018.

Variable Name: economicdependence
Label: FBIC Input: AbsAid*0.21 + RelAid*0.12 + AbsTrade*0.28 + RelTrade*0.16
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Economic dependence is measured through FBIC indicators Trade (% of GDP), Aid (% of total aid), and Aid (% of GDP). (source) Specifically, this is broken into the absolute aid dependence (ODA from Country A to B as a percent of Country B's GDP) multiplied by 0.21. Then added with the relative aid dependence (ODA from Country A to B as a percent of all ODA to Country B in a given year) multiplied by 0.12. Finally added to absolute trade dependence (exports plus imports between Countries A and B divided by Country B's GDP) multiplied by 0.28). Lastly added to relative trade dependence (exports plus imports between Countries A and B divided by all trade with Country B in a given year) multiplied by 0.16. These weights were determined by a survey of USG United States Government analysts.

Variable Name: securitydependence
Label: FBIC Input: RelArms*0.13 + AbsArms*0.10
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Security dependence is measured through FBIC indicator arms imports (% of military spending). (source) Specifically, this is calculated as the sum of relative arms dependence (arms stock from Country A to B as a percent of arms stock transferred to Country B in a given year) multiplied by 0.13 . This is then added to the absolute arms dependence (arms stock from Country A to B as a percent of Country B's military stock) multiplied by 0.10. These weights were determined by a survey of USG United States Government analysts.

Variable Name: milstocka
Label: FBIC Input: Military Stock A; 10yr 10% Annual Depreciation of Milstock
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: 2011USD
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures Country A's military stock, which is defined as the 10-year sum of military spending of Country A in 2011 USD. Within the 10 -year sum, there is an incorporated 10%-point, straight-line annual depreciation accounted for. (source)

Variable Name: milstockb
Label: FBIC Input: military stock B ; 10yr 10% annual depreciation of milex
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: 2011USD
Source: Frederick S. Pardee Center for International Futures (source)

Source Definition: This variable measures Country B's military stock, which is defined as the 10-year sum of military spending of Country B in 2011 USD. Within the 10 -year sum, there is an incorporated 10%-point, straight-line annual depreciation accounted for. (source)

Variable Name: armsimportstockbfroma
Label: FBIC Input: arms import stock b from a; 10yr annual depreciation
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: SIPRI TIVs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of the 10-year, 10%-point, straight-line annual depreciating sum of arms transfers (in SIPRI trend indicator values, also referred to as TIVs) from Country A to Country B. (source)

Variable Name: armsimportstockafromb
Label: FBIC Input: arms import stock a from b; 10yr annual depreciation
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: SIPRI TIVs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of the 10-year, 10%-point, straight-line annual depreciating sum of arms transfers (in SIPRI trend indicator values, also referred to as TIVs) from Country B to Country A. (source)

Variable Name: armstotalstockab
Label: FBIC Input: armsimportstockbfroma + armsimportstockafromb
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: SIPRI TIVs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the 10-year, 10%-point, straight-line annual depreciating sum of arms transfers (in trend indicator values [TIVs]) between Country A and Country B. (source)

Variable Name: lnarmstotalstockab
Label: FBIC Input: ln(milstocka + milstockb + 1)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Natural log of TIVs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures natural log of the 10-year, 10%-point annual, straight-line depreciating sum of arms transfers (in SIPRI trend indicator values, also referred to as TIVs) between Country A and Country B. (source)

Variable Name: lor_avg
Label: FBIC Input: (lorainb + lorbina)/2
Variable Category: FBIC
Variable Type: Numeric – Continuous

Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the mean average level of diplomatic representation of Country A in Country B (lorainb) and Country B in Country A (lorbina) in a given year. (source)

Variable Name: lntotaltradeawithb
Label: FBIC Input: ln(exportsatob + importsafromb)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Natural log of 2011USD
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable is the natural log of total trade between the dyad where the log is taken from the sum of Exports from Country A to Country B and Imports of Country A from Country B. (source)

Variable Name: countrybyear
Label: FBIC Input: ID Variable Needed to Create Country Annual Totals
Variable Category: FBIC
Variable Type: Numeric – Discrete
Unit: Identification Code
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: Identification code used for data manipulation and statistical analysis. It is simply a group of codes for Country B and the year. (source)

