Frederick S. Pardee Institute
for International Futures
UNIVERSITY OF DENVER

Formal Bilateral Influence Capacity Index Codebook, Version 20251031

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For each variable used, please also cite the original source, which is provided in each variable's description below.

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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 Formal Bilateral Influence Capacity Index (FBIC) dataset seeks to provide an updated approach toward measuring and forecasting relational power and influence. FBIC is a composite index drawing from a set of indicators measuring the extent and intensity of bilateral nation-state interactions.

To make this collection more digestible for the user, the data series are grouped below into four broad categories: *identifying information*, *economic*, *political*, and *security*-related variables. The composite measure of relational power FBIC and its sub-components are described in a separate section labelled *FBIC*. **Each variable is accompanied by an associated indicator variable describing whether a specific value was estimated and, if so, how.** These "_est" (i.e., variable_estimated) variables are described in the Data Estimation Flags section of this codebook. Additionally, the trade variables exportsallgoodatob_alldata and importsallgoodafromb_alldata are accompanied by "_source" variables described in the Data Source Flags section to document the exact data source for a specific value.

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 2 million as of 2025), 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, 2021).

Frederick S. Pardee Institute for International Futures

The Frederick S. Pardee Institute 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 12 human, social, and natural systems for 188 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 Institute 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.

Changelog version 20251031 (October 31, 2025)

This update includes a comprehensive data refresh, new estimation methodologies, and updates to core data sources:

1. A new versioning convention has been established, using a YYYYMMDD format based on the date of release. This version is 20251031. To facilitate clear chronological ordering and version control, a new version variable has been added to the dataset and is detailed under the Metadata section of the codebook.
2. Historical data series for all FBIC input variables have been refreshed by re-pulling source data where available. Manually-built historical values for China, India, Russia, and the Soviet Union have been preserved for foreign aid, military expenditure, and other official flows.
3. All monetary values have been converted to 2021 USD (previously 2011 USD). This conversion utilizes the most recent World Bank USD deflator data (2017). The deflator variable definition in the Metadata section of the codebook has been clarified to note that only the GDP deflator for the US is used, not individual country/currency deflators.
4. A new algorithm and set of rules have been applied for data interpolation and extrapolation. Data are treated with a moving-average time-series smoother (equivalent to Stata's tsmooth ma) to create estimates that extrapolate and interpolate 5 years from observed values. Extrapolation is only performed when at least 4 observed values (including IMF estimates) are present within a 10-year period.
5. As a reminder, the max-min normalization window remains 1960-2023 (see Changelog 4.0, 8).
6. **GDP:** The IMF has been added as a secondary data source to complement World Bank data.
7. **Trade:** UN Comtrade has been added as a secondary data source, along with IMTS; CEPII BACI and TRADHIST (including anomalous observed zeroes for many Soviet trading relationships); and UN Comtrade data. The BACI data series has been preserved for 1960-2023, with UN Comtrade used for 2024 and onward.
8. **Trade Agreements:** All data from the WTO Regional Trade Agreements database has been re-coded by Pardee researchers. Accordingly, all trade agreement estimation flags and the index_est flag have been updated to "0" (no estimation).
9. **Foreign Aid:** Data has been updated through 2024 using the OECD DAC2A dataset.
10. **Military Expenditure:** Data has been updated through 2024 using SIPRI data.
11. **Arms Transfers:** Data has been updated through 2024 using SIPRI data, and 2024 reported values in the preliminary update have been adjusted downward to correct an error in the preliminary update which erroneously aggregated all data in the SIPRI trade register.

12. **Alliances:** Data has been updated from 2018 - the last year of coverage in the ATOP dataset - onward, based on open-source searches. Consequently, all alliance estimation flags and the index_est flag have been updated to "0" (no estimation).
13. **Embassies:** Data has been updated through 2024 and corrected to ensure values are mirrored between country dyads.
14. **IGOs:** The historical data series has been updated.
15. **FDI:** The methodology for FDI has been changed to a net of balances approach. This method calculates net FDI by offsetting outward investment against inward investment, consistent with the IMF's Balance of Payments and International Investment Position Manual (BPM6) framework.
16. **Other Official Flows (OOF):** Data has been updated through 2024 using the OECD DAC2B dataset.
17. **Population:** Population data has been updated through 2024 using UN Population Division data and COW data as a secondary source.
18. **Distance:** Distance data has been updated through 2024 using the US ITC Dynamic Gravity Dataset and the CEPII gravity series as a secondary source.

Changelog 4.2 (June 11, 2025)

1. Variables previously classified as character strings but intended to represent numeric values have been converted to proper numeric types to align the FBIC Index CSV file with this codebook.
2. Population values (populationa and populationb) were corrected for unit inconsistency. In the previous version, raw population counts from UN Population Division dataset and population counts in thousands from the COW National Material Capabilities dataset were retained without conversion to millions. All values have now been properly scaled:

	Previous version		**Corrected version**	
year: 1990	United States	West Germany	**United States**	**West Germany**
population (millions)	253373387	63253	**253.373**	**63.253**

Changelog 4.1 (June 6, 2025)

1. New variables labelled "[x]sharefbic_plus" have been added to the FBIC+ index. Similar to those for "sharefbic", these variables measure the shared contribution to FBIC+ of aid, trade, arms, and diplomacy, in addition to the financialsharefbic_plus, oofsharefbic_plus, and fdisharefbic_plus.
    a. As a result of the creation of the financial shares variable, which combines the shared contribution of OOF and FDI, it is important to note that the sharefbic_plus variables do not sum to 1 – either the financial shares or the OOF and FDI shares must be excluded.
    b. The previous FBIC+ calculation code erroneously replicated the absarms_shareof_dep_plus value in calculating relarms_shareof_dep_plus. This has been corrected in this version.
2. Background Factors variables have been added for population (populationa, populationb, and the accompanying _est flags) and distance (distanceatob and its _est flag).