Variable Name: allaidb
Label: FBIC Input: All Foreign Aid Received by B in Year Y
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: 2011USD
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the sum of all foreign aid received by Country B from all other countries in a given year. This is used to calculate relative aid dependence. (source)

Variable Name: alltradeb
Label: FBIC Input: All Trade (ex+im) with B in Year Y
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: 2011USD
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the sum of all trade (exports plus imports) for Country B with all other countries in a given year. This is used to calculate absolute trade dependence. (source)

Variable Name: allarmsimportstockb
Label: FBIC Input: Total Arms Imports Stock for B in Year Y
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: SIPRI TIVs
Source: Frederick S. Pardee Center for International Futures (source)

Source Definition: The variable measures the sum of all arms stock transferred to Country B from all other countries (as a 10-year, 10%-point, straight-line, annual depreciating sum). This is used to calculate relative arms dependence. (source)

Variable Name: aidabgdpb
Label: FBIC Input: (aidab/gdpb)*100 -- Aid Converted as Single USD to Match GDP
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures foreign aid (ODA) from Country A to Country B divided by Country B's GDP and then multiplied by 100. This is referred to as absolute aid dependence. (source)

Variable Name: totaltradeabgdpb
Label: FBIC Input: (totaltradeawithb/gdpb)*100
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures total trade (exports plus imports) between Countries A and B as a percent of Country B's GDP. This is referred to as absolute trade dependence. (source)

Variable Name: totaltradeaballtradeb
Label: FBIC Input: (totaltradeawithb/alltradeb)*100
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures total trade (exports plus imports) between Countries A and B as a percent of all trade with Country B in a given year. This is referred to as relative trade dependence. (source)

Variable Name: armimportstockabmilstockb
Label: FBIC Input: (arms imports stock b/milstockb)*100
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the arms import stock transferred from Country A to Country B as a share of Country B's military stock (a 10-year sum of military spending depreciating via a straight line annually by 10%-points). This is referred to as absolute arms dependence. (source)

Variable Name: armsimportsstockaballimstockb
Label: FBIC Input: (Arms Imports Stock B From A/All Imports B) *100
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage

Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the arms import stock transferred from Country A to Country B as a share of Country B's total imported arms stock. This is a measure of relative arms dependence. (source)

Variable Name: lortotal
Label: FBIC Input: Sum of All lor_avg Values in the data, Used for Normalization
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Sum of index values
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the global sum of LOR average scores and is used to normalize all other bandwidth variables. (source)

Variable Name: igostotal
Label: FBIC Input: Sum of All sharedweightedigo Value in the Data, Used for Norm
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Sum of index values
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This is the sum of all shared weighted IGO memberships in the dataset. This value is used to normalize shared weighted IGO memberships within the FBIC index calculation process. (source)

Variable Name: tradeagreetotal
Label: FBIC Input: Sum of All tradeagreementindex Value in the Data, Used for Norm
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Sum of index values
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This is the sum of all trade agreement index values in the dataset. This value is used to normalize trade agreement index values within the FBIC index calculation process. (source)

Variable Name: lntotaltradetotal
Label: FBIC Input: Sum of All lntotaltradeawithb Value in the Data, Used for Norm
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Natural log of 2011USD
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This is the sum of the natural log of all goods trade in the dataset. This value is used to normalize trade within the FBIC index calculation process. (source)

Variable Name: alliancetotal
Label: FBIC Input: Sum of All allianceindex Values in Data, Used for Norm
Variable Category: FBIC
Variable Type: Numeric – Discrete
Unit: Sum of index values
Source: Frederick S. Pardee Center for International Futures (source)

Source Definition: This is the sum of all alliance index values in the dataset. This value is used to normalize alliance index scores within the FBIC index calculation process. (source)

Variable Name: lnarmstocktotal
Label: FBIC Input: Sum of All lnarmstotalstockab Value in the Data, Used for Norm
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Natural log of SIPRI TIVs
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This is the sum of the natural log of all arms stock transferred in the data. This is used to normalize transferred arms stock in the FBIC calculation process. (source)

Variable Name: norm_lor_avg
Label: FBIC Input: lor-normalized lor_avg Value
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

1. Taking the sum of each variable across the entire dataset, and
2. Calculating the ratio of the sum of each variable to the sum of the level of representation index.

By normalizing each variable to the LOR index, the sum across all dyad-years for each component becomes the same and the components can then be weighted and compared against each other. The choice of the LOR index as the anchor variable is arbitrary and any bandwidth component could be used as this anchor variable.

This variable measures the lor_avg variable normalized against itself. (source)

Variable Name: norm_igos
Label: FBIC Input: lor-normalized sharedigoweighted
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

1. Taking the sum of each variable across the entire dataset, and
2. Calculating the ratio of the sum of each variable to the sum of the level of representation index.

By normalizing each variable to the LOR index, the sum across all dyad-years for each component becomes the same and the components can then be weighted and compared against each other. The choice of the LOR index as the anchor variable is arbitrary and any bandwidth component could be used as this anchor variable.

This variable measures the dataset-wide sum of shared weighted IGO memberships normalized to lor_avg. (source)

Variable Name: norm_tradeagreement
Label: FBIC Input: lor-normalized tradeagreementindex value
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

1. Taking the sum of each variable across the entire dataset, and
2. Calculating the ratio of the sum of each variable to the sum of the level of representation index.

By normalizing each variable to the LOR index, the sum across all dyad-years for each component becomes the same and the components can then be weighted and compared against each other. The choice of the LOR index as the anchor variable is arbitrary and any bandwidth component could be used as this anchor variable.

This variable measures the dataset-wide sum of trade agreement index values to lor_avg. (source)

Variable Name: norm_lntotaltrade
Label: FBIC Input: lor-normalized lntotaltradeawithb value
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

1. Taking the sum of each variable across the entire dataset, and
2. Calculating the ratio of the sum of each variable to the sum of the level of representation index.

By normalizing each variable to the LOR index, the sum across all dyad-years for each component becomes the same and the components can then be weighted and compared against each other. The choice of the LOR index as the anchor variable is arbitrary and any bandwidth component could be used as this anchor variable.

This variable measures the dataset-wide sum of the natural log of total trade values to lor_avg. (source)

Variable Name: norm_allianceindex_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of norm_allianceindex
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

1. Taking the sum of each variable across the entire dataset, and
2. Calculating the ratio of the sum of each variable to the sum of the level of representation index.

By normalizing each variable to the LOR index, the sum across all dyad-years for each component becomes the same and the components can then be weighted and compared against each other. The

choice of the LOR index as the anchor variable is arbitrary and any bandwidth component could be used as this anchor variable.

This variable measures the three-year moving average of the dataset-wide sum of alliance index values to lor_avg. (source)

Variable Name: norm_armstotalstock_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of norm_armstotalstock
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

1. Taking the sum of each variable across the entire dataset, and
2. Calculating the ratio of the sum of each variable to the sum of the level of representation index.

By normalizing each variable to the LOR index, the sum across all dyad-years for each component becomes the same and the components can then be weighted and compared against each other. The choice of the LOR index as the anchor variable is arbitrary and any bandwidth component could be used as this anchor variable.

This variable measures the dataset-wide sum of total arms stock (Country A plus Country B) to lor_avg. (source)

Variable Name: aidabgdpb_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of aidabgdpb
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of foreign aid (ODA) from Country A to Country B divided by Country B's GDP and then multiplied by 100. This is referred to as absolute aid dependence. (source)

Variable Name: aidaballaidb_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of aidballaidb
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of foreign aid (ODA) from Country A to Country B divided by all aid to Country B and then multiplied by 100. This is a stable measure of absolute aid dependence. (source)

Variable Name: totaltradeabgdpb_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of totaltradeabgdpb
Variable Category: FBIC

Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of trade (exports plus imports) between Country A to Country B divided by Country B's GDP and then multiplied by 100. This is a stable measure of absolute trade dependence. (source)

Variable Name: totaltradeaballtradeb_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of totaltradeaballtradeb
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of trade (exports plus imports) between Country A to Country B divided by all trade with Country B and then multiplied by 100. This is a stable measure of relative trade dependence. (source)

Variable Name: armimportstockabmilstockb_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of armimportstockabmilstockb
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of arms import stock transferred from Country A to Country B as a share of Country B's military stock (a 10-year, 10%-point, straight-line, annual depreciating sum of military spending). This is a stable measure of absolute arms dependence. (source)