Changelog 4.0 (May 28, 2025)

The 2025 FBIC Update expands data coverage of all inputs up to 2024. In addition, this update includes a number of changes that are detailed below:

1. New and updated data for 2024 include trade data from the IMF (IMTS, formerly DOTS) and UN Comtrade; arms transfers and military expenditures data from SIPRI; trade agreement data from the Word Trade Organization; and IGO data from the Frederick S. Pardee Institute for International Futures. Alliance and Embassy data are carried forward from 2023.
2. The World Bank has not yet released 2024 GDP figures, so 2024 GDP values are estimated using 2024 IMF GDP growth rates applied to 2023 World Bank GDP values for countries where IMF growth rates were available. These estimates are accompanied by a new _est indicator value of 9 to indicate when growth rates are applied to previous years' value. In all other cases, a weighted-average time series smoother is used to estimate 2024 GDP, which is accompanied by a new _est indicator of 8 to indicate when a time series smoother with an 11-year weighted moving average is used.
3. For GDP and all other variables expressed in constant 2011 USD, yearly GDP deflator data from the World Bank are applied to convert current values. As the World Bank has not released 2024 deflator figures, the 2023 deflator is used for this preliminary update.
4. Trade data for 2024 are sourced from the IMF IMTS dataset (which replaced DOTS as of 2024) and from UN Comtrade, which serves as a temporary substitute for forthcoming 2024 BACI data. Missing trade values are estimated per the following updated methodology:
    a. A time series smoother with an 11-year weighted moving average is used to create estimates that extrapolate and interpolate 5 years from observed values.
    b. Extrapolation is only performed if at least 4 values (inclusive of IMF estimates) are observed in a 10-year period for a given dyad.
    c. This methodology replaces the previous estimator, which employed rolling mean interpolation and extrapolation with Gaussian-kernel-weighted smoothing in all cases of missing values. The totaltradeawithb_source indicator has been removed and users should reference exportsallgoodatob_source and importsallgoodafromb_source. Additionally, source indicators for exports and imports have been updated for precision. These changes are detailed in the Data Estimation Flags and Data Source Flags sections of the codebook.
5. Neither OECD-BMD4 nor IMF-DIP (Direct Investment Positions by Counterpart Economy dataset, formerly CDIS) have released 2024 FDI figures, so 2024 FDI bilateral data has been estimated using rolling mean extrapolation with Gaussian-kernel-weighted smoothing. However, newly available 2023 data from the OECD and IMF replaces 2023 data where available to inform 2024 estimates. Where updated 2023 data are not available, existing estimates are retained.
6. OECD-DAC2A has not yet released 2024 bilateral ODA figures, so 2024 ODA values for most dyads have been estimated using rolling mean extrapolation with Gaussian-kernel-weighted smoothing.
    a. However, this update does include 2024 outward ODA data for India based on Indian Ministry of External Affairs (MEA) reports.
    b. Annual releases from the OECD's International Development Statistics databases had been delayed for 2022 and 2023 due to the OECD's retirement of the OECD.Stat datasets and transition to OECD Data Explorer system. ODA data for 2022 and 2023 is now

available via the OECD's DAC2A database and has been integrated into this update to inform 2024 estimates. Where updated 2022 and 2023 data are not available, existing estimates are retained.

7. OECD-DAC2B has not yet released 2024 OOF figures, so 2024 OOF values for most dyads have been estimated using rolling mean extrapolation with Gaussian-kernel-weighted smoothing.
8. This release updates the maximum-minimum normalization window of FBIC Index values to 1960-2023 (previously 1960-2018).
    a. Additional normalization sub-indices have been included in this release in order to aid in the interpretation of bandwidth and dependence values. The five new variables are: norm_politicalbandwidth, norm_economicbandwidth, norm_securitybandwidth, norm_economicdependence, and norm_securitydependence.
9. For this release, the totaltradeawithb_source has been removed.

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 FBIC. 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.

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 FBIC follow the Gregorian calendar and are coded from 1960 to 2024. 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 Institute for International Futures Diplometrics Project
Source Definition: Identification code created for the purposes of directed-dyadic statistical analysis.

Economic Variables

Variable Name: gdpmer2021usda
Label: GDP at MER 2021USD (Singles USD) Country A
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2021 USD
Source: World Bank World Development Indicators (source); IMF World Economic Outlook (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 from the World Bank were originally recorded in constant 2015 USD millions at market exchange rates, while those from the IMF were originally recorded in current USD. All GDP data have been converted to 2021 USD. This value is for Country A.

Variable Name: gdpmer2021usdb
Label: GDP at MER 2021USD (Singles) Country B
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2021 USD
Source: World Bank World Development Indicators (source); IMF World Economic Outlook (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 from the World Bank were originally recorded in

constant 2015 USD millions at market exchange rates, while those from the IMF were originally recorded in current USD. All GDP data have been converted to 2021 USD.. This value is for Country B.

Variable Name: exportsallgoodatob_alldata
Label: All Goods Exports A to B 2021USD, IMF International Trade in Goods (IMTS); BACI and TRADEHIST; UN Comtrade
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2021 USD
Source: IMF (source); CEPII (source); UN Comtrade (source)
Source Definition: The primary source for our bilateral trade series is the IMF International trade in goods by partner country dataset (formerly Direction of Trade Statistics (DOTS)), which covers all IMF member states and some non-member countries with data available starting from 1960. IMTS "includes goods (merchandise) export and import statistics disaggregated according to a country's trading partners." To integrate IMTS trade figures with FBIC in a consistent manner, we prioritize FOB exports by mirroring A-to-B exports to create B-from-A FOB imports. The IMF IMTS database can be accessed here: (source).
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).
For remaining exports data not available in the sources above, mirrored imports data are used from sources in the following order of priority to estimate exports:

1. IMF IMTS import values (CIF)
2. IMF IMTS import values (FOB)
3. CEPII BACII import values
4. CEPII TRADEHIST import values, including observed values (FLOW) and presumed zeros (FLOW_0)

The variable measures all goods exported from Country A to Country B.

Variable Name: importsallgoodafromb_alldata
Label: All Goods Imports A from B 2021USD, IMF International Trade in Goods (IMTS); BACI and TRADEHIST; UN Comtrade
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2021 USD
Source: IMF (source); CEPII (source); UN Comtrade (source)

Source Definition: The primary source for our bilateral trade series is the IMF International trade in goods by partner country dataset (formerly Direction of Trade Statistics (DOTS)), which covers all IMF member states and some non-member countries with data available starting from 1960. IMTS "includes goods (merchandise) export and import statistics disaggregated according to a country's trading partners." To integrate IMTS trade figures with FBIC in a consistent manner we prioritize FOB exports by mirroring A-to-B exports to create B-from-A FOB imports. The IMF IMTS database can be accessed here: (source).

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).

For remaining imports data not available in the sources above, mirrored exports data are used from sources in the following order of priority to estimate imports:

1. IMF IMTS export values (FOB)
2. CEPII BACII import values
3. CEPII TRADEHIST import values, including observed values (FLOW) and presumed zeros (FLOW_0)

The variable measures all goods imported to Country A from Country B.