Variable Name: armsimportsstockaballimstockb_ma
Label: FBIC Input: 3yr Moving Average (-2, -1, 0) of armsimportsstockaballimstockb
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the three-year moving average of arms import stock transferred from Country A to Country B as a share of Country B's total imported arms stock. This is a stable measure of relative arms dependence. (source)

Variable Name: ln_aidabgdpb_ma
Label: FBIC Input: Natural Log of aidabgdpb_ma + 1
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the natural log of the three-year moving average of foreign aid (ODA) from Country A to Country B divided by Country B's GDP and then multiplied by 100. This is a

core input of aid dependence (and economic dependence, when summed with trade dependence). (source)

Variable Name: ln_aidaballaidb_ma
Label: FBIC Input: Natural Log of aidaballaidb_ma + 1
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the natural log of the three-year moving average of foreign aid (ODA) from Country A to Country B divided by all aid to Country B and then multiplied by 100. This is a core input of aid dependence (and economic dependence, when summed with trade dependence). (source)

Variable Name: ln_totaltradeabgdpb_ma
Label: FBIC Input: Natural Log of totaltradeabgdp_ma + 1
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the natural log of the three-year moving average of trade (exports plus imports) between Country A to Country B divided by Country B's GDP and then multiplied by 100. This is a core input of trade dependence (and economic dependence, when summed with aid dependence). (source)

Variable Name: ln_totaltradeaballtradeb_ma
Label: FBIC Input: Natural Log of totaltradeaballtradeb_ma + 1
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the natural log of the three-year moving average of trade (exports plus imports) between Country A to Country B divided by all trade with Country B and then multiplied by 100. This is a core input of trade dependence (and economic dependence, when summed with aid dependence). (source)

Variable Name: ln_armimptockabmilstockb_ma
Label: FBIC Input: Natural Log of armimptockabmilstockb_ma + 1
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the natural log of the three-year moving average of arms import stock transferred from Country A to Country B as a share of Country B's military stock (a 10-year, 10% annual depreciating sum of military spending). This is a core input of security dependence. (source)

Variable Name: ln_armsimpstockaballimstockb_ma
Label: FBIC Input: Natural Log of armsimpstockaballimstockb_ma + 1
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures natural log of the three-year moving average of arms import stock transferred from Country A to Country B as a share of Country B's total imported arms stock. This is a stable measure of relative arms dependence. This is a core input of security dependence. (source)

Variable Name: dependence_nonnorm
Label: FBIC Input: EconDep + SecurityDep, non-normal
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the sum of economic dependence (aid plus trade dependence) and security dependence. (source)

Variable Name: dependencemin
Label: FBIC Input: minimum non-normalized dependence in the data
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This constant is the minimum dependence value observed in the dataset. This value is used to complete a max-min normalization of the dataset's dependence scores. (source)

Variable Name: dependencemax
Label: FBIC Input: maximum non-normalized dependence in the data
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This constant is the maximum dependence value observed in the dataset. This value is used to complete a max-min normalization of the dataset's dependence scores. (source)

Variable Name: bandwidth_nonnorm
Label: FBIC Input: PolBand + EconBand + SecurityBand
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the sum of political (level of diplomatic representation and shared weighted IGO memberships), economic (aid plus trade) and security (arms and alliance index) dependence. (source)

Variable Name: bandwidthmin
Label: FBIC Input: minimum non-normalized bandwidth in the data
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This constant is the minimum bandwidth value observed in the dataset. This value is used to complete a max-min normalization of the dataset's bandwidth scores. (source)

Variable Name: bandwidthmax
Label: FBIC Input: Maximum Non-Normalized Bandwidth in the Data
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This constant is the maximum bandwidth value observed in the dataset. This value is used to complete a max-min normalization of the dataset's bandwidth scores. (source)

Variable Name: fbic_nonnorm
Label: FBIC Input: Bandwidth*Dependence, Non-Normalized
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures a dyad's bandwidth score multiplied by its dependence score. (source)

Variable Name: fbicmin
Label: FBIC Input: Minimum Non-Normalized FBIC Value in the Data
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This constant is the minimum FBIC value observed within the dataset. This value is used to complete a max-min normalization of the dataset's FBIC scores. (source)

Variable Name: fbicmax
Label: FBIC Input: Maximum Non-Normalized FBIC Value in the Data
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This constant is the maximum FBIC value observed within the dataset. This value is used to complete a max-min normalization of the dataset's FBIC scores. (source)

Variable Name: fbicglobalavg
Label: Mean Avg. FBIC Score Globally by Year - IFs World-World Output

Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Center for International Futures (source)
Source Definition: This variable measures the mean global average of FBIC scores in the dataset. Within the Pardee Center's International Futures tool, this value corresponds with the "World-World" FBIC value in the bilateral interaction with gravity display. (source)

Data Estimation

To indicate whether and how estimation of a data point was completed, each variable will be accompanied by an indicator variable name "[variable name]_est" (in some cases, the variable name will need to be abbreviated so as to respect Stata's 32-character variable name limit). For Version 1.8 of GIDE, estimation techniques will be coded as follows:

- variable name_est = 0 (no estimation);
- variable name_est = 1 (piecewise Hermite cubic interpolating polynomial);
- variable name_est = 2 (rolling mean interpolation with Gaussian-kernel-weighted smoothing);
- variable name_est = 3 (rolling mean extrapolation with Gaussian-kernel-weighted smoothing);
- variable name_est = 4 (multiple imputation by chained equations, where the mean average of imputed values was used); or
- variable name_est =5 (carried forward from last known value).

As an example, if the population for Country A (populationa) in a given year were interpolated using a piecewise Hermite interpolating polynomial, then populationa_est would be equal to 1. Should these estimation methods change with future updates of GIDE, the codebook will be updated accordingly.

References

Abel, G., & J.E. Cohen. (2019). *Bilateral international migration flow estimates for 200 countries (Version 3)*. Figshare. https://doi.org/10.6084/m9.figshare.c.4470464.v3

Bluhm, R., A. Dreher, A. Fuchs, B. Parks, A. Strange, & M. Tierney. (2018). "Connective Financing: Chinese Infrastructure Projects and the Diffusion of Economic Activity in Developing Countries." AidData Working Paper #64. Williamsburg, VA: AidData at William & Mary.

Correlates of War (COW) Project. *Colonial Contiguity Data, 1816-2016, Version 3.1.* https://correlatesofwar.org/data-sets/colonial-dependency-contiguity

Drazanova, L. (2019). *Historical Index of Ethnic Fractionalization Dataset (HIEF).* Harvard Dataverse. https://doi.org/10.7910/DVN/4JQRCL

Feenstra, R.C., R. Inklaar, M.P. Timmer. (2015). *The Next Generation of the Penn World Table*. American Economic Review, 105(10), 3150-3182. www.ggdc.net/pwt

Fouquin, M. & J. Hugot. (2016). *Two Centuries of Bilateral Trade and Gravity Data: 1827-2014, CEPII Working Paper 2016- 14.* CEPII. http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=32

Gaulier, G. & S. Zignago (2010). *BACI: International Trade Database at the Product-Level. The 1994-2007 Version, CEPII Working Paper 2010- 23*. CEPII. http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=37

Hughes, M., A S. Matthews, C.J. Meisel, J.D. Moyer, & A.C. Scott. (2020). *Country and Organization Leader Travel Codebook v. 3.0.* Frederick S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver.

IISS Defence and Military Analysis Team. (2020). *Military Balance+ Database*. https://www.iiss.org/publications/the-military-balance-plus

International Monetary Fund (IMF). (2020). *Coordinated Portfolio Investment Survey (CPIS*). https://data.imf.org/?sk=B981B4E3-4E58-467E-9B90-9DE0C3367363

Kabandula, A., D.K. Bohl, J.D. Moyer, T. Hanna, B.B. Hughes, Y. Xiong, & C.J. Meisel. (2020). "Reference Report for Conditions for Success in the Implementation of the African Continental Free Trade Agreement." Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver.

Leeds, B.A., J.M. Ritter, S. McLaughlin Mitchell, and A.G. Long. (2002). *Alliance Treaty Obligations and Provisions, 1815-1944*. International Interactions 28: 237-260. http://www.atopdata.org/data.html

Maoz, Z. & E.A. Henderson. (2013). *The World Religion Dataset, 1945-2010: Logic, Estimates, and Trends*. International Interactions, 39: 265-291.