Variable Name: totaltradeawithb
Label: Exports A to B + Imports A From B, 2021USD, IMF International Trade in Goods (IMTS); BACI and TRADEHIST; UN Comtrade
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2021 USD
Source: IMF (source); CEPII (source); UN Comtrade (source)
Source Definition: The primary source for our bilateral trade series is the IMF International trade in goods by partner country dataset (formerly Direction of Trade Statistics (DOTS)), which covers all IMF member states and some non-member countries with data available starting from 1960. IMTS "includes goods (merchandise) export and import statistics disaggregated according to a country's trading partners." To integrate IMTS trade figures with FBIC in a consistent manner we prioritize FOB exports by mirroring A-to-B exports to create B-from-A FOB imports. The IMF IMTS database can be accessed here: (source).

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).

This variable measures the sum of all goods imported from and exported to Country B vis-à-vis Country A.

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) + (RTAEIA*8) + (CU*15) + (CUEIA*20)
Variable Category: Economic
Variable Type: Numeric – Discrete
Unit: Index
Source: World Trade Organization (source); Frederick S. Pardee Institute for International Futures (source)
Source Definition: An index created by the Pardee Institute; 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*5+ tradeagreement_rtaeia*8 + tradeagreement_cu*15 + tradeagreement_cueia*20.

Variable Name: foreignaid2021usdatob
Label: Foreign Aid (ODA) From A to B 2021 USD, OECD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2021 USD (millions)
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 2023 as the base year." (source) For Chinese aid data from 2000 through 2021, the source is William & Mary Research Lab's AidData project, and values reflect aid commitments rather than disbursements. Chinese aid data from 1960 through 1999 were kindly provided by Morgan and Zheng (2019). Indian aid data from 2006 through 2014 were sourced from AidData's Indian Development Finance Dataset (source); aid data from 2015 through 2024 were gathered from budget reports of the Indian Ministry of External Affairs.

This variable measures ODA or ODA-like foreign aid commitments in a given year from Country A to Country B.

Variable Name: foreignaid2021usdafromb
Label: Foreign Aid (ODA) to A From B 2021 USD (Mirror of Debt) OECD
Variable Category: Economic
Variable Type: Numeric – Continuous
Unit: 2021 USD (millions)
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 2023 as the base year." (source) For Chinese aid data from 2000 through 2021, 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). Indian aid data from 2006 through 2014 were sourced from AidData's Indian Development Finance Dataset (source); aid data from 2015 through 2024 were gathered from budget reports of the Indian Ministry of External Affairs.

This variable measures ODA or ODA-like foreign aid commitments in a given year from Country B to Country A.

Security Variables

Variable Name: milex2021usdmila
Label: Military Spending 2021 USD (millions) Country A SIPRI
Variable Category: Security
Variable Type: Numeric – Continuous
Unit: 2021 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 2021 US dollars.

Variable Name: milex2021usdmilb
Label: Military Spending 2021 USD (Millions) Country B SIPRI
Variable Category: Security
Variable Type: Numeric – Continuous
Unit: 2021 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 2021 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 of 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…

"The SIPRI Arms Transfers Database covers all international sales and gifts of weapons, including manufacturing licences. Weapons on loan or lease are included if the loan or lease is for at least three months." (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 of 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…

"The SIPRI Arms Transfers Database covers all international sales and gifts of weapons, including manufacturing licences. Weapons on loan or lease are included if the loan or lease is for at least three months." (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 2018. 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.

Values through 2018 originate directly from the ATOP dataset. For data from 2019 onward, Pardee extended the time series by coding new or ongoing alliances according to the original ATOP definitions to ensure definitional consistency through the latest data year.

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 2018. 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.

Values through 2018 originate directly from the ATOP dataset. For data from 2019 onward, Pardee extended the time series by coding new or ongoing alliances according to the original ATOP definitions to ensure definitional consistency through the latest data year.

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 2018. 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.

Values through 2018 originate directly from the ATOP dataset. For data from 2019 onward, Pardee extended the time series by coding new or ongoing alliances according to the original ATOP definitions to ensure definitional consistency through the latest data year.

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 2018. 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.

Values through 2018 originate directly from the ATOP dataset. For data from 2019 onward, Pardee extended the time series by coding new or ongoing alliances according to the original ATOP definitions to ensure definitional consistency through the latest data year.

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 2018. 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.

Values through 2018 originate directly from the ATOP dataset. For data from 2019 onward, Pardee extended the time series by coding new or ongoing alliances according to the original ATOP definitions to ensure definitional consistency through the latest data year.

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 2018. 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.

Values through 2018 originate directly from the ATOP dataset. For data from 2019 onward, Pardee extended the time series by coding new or ongoing alliances according to the original ATOP definitions to ensure definitional consistency through the latest data year.

Variable Name: allianceindex
Label: (nonagg*5) + (neutral*5) + (consul*1) + (defense*75) + (offense*200)
Variable Category: Security
Variable Type: Numeric – Discrete
Unit: Index
Source: Alliance Treaty Obligations and Provisions (ATOP) (source); Frederick S. Pardee Institute 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 2018. 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)

Political Variables

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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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: igosa
Label: List of IGOs in which country A was a member in year Y
Variable Category: Political
Variable Type: Character – String List
Unit: Number of IGOs
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable lists abbreviations for the IGOs in which country A was a member in a given year.

Variable Name: igosb
Label: List of IGOs in which country B was a member in year Y
Variable Category: Political
Variable Type: Character – String List
Unit: Number of IGOs
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable lists abbreviations for the IGOs in which country B was a member in a given year.

Variable Name: igoscommon
Label: List of Shared IGO memberships A&B, Diplometrics
Variable Category: Political
Variable Type: Character – String List
Unit: Number of IGOs
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable lists abbreviations for the IGOs in which both country A and country B were members in a given year.

Variable Name: igosacount
Label: Count of IGOs in which country A was a member in year Y
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of IGOs
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the number of international governmental organizations (IGOs) in which Country A was a member in a given year.

Variable Name: igosbcount
Label: Count of IGOs in which country B was a member in year Y
Variable Category: Political
Variable Type: Numeric – Discrete

Unit: Number of IGOs
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the number of international governmental organizations (IGOs) in which Country B was a member in a given year.

Variable Name: sharedigocount
Label: Count of shared IGO memberships A&B, Diplometrics
Variable Category: Political
Variable Type: Numeric – Discrete
Unit: Number of IGOs
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: 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: Index – Weighted count of IGOs
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: 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 Institute for International Futures (source)
Source Definition: "The Formal 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 2023.

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 Institute 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 2023.

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 Institute 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 subject matter experts.

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 Institute 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 subject matter experts. (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 Institute 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 subject matter experts.

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 Institute 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 2023.

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 Institute 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 subject matter experts.

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 Institute 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 subject matter experts.

Variable Name: milstocka
Label: FBIC Input: Military Stock A; 10yr 10% Annual Depreciation of Milstock
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: 2021USD
Source: Frederick S. Pardee Institute 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 2021 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: 2021USD
Source: Frederick S. Pardee Institute 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 2021 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 2021USD
Source: Frederick S. Pardee Institute 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 Institute 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: 2021USD
Source: Frederick S. Pardee Institute 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: 2021USD
Source: Frederick S. Pardee Institute 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 Institute 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 Institute 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: aidaballaidb
Label: FBIC Input: (aidab/allaidb)*100 -- aid converted to single USD to match all aid
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures foreign aid (ODA) from Country A to Country B divided by Country B's total received aid and then multiplied by 100. This is referred to as relative 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 2021USD
Source: Frederick S. Pardee Institute 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 Institute 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 Institute 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_politicalbandwidth
Label: FBIC input: Political Bandwidth Between A and B (max-minimalized)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This is the max-min normalized value of politicalbandwidth across all dyads and years from 1960 through 2023 indicating relative political engagement bandwidth in a dyad. 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 2023.
This variable can be used to aid in the interpretation of its respective sub-index and put into clearer context "high" and "low" values if the sub-index is of interest. Note that non-normalized values are used in the FBIC Index calculation.

Variable Name: norm_economicbandwidth
Label: FBIC input: Economic Bandwidth Between A and B (max-minimalized)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)

Source Definition: This is the max-min normalized value of economicbandwidth across all dyads and years from 1960 through 2023 indicating relative economic engagement bandwidth in a dyad. 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 2023. This variable can be used to aid in the interpretation of its respective sub-index and put into clearer context "high" and "low" values if the sub-index is of interest. Note that non-normalized values are used in the FBIC Index calculation.

Variable Name: norm_securitybandwidth
Label: FBIC input: Security Bandwidth Between A and B (max-minimalized)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This is the max-min normalized value of securitybandwidth across all dyads and years from 1960 through 2023 indicating relative security engagement bandwidth in a dyad. 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 2023. This variable can be used to aid in the interpretation of its respective sub-index and put into clearer context "high" and "low" values if the sub-index is of interest. Note that non-normalized values are used in the FBIC Index calculation.

Variable Name: norm_economicdependence
Label: FBIC input: Economic Dependence Between A and B (max-minimalized)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This is the max-min normalized value of economicdependence across all dyads and years from 1960 through 2023 indicating relative economic dependence in a dyad. 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 2023. This variable can be used to aid in the interpretation of its respective sub-index and put into clearer context "high" and "low" values if the sub-index is of interest. Note that non-normalized values are used in the FBIC Index calculation.

Variable Name: norm_securitydependence
Label: FBIC input: Security Dependence Between A and B (max-minimalized)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This is the max-min normalized value of securitydependence across all dyads and years from 1960 through 2023 indicating relative security dependence in a dyad. 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 2023. This variable can be used to aid in the interpretation of its respective sub-index and put into clearer context "high" and

"low" values if the sub-index is of interest. Note that non-normalized values are used in the FBIC Index calculation.

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 Institute 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 Institute 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 Institute 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 Institute 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
Label: FBIC Input: lor-normalized allianceindex value
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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
Label: FBIC Input: lor-normalized lnarmstotalstockab value
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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: norm_lor_avg_ma
Label: FBIC Input: 3yr moving average (-2,-1,0) of norm_lor_avg
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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_ma
Label: FBIC Input: 3yr moving average (-2,-1,0) of norm_igos
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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_ma
Label: FBIC Input: 3yr moving average (-2,-1,0) of norm_tradeagreement
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

3. Taking the sum of each variable across the entire dataset, and
4. 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_ma
Label: FBIC Input: 3yr moving average (-2,-1,0) of norm_lntotaltrade
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

3. Taking the sum of each variable across the entire dataset, and
4. 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 Institute for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

3. Taking the sum of each variable across the entire dataset, and
4. 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 Institute for International Futures (source)
Source Definition: To put all six bandwidth components on a common scale, the data is normalized by:

3. Taking the sum of each variable across the entire dataset, and
4. 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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 Institute 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: wt_ln_aidabgdpb_ma
Label: FBIC Input: weighted contribution of abs. aid dep to non-normalized dependence index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of absolute aid dependence to the non-normalized Dependence index. (source)

Variable Name: wt_ln_aidaballaidb_ma
Label: FBIC Input: weighted contribution of rel. aid dep to non-normalized dependence index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of relative aid dependence to the non-normalized Dependence index. (source)

Variable Name: wt_ln_totaltradeabgdpb_ma
Label: FBIC Input: weighted contribution of abs. trade dep to non-normalized dependence index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of absolute trade dependence to the non-normalized Dependence index. (source)

Variable Name: wt_ln_totaltradeaballtradeb_ma
Label: FBIC Input: weighted contribution of rel. trade dep to non-normalized dependence index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of relative trade dependence to the non-normalized Dependence index. (source)

Variable Name: wt_ln_armimpstockabmilstockb_ma
Label: FBIC Input: weighted contribution of abs. arms dep to non-normalized dependence index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of absolute arms dependence to the non-normalized Dependence index. (source)

Variable Name: wt_ln_armsimpstockaballimstockb_ma
Label: FBIC Input: weighted contribution of rel. arms dep to non-normalized dependence index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of relative arms dependence to the non-normalized Dependence index. (source)

Variable Name: wt_norm_lor_avg_ma
Label: FBIC Input: weighted contribution of LOR to non-normalized bandwidth index

Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of LOR to the non-normalized Bandwidth index. (source)

Variable Name: wt_norm_igos_ma
Label: FBIC Input: weighted contribution of IGOs to non-normalized bandwidth index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of IGOs to the non-normalized Bandwidth index. (source)

Variable Name: wt_norm_tradeagreement_ma
Label: FBIC Input: weighted contribution of trade agreements to non-normalized bandwidth index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of trade agreements to the non-normalized Bandwidth index. (source)

Variable Name: wt_norm_lntotaltrade_ma
Label: FBIC Input: weighted contribution of total trade to non-normalized bandwidth index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of total trade to the non-normalized Bandwidth index. (source)