Maoz, Z., P.L. Johnson, J. Kaplan, F. Ogunkoya, & A. Shreve (2018). *The Dyadic Militarized Interstate Disputes (MIDs) Dataset Version 3.0: Logic, Characteristics, and Comparisons to Alternative Datasets*. Journal of Conflict Resolution. http://journals.sagepub.com/doi/full/10.1177/0022002718784158.

Marshall, M.G. & T.R. Gurr. (2020). *Polity Project, Political Regime Characteristics and Transitions, 1800-2018*. Center for Systemic Peace. http://www.systemicpeace.org/inscrdata.html

Mayer, T. & S. Zignago. (2011). *Notes on CEPII's distances measures: The GeoDist database,CEPII Working Paper 2011- 25*. CEPII. http://www.cepii.fr/cepii/en/bdd_modele/presentation.asp?id=6

Melitz, J. & F. Toubal. (2012). *Native Language, Spoken Language, Translation and Trade, CEPII Working Paper 2012- 17.* CEPII. http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=19

Morgan, P. & Y. Zheng. (2019) "Old Bottle New Wine? The Evolution of China's Aid in Africa 1956–2014." *Third World Quarterly* 40, no. 7, 1283–1303.

Moyer, J.D., D.K. Bohl, & S. Turner. (2016). *Diplometrics: Diplomatic Representation* [Data file]. Frederick S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver. http://pardee.du.edu/diplometrics

Moyer, J.D., D.K. Bohl, H. Camp, & S. Turner. (2016). *Diplometrics: Intergovernmental Organization* [Data file] Frederick S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver http://pardee.du.edu/diplometrics

Moyer, J.D., T. Sweijs, M.J. Burrows, H. Van Manen. (2018). *Power and Influence in A Globalized World.* The Atlantic Council of the United States. https://www.atlanticcouncil.org/in-depth-research-reports/report/power-and-influence-in-a-globalized-world/.

Organisation for Economic Co-operation and Development (OECD). (2020). *The Analytical AMNE Database.* https://www.oecd.org/industry/ind/analytical-amne-database.htm

Organisation for Economic Co-operation and Development (OECD). (2020). *FDI stocks (indicator*). doi: 10.1787/80eca1f9-en

Organisation for Economic Co-operation and Development (OECD). (2020). *Net ODA (indicator).* doi: 10.1787/33346549-en

Sarkees, M.R. & F. Wayman. (2010). *Resort to War: 1816 - 2007*. Washington DC: CQ Press.

Stockholm International Peace Research Institute (SIPRI). (2020). *SIPRI Arms Transfers Databas*e. https://www.sipri.org/databases/armstransfers

Stockholm International Peace Research Institute (SIPRI). (2020). *SIPRI Military Expenditure Database*. https://www.sipri.org/databases/milex

Teorell, J., M. Samanni, S. Holmberg and B. Rothstein. 2011. *The Quality of Government Dataset, version 6Apr11*. University of Gothenburg: The Quality of Government Institute, http://www.qog.pol.gu.se.

United Nations Conference on Trade and Development (UNCTAD). (2020). *UNCTADstat Dataset*. https://unctadstat.unctad.org/EN/

United Nations, Department of Economic and Social Affairs, Population Division. (2019). *World Population Prospects 2019: Methodology of the United Nations population estimates and projections (ST/ESA/SER.A/425)*. World Population Prospects 2019. https://population.un.org/wpp/

United Nations World Tourism Organization (UNTWO) (2020). *Tourism Statistics Database, 2020 Edition*. https://www.e-unwto.org/toc/unwtotfb/current

World Bank. (2020a). *Annual Remittances Data.* https://www.worldbank.org/en/topic/labormarkets/brief/migration-and-remittances

World Bank. (2020b). *World Integrated Trade Solution (WITS)*. https://wits.worldbank.org/Default.aspx?lang=en

World Trade Organization (WTO). (2020a). Dispute Settlements. https://www.wto.org/english/tratop_e/dispu_e/find_dispu_cases_e.htm

World Trade Organization (WTO). (2020b). *Regional Trade Agreements Database*. https://www.wto.org/english/tratop_e/region_e/region_e.htm