Variable Name: wt_norm_allianceindex_ma
Label: FBIC Input: weighted contribution of alliances to non-normalized bandwidth index
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of alliances to the non-normalized Bandwidth index. (source)

Variable Name: wt_norm_armstotalstock_ma
Label: FBIC Input: weighted contribution of arms imp. stock to non-normalized bandwidth index
Variable Category: FBIC
Variable Type: Numeric – Continuous

Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of imported stock of arms to the non-normalized Bandwidth index. (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 Institute 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 Institute 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 Institute 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: absaid_shareof_dep
Label: Absolute aid's share of B's total dependence on A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Absolute aid's share of Country B's total dependence on Country A. (source)

Variable Name: relaid_shareof_dep
Label: Relative aid's share of B's total dependence on A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Relative aid's share of Country B's total dependence on Country A. (source)

Variable Name: abstrade_shareof_dep
Label: Absolute trade's share of B's total dependence on A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Absolute trade's share of Country B's total dependence on Country A. (source)

Variable Name: reltrade_shareof_dep
Label: Relative trade's share of B's total dependence on A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Relative trade's share of Country B's total dependence on Country A. (source)

Variable Name: absarms_shareof_dep
Label: Absolute arm imports' share of B's total dependence on A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Absolute arm imports' share of Country B's total dependence on Country A. (source)

Variable Name: relarms_shareof_dep
Label: Relative arms imports' share of B's total dependence on A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Relative arm imports' of Country B's total dependence on Country A. (source)

Variable Name: bandwidth_nonnorm
Label: FBIC Input: PolBand + EconBand + SecurityBand
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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 Institute 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 Institute 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: lor_shareof_bandwidth
Label: LOR share of B's total bandwidth with A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: LOR share of Country B's total bandwidth with Country A. (source)

Variable Name: igo_shareof_bandwidth
Label: IGO share of B's total bandwidth with A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: IGO share of Country B's total bandwidth with Country A. (source)

Variable Name: tradeagree_shareof_bandwidth
Label: Trade Agreement share of B's total bandwidth with A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Trade Agreement share of Country B's total bandwidth with Country A. (source)

Variable Name: trade_shareof_bandwidth
Label: Goods trade share of B's total bandwidth with A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Goods trade share of Country B's total bandwidth with Country A. (source)

Variable Name: alliance_shareof_bandwidth
Label: Alliance share of B's total bandwidth with A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Alliance share of Country B's total bandwidth with Country A. (source)

Variable Name: armsimpstock_shareof_bandwidth
Label: Arms imports stock share of B's total bandwidth with A
Variable Category: FBIC
Variable Type: Numeric – Constant
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Arms imports stock share of Country B's total bandwidth with Country A. (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 Institute 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 Institute 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 Institute 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: aidsharefbic
Label: Directeddyad year: (Abs aid share + Rel aid share)/(all band & dep shares)
Variable Category: FBIC
Variable Type: Numeric – Continuous

Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of absolute aid dependence and relative aid dependence on FBIC. (source)

Variable Name: tradesharefbic
Label: Directeddyad year: (Abs trade share + Rel trade share)/(all band & dep shares)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of absolute trade dependence and relative trade dependence on FBIC. (source)

Variable Name: armssharefbic
Label: Directeddyad year: (Abs arms share + Rel arms share)/(all band & dep shares)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of absolute arms dependence and relative arms dependence on FBIC. (source)

Variable Name: diplomacysharefbic
Label: Directeddyad year: (LOR share + IGO share + Alliance share)/(all band & dep shares)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of LOR, IGOs, and Alliances on FBIC. (source)

Variable Name: avgaidsharefbic
Label: Global annual mean avg. of aidsharefbic
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of absolute aid dependence and relative aid dependence on FBIC. (source)

Variable Name: avgtradesharefbic
Label: Global annual mean avg. of tradesharefbic
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)

Source Definition: This variable measures the global annual mean average of the shared contribution of absolute trade dependence and relative trade dependence on FBIC. (source)

Variable Name: avgarmssharefbic
Label: Global annual mean avg. of armssharefbic
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of absolute arms dependence and relative arms dependence on FBIC. (source)

Variable Name: avgdiplomacysharefbic
Label: Global annual mean avg. of diplomacysharefbic
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of LOR, IGOs, and Alliances on FBIC. (source)

Variable Name: ctyavgaidsharefbic
Label: Annual mean avg. of aidsharefbic for countrya
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of absolute aid dependence and relative aid dependence on FBIC. (source)

Variable Name: ctyavgtradesharefbic
Label: Annual mean avg. of tradesharefbic for countrya
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of absolute trade dependence and relative trade dependence on FBIC. (source)

Variable Name: ctyavgarmssharefbic
Label: Annual mean avg. of armssharefbic for countrya
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of absolute arms dependence and relative arms dependence on FBIC. (source)

Variable Name: ctyavgdiplomacysharefbic
Label: Annual mean avg. of diplomacysharefbic for countrya
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of LOR, IGOs, and Alliances on FBIC. (source)

Variable Name: fbicdisaggshares
Label: Sum of disaggregated shares of FBIC (used in case shares are dif from 1 due to rounding)
Variable Category: FBIC
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the sum of disaggregated shares of FBIC. The variable is used in case shares are different from 1 due to rounding). (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 Institute for International Futures (source)
Source Definition: This variable measures the mean global average of FBIC scores in the dataset. Within the Pardee Institute's International Futures tool, this value corresponds with the "World-World" FBIC value in the bilateral interaction with gravity display. (source)

FBIC+ Variables

Variable Name: fdiinstocks2021usdafromb
Label: Foreign Direct Investment (FDI) Inward Stocks
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Million USD 2021
Source: OECD; IMF; UNCTAD
Source Definition: FDI stocks are a measure the total level of direct investment from the investor country to a destination country. Our dataset for FDI stocks combines data from the OECD's Benchmark Definition of FDI database which provides inward and outward FDI positions for OECD countries from 2005 to 2023 (source) and the IMF's Direct Investment Positions (DIP) by Counterpart Economy dataset (formerly Coordinated Direct Investment Survey, or CDIS) which provides inward and outward direct investment positions for a much wider range of reporters including non-OECD from 2009 to 2023. (source) Given the limited availability of OECD data prior to 2009, we further augment using UNCTAD Bilateral FDI Statistics which are available from 2005 to 2012.

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

Variable Name: fdioutstocks2021usdatob
Label: Foreign Direct Investment (FDI) Outward Stocks
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Million USD 2021
Source: OECD; IMF; UNCTAD
Source Definition: FDI stocks are a measure the total level of direct investment from the investor country to a destination country. Our dataset for FDI stocks combines data from the OECD's Benchmark Definition of FDI database which provides inward and outward FDI positions for OECD countries from 2005 to 2023 (source) and the IMF's Direct Investment Positions (DIP) by Counterpart Economy dataset (formerly Coordinated Direct Investment Survey, or CDIS) which provides inward and outward direct investment positions for a much wider range of reporters including non-OECD from 2009 to 2023. (source) Given the limited availability of OECD data prior to 2009, we further augment using UNCTAD Bilateral FDI Statistics which are available from 2005 to 2012.

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

Variable Name: oofaid2021usdatob
Label: Other Official Flows (OOF)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Million USD 2021
Source: OECD; AidData; Chinese Loans to Africa (CLA) Dataset; Indian MEA Reports
Source Definition: Other official flows (OOF) are a unique form of bilateral foreign aid that do not meet official development assistance (ODA) criteria. OOF include but are not limited to official development assistance transactions with grant element of less than 25%, grants and loans to developing countries for commercial purposes, and official bilateral transactions with any proportion of grant element with the primary intent of export-facilitation. Our dataset for OOF aid combines data from the OECD Development Cooperation Profiles database provided by the Development Assistance Community (DAC) (source), and from AidData's Global Chinese Development Finance Dataset Version 3.0 (source) and Indian Development Finance Dataset Version 1.0 (source). We further extend temporal and cross-sectional coverage by supplementing OOF data for China and India using the China Loans to Africa (CLA) dataset (source) and government loans reported in Indian Ministry of External Affairs (MEA) reports.

The variable measures OOF flows from Country A to Country B.

Variable Name: oofaid2021usdafromb
Label: Other Official Flows (OOF)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Million USD 2021
Source: OECD; AidData; Chinese Loans to Africa (CLA) Dataset; Indian MEA Reports
Source Definition: Other official flows (OOF) are a unique form of bilateral foreign aid that do not meet official development assistance (ODA) criteria. OOF include but are not limited to official development assistance transactions with grant element of less than 25%, grants and loans to developing countries for commercial purposes, and official bilateral transactions with any proportion of grant element with

the primary intent of export-facilitation. Our dataset for OOF aid combines data from the OECD Development Cooperation Profiles database provided by the Development Assistance Community (DAC) (source), and from AidData's Global Chinese Development Finance Dataset Version 3.0 (source) and Indian Development Finance Dataset Version 1.0 (source). We further extend temporal and cross-sectional coverage by supplementing OOF data for China and India using the China Loans to Africa (CLA) dataset (source) and government loans reported in Indian Ministry of External Affairs (MEA) reports.

The variable measures OOF flows from Country B to Country A.

Variable Name: fbic_plus
Label: Formal Bilateral Influence Capacity (FBIC)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: "The Formal 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 2023.

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: bandwidth_plus
Label: FBIC input: Bandwidth Between A and B (max-minimalized)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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 2023.

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: politicalbandwidth_plus
Label: FBIC Input: (norm_lor_avg_ma*0.149) + (norm_ig *0.095)
Variable Category: FBIC+

Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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 0.149 plus the normalized shared weighted IGO membership of Countries A and B multiplied by 0.095. These weights were determined using principal component analysis (PCA)

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: economicbandwidth_plus
Label: FBIC Input: (norm_tradeagreement_ma*0.155) + (norm_lntotaltrade_ma*0.183) + (norm_lntotalfdi_ma*0.164)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: Economic Bandwidth is measured through FBIC indicators total trade, trade agreements and total FDI. Specifically, this is calculated as the sum of the normalized moving average trade agreement index value for Countries A and B multiplied by 0.155 plus the moving average of the natural log of total trade between Countries A and B multiplied by 0.183 and the moving average of the natural log of total FDI from Countries A to B multiplied by 0.164. These weights were determined using principal component analysis (PCA).

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: securitybandwidth_plus
Label: FBIC Input: (norm_allianceindex_ma*0.155) + (normstotalstock_ma*0.099)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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 0.155 plus the normalized moving average sum of total arms stock for Countries A and B multiplied by 0.099. For the total arms stock there is a 10% annual depreciating in the 10-year sum of military spending. These weights were determined using principal component analysis (PCA).

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: dependence_plus
Label: FBIC Input: Dependence of B on A (max-min normalized)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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 2023.

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: economicdependence_plus
Label: FBIC Input: AbsAid*0.103 + RelAid*0.101 + AbsOOF*0.098 + + RelOOF*0.091 + AbsTrade*0.092 + RelTrade*0.094 + AbsFDI*0.091 + RelFDI*0.096
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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 0.103. 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 0.101. FBIC+ adds to these components absolute OOF dependence (OOF from Country A to B as a percent of Country B's GDP) multiplied by 0.098 and relative OOF dependence (OOF from Country A to B as a percent of all OOF to Country B in a given year) multiplied by 0.091. Next are added absolute trade dependence (exports plus imports between Countries A and B divided by Country B's GDP) multiplied by 0.092) and relative trade dependence (exports plus imports between Countries A and B divided by all trade with Country B in a given year) multiplied by 0.094. Finally, FBIC+ adds absolute FDI dependence (FDI from Countries A to B divided by Country B's GDP) multiplied by 0.091 and relative FDI dependence (FDI from Countries A to B divided by all FDI received by Country B in a given year multiplied by 0.096. These weights were determined using principal component analysis (PCA).

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: securitydependence_plus
Label: FBIC Input: RelArms*0.111 + AbsArms*0.111
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute 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 0.111. 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 0.111. These weights were determined using principal component analysis (PCA).

This variable is part of an augmented FBIC index known as FBIC+ that includes two additional features: 1) Foreign Direct Investment (FDI) and 2) Other official flows (OOF). The FBIC+ Index is calculated using principal component analysis (PCA)-based weights.

Variable Name: lntotalfdiawithb
Label: FBIC+ Input: ln(fdioutstocks2021usdatob)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Natural log of 2021USD
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable is natural log of FDI between the dyad.

Variable Name: allfdib
Label: FBIC+ Input: All FDI Received by B in Year Y
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: 2021USD
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This is the sum of all received FDI for country B in a given year. This is used to calculate relative FDI dependence.

Variable Name: alloofb
Label: FBIC+ Input: All OOF Received by B in Year Y
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: 2021USD
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This is the sum of all received OOF for country B in a given year. This is used to calculate relative OOF dependence.

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

Variable Name: fdiaballfdib
Label: FBIC+ Input: (fdiab/allfdib)*100 -- FDI Converted as Single USD to Match GDP
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures FDI from Country A to Country B divided by Country B's total received FDI and then multiplied by 100. This is referred to as relative FDI dependence.

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

Variable Name: oofaballoofb
Label: FBIC+ Input: (oofab/alloofb)*100 -- OOF Converted as Single USD to Match GDP
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Percentage
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures OOF from Country A to Country B divided by Country B's total received OOF and then multiplied by 100. This is referred to as relative FDI dependence.

Variable Name: norm_lntotalfdi
Label: FBIC+ Input: lor-normalized lntotalfdiawithb value
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: To put all 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.

Variable Name: norm_lntotalfdi_ma
Label: FBIC+ Input: 3yr moving average (-2,-1,0) of norm_lntotalfdi
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: To put all 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.

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

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

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

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

Variable Name: ln_fdiabgdpb_ma
Label: FBIC+ Input: Natural Log of fdiabgdpb_ma + 1
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures

Source Definition: This variable measures the natural log of the three-year moving average of FDI from Country A to Country B divided by Country B's GDP and then multiplied by 100. This is a core input of FDI dependence.

Variable Name: ln_fdiaballfdib_ma
Label: FBIC+ Input: Natural Log of fdiaballfdib_ma + 1
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures the natural log of the three-year moving average of FDI from Country A to Country B divided by all FDI to Country B and then multiplied by 100. This is a core input of FDI dependence.

Variable Name: ln_oofabgdpb_ma
Label: FBIC+ Input: Natural Log of oofabgdpb_ma + 1
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures the natural log of the three-year moving average of OOF from Country A to Country B divided by Country B's GDP and then multiplied by 100. This is a core input of OOF dependence.

Variable Name: ln_oofaballoofb_ma
Label: FBIC+ Input: Natural Log of oofaballoofb_ma + 1
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures the natural log of the three-year moving average of OOF from Country A to Country B divided by all OOF to Country B and then multiplied by 100. This is a core input of OOF dependence.

Variable Name: wt_ln_fdiabgdpb_ma
Label: FBIC+ Input: weighted contribution of abs. FDI dep to non-normalized dependence index
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures the weighted contribution of absolute FDI dependence to the non-normalized Dependence index

Variable Name: wt_ln_fdiaballfdib_ma
Label: FBIC+ Input: weighted contribution of rel. FDI dep to non-normalized dependence index
Variable Category: FBIC+
Variable Type: Numeric – Continuous

Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures the weighted contribution of relative FDI dependence to the non-normalized Dependence index

Variable Name: wt_ln_oofabgdpb_ma
Label: FBIC+ Input: weighted contribution of abs. OOF dep to non-normalized dependence index
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures the weighted contribution of absolute OOF dependence to the non-normalized Dependence index

Variable Name: wt_ln_oofaballoofb_ma
Label: FBIC+ Input: weighted contribution of rel. OOF dep to non-normalized dependence index
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures
Source Definition: This variable measures the weighted contribution of relative OOF dependence to the non-normalized Dependence index

Variable Name: wt_norm_lntotalfdi_ma
Label: FBIC+ Input: weighted contribution of total FDI to non-normalized bandwidth index
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the weighted contribution of total FDI to the non-normalized Bandwidth index.

Variable Name: fbicdisaggshares_plus
Label: Sum of disaggregated shares of FBIC+ (used in case shares are dif from 1 due to rounding)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the sum of disaggregated shares of FBIC+. The variable is used in case shares are different from 1 due to rounding). (source)

Variable Name: aidsharefbic_plus
Label: Directeddyad year: (Abs aid share + Rel aid share)/(all band & dep shares)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)

Source Definition: This variable measures the shared contribution of absolute aid dependence and relative aid dependence on FBIC+. (source)

Variable Name: tradesharefbic_plus
Label: Directeddyad year: (Abs trade share + Rel trade share)/(all band & dep shares)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of absolute trade dependence and relative trade dependence on FBIC+. (source)

Variable Name: armssharefbic_plus
Label: Directeddyad year: (Abs arms share + Rel arms share)/(all band & dep shares)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of absolute arms dependence and relative arms dependence on FBIC+. (source)

Variable Name: diplomacysharefbic_plus
Label: Directeddyad year: (LOR share + IGO share + Alliance share)/(all band & dep shares)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of LOR, IGOs, and Alliances on FBIC+. (source)

Variable Name: financialsharefbic_plus
Label: Directeddyad year: (OOF share + FDI share)/(all band & dep shares)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of OOF and FDI on FBIC+. (source)

Variable Name: oofsharefbic_plus
Label: Directeddyad year: OOF share/(all band & dep shares)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of OOF on FBIC+. (source)

Variable Name: fdisharefbic_plus
Label: Directeddyad year: FDI share/(all band & dep shares)
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the shared contribution of FDI on FBIC+. (source)

Variable Name: avgaidsharefbic_plus
Label: Global annual mean avg. of aidsharefbic_plus
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of absolute aid dependence and relative aid dependence on FBIC+. (source)

Variable Name: avgtradesharefbic_plus
Label: Global annual mean avg. of tradesharefbic_plus
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of absolute trade dependence and relative trade dependence on FBIC+. (source)

Variable Name: avgarmssharefbic_plus
Label: Global annual mean avg. of armssharefbic_plus
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of absolute arms dependence and relative arms dependence on FBIC+. (source)

Variable Name: avgdiplomacysharefbic_plus
Label: Global annual mean avg. of diplomacysharefbic_plus
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of LOR, IGOs, and Alliances on FBIC+. (source)

Variable Name: avgfinancialsharefbic_plus
Label: Global annual mean avg. of financialsharefbic_plus
Variable Category: FBIC+

Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the shared contribution of OOF and FDI on FBIC+. (source)

Variable Name: avgoofsharefbic_plus
Label: Global annual mean avg. of oofsharefbic_plus
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the contribution of OOF on FBIC+. (source)

Variable Name: avgfdisharefbic_plus
Label: Global annual mean avg. of fdisharefbic_plus
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the global annual mean average of the contribution of FDI on FBIC+. (source)

Variable Name: ctyavgaidsharefbic_plus
Label: Annual mean avg. of aidsharefbic_plus for countrya
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of absolute aid dependence and relative aid dependence on FBIC+. (source)

Variable Name: ctyavgtradesharefbic_plus
Label: Annual mean avg. of tradesharefbic_plus for countrya
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of absolute trade dependence and relative trade dependence on FBIC+. (source)

Variable Name: ctyavgarmssharefbic_plus
Label: Annual mean avg. of armssharefbic_plus for countrya
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index

Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of absolute arms dependence and relative arms dependence on FBIC+. (source)

Variable Name: ctyavgdiplomacysharefbic_plus
Label: Annual mean avg. of diplomacysharefbic_plus for countrya
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of LOR, IGOs, and Alliances on FBIC+. (source)

Variable Name: ctyavgfinancialsharefbic_plus
Label: Annual mean avg. of financialsharefbic_plus for countrya
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of OOF and FDI on FBIC+. (source)

Variable Name: ctyavgoofsharefbic_plus
Label: Annual mean avg. of oofsharefbic_plus for countrya
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of OOF on FBIC+. (source)

Variable Name: ctyavgfdisharefbic_plus
Label: Annual mean avg. of fdisharefbic_plus for countrya
Variable Category: FBIC+
Variable Type: Numeric – Continuous
Unit: Index
Source: Frederick S. Pardee Institute for International Futures (source)
Source Definition: This variable measures the annual mean average of the shared contribution for Country A of FDI on FBIC+. (source)

For the FBIC+ calculation process, several variables created for the standard FBIC Index must be recreated with a different index normalization window. We omit mention of these variables in this codebook. Their names are identical or similar to their FBIC Index counterparts (e.g., lortotal becomes lortotal_plus) and their definitions are the same, with the exception of the FBIC+ normalization window rather than the full FBIC Index normalization window.

Background Factors

Variable Name: populationa
Label: Population Country A
Variable Category: Background factors
Variable Type: Numeric – Continuous
Unit: Millions
Source: UN Population Division (source); COW National Material Capabilities (source)
Source Definition: Population figures for Country A. Data is primarily sourced from the UN Population Division's Data Portal which represents total population estimates by country. Where UN data is missing or unavailable, values are supplemented with data from the Correlates of War (COW) National Material Capabilities project, specifically the 'tpop' (total population) variable.

Variable Name: populationb
Label: Population Country B
Variable Category: Background factors
Variable Type: Numeric – Continuous
Unit: Millions
Source: UN Population Division (source); COW National Material Capabilities (source)
Source Definition: Population figures for Country B. Data is primarily sourced from the UN Population Division's Data Portal which represents total population estimates by country. Where UN data is missing or unavailable, values are supplemented with data from the Correlates of War (COW) National Material Capabilities project, specifically the 'tpop' (total population) variable.

Variable Name: distanceatob
Label: Distance between capital cities of Country A and Country B
Variable Category: Background factors
Variable Type: Numeric – Continuous
Unit: Kilometers
Source: US ITC Dynamic Gravity Dataset (source); CEPII Gravity (source)
Source Definition: Bilateral distance in kilometers between the capital cities of Country A and Country B. The primary source is the US ITC Dynamic Gravity Dataset. Where US ITC data is missing or unavailable, values are supplemented with the CEPII Gravity database. Data were originally collected based on geographical coordinates of capitals and represent geodesic (great-circle) distances.

Metadata

Variable Name: deflator
Label: US GDP Deflator (base year = 2021 USD)
Variable Category: Metadata
Variable Type: Numeric – Continuous
Unit: Index (base year = 2021 = 100)
Source: World Bank (source)
Source Definition: The deflator captures overall inflation in the economy and is expressed as an index relative to a specified base year. For FBIC, the GDP deflator is derived solely from the United States series reported by the World Bank's World Development Indicators to ensure a consistent measure of price change across all country-year observations. The WDI deflator is rebased by applying a scaling

factor equal to the World Bank's base-year deflator divided by the deflator for Pardee's specified base year.

Variable Name: version
Label: FBIC Index Version Identifier
Variable Category: Metadata
Variable Type: Numeric – Continuous
Unit: N/A
Source: Pardee Institute for International Futures
Source Definition: The version variable records the release date of the dataset using the YYYYMMDD convention (e.g., 20251031 for October 31, 2025). This numeric date format facilitates clear chronological ordering and version control across dataset releases. Each version label corresponds to a unique data update.

Data Estimation Flags

To indicate whether and how the Pardee Institute conducted estimation of a data point, 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, [e.g., variablename_e]). As of Version 20251031 of FBIC, estimation techniques are 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);
- variable name_est = 5 (carried forward from last known value);
- variable name_est = 6 (value estimated from International Futures (IFs));
- variable name_est = 7 (estimated zero);
- variable name_est = 8 (time series smoother with an 11-year weighted moving average);
- variable_name_est = 9 (estimated via application of growth rates to previous year value(s)).

As an example, if the GDP for Country A (gdpmer2021usda) in a given year were interpolated using a time series smoother with an 11-year weighted moving average, then gdpmer2021usda_est would be equal to 8. Should these estimation methods change with future updates of FBIC, the codebook will be updated accordingly.

Data Source Flags

To indicate the source for trade data, a "_source" flag is added to exportsallgoodatob and importsallgoodafromb. Source codes for each trade variable are listed in the table below.

_est flag	_source flags	Description
0 (no estimation)	Missing, not estimated	Data not available in sources
	IMF observed	Observed in IMTS dataset
	IMF estimated	Estimated in IMTS dataset
	UN Comtrade observed	Reported in UN Comtrade

	UN Comtrade estimated	Estimated in UN Comtrade
	BACI	Reported by CEPII's BACI dataset
	BACI – SACU disag. by GDP	Reported for Southern African Customs Union by BACI and disaggregated by GDP
	BACI – Bel-Lux disag. by GDP	Reported for Belgium-Luxembourg by BACI (through 1996) and disaggregated by GDP
	Tradhist – FLOW_0	Reported 0 in CEPII's Tradhist
	Tradhist – COW	Tradhist sourced from Barbieri and Keshk (2012)
	Tradhist – DOTS_XP	Tradhist sourced from IMF DOTS exports
	Tradhist – DOTS_IP	Tradhist sourced from IMF DOTS imports
	Tradhist – ESP TENA JUNGUITO	Tradhist sourced from Tena Junguito (unpublished 2012)
	Tradhist – MITC_XP	Tradhist sourced from Mitchell (2007a,b,c) exports
	Tradhist – MITC_IP	Tradhist sourced from Mitchell (2007a,b,c) imports
	Tradhist – SWE HIST STAT	Tradhist sourced from Sveriges Officiela Statistik (1880-1949)
	Tradhist – USA HIST STAT	Tradhist sourced from Carter et al. (2006)
8 (time series smoother)	Pardee - smoothed moving average	Calculated by the Pardee Institute

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