

1. Overview

The file contains the various data sources used to conduct our study. It is also linked to the codes (do.file) and our various Stata (for tables) and Excel (for figures) databases. To replicate the study using Stata software, the replicator must follow the codes mentioned in the do.file to obtain the results.

Regarding the figures, we have included an Excel file indicating the data for their reproduction in the various sheets.

2. Data Availability

Data Sources

Filename 1: CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high)

Source: World Bank's World Development Indicators

Access year: 2023

URL: <https://data.worldbank.org/indicator/IQ.CPA.TRAN.XQ>

License: All data are publicly available.

Filename 2: Total natural resources rents (% of GDP)

Source: World Bank's World Development Indicators

Access year: 2023

URL: <https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>

License: All data are publicly available.

Filename 3: Life expectancy at birth, total (years)

Source: World Bank's World Development Indicators

Access year: 2023

URL: <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>

License: All data are publicly available.

Filename 4: GDP per capita (constant 2015 US\$)

Source: World Bank's World Development Indicators

Access year: 2023

URL: <https://data.worldbank.org/indicator/NY.GDP.PCAP.KD>

License: All data are publicly available.

Filename 5: International Migrant Stock 2020: Destination and origin

Source: UNDESA

Access year: 2023

URL: <https://www.un.org/development/desa/pd/content/international-migrant-stock>

License: All data are publicly available.

Filename 6: Political Rights and civil liberties, especially Country and Territory Ratings and Statuses, 1973-2025 (Excel Download)

Source: Freedom House

Access year: 2023

URL: <https://freedomhouse.org/report/freedom-world#Data>

License: All data are publicly available.

Filename 7A: Diaspora savings (International Migrant Stock 2020: Destination and origin)

Source: UNDESA

Access year: 2023

URL: <https://www.un.org/development/desa/pd/content/international-migrant-stock>

License: All data are publicly available.

Filename 7B: Diaspora savings (Labor force, total; Population ages 0-14, total;

Population ages 65 and above, total; GDP (constant 2015 US\$); Population, total)

Source: World Bank's World Development Indicators.

Access year: 2023

URL: <https://data.worldbank.org/indicator/SP.POP.65UP.TO>

<https://donnees.banquemondiale.org/indicateur/SP.POP.0014.TO>

<https://data.worldbank.org/indicator/SL.TLF.TOTL.IN>

License: All data are publicly available.

Filename 8 : Sum of imports and exports - Total trade in goods (Percentage of Gross Domestic Product)

Source: UNCTAD

Access year : 2023

URL:

<https://unctadstat.unctad.org/datacentre/dataviewer/US.GoodsAndServTradeOpennessBpm6>

License: All data are publicly available.

Filename 9 : Foreign direct investment: Inward and outward flows and stock, annual, especially Inward flow US\$ at current prices in millions; Gross domestic product: Total and per capita, current and constant (2015) prices: especially US\$ at current prices in millions

Source: UNCTAD

Access year : 2023

URL: <https://unctadstat.unctad.org/datacentre/dataviewer/US.FdiFlowsStock>

<https://unctadstat.unctad.org/datacentre/dataviewer/US.GDPTotal>

License: All data are publicly available.

Filename 10: Political Stability and Absence of Violence/Terrorism: Percentile Rank

Source: World Bank's Worldwide Governance Indicators

Access year : 2023

URL: <https://databank.worldbank.org/source/worldwide-governance-indicators>

License: All data are publicly available.

Filename 11: Agriculture, forestry, and fishing, value added (% of GDP);

Manufacturing, value added (% of GDP); Services, value added (% of GDP).

Source: World Bank's Worldwide Governance Indicators

Access year : 2023

URL: <https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS>

<https://data.worldbank.org/indicator/NV.IND.MANF.ZS>

<https://data.worldbank.org/indicator/NV.SRV.TOTL.ZS>

License: All data are publicly available.

Building our databases

The databases “Database ECOWAS to rest of the world - CKO, CB and NY.dta”, “Database ECOWAS to Africa - CKO, CB and NY.dta”, and “Database ECOWAS to Africa - CKO, CB and

NY.dta” contain the same data for the variables. The various databases are calibrated based on the availability of our data:

- life and life expectancy are similar and come from the filename Life expectancy at birth, total (years). We have simply renamed the variable;

- PolRight and CivLib come from the filename Political Rights and civil liberties, especially Country and Territory Ratings and Statuses, 1973-2025. The transformation of these variables is explained below;

- “Agric,” “Manuf,” and ‘Services’ refer to Agriculture, forestry, and fishing, value added (% of GDP); Manufacturing, value added (% of GDP); and Services, value added (% of GDP), respectively in the database “Database ECOWAS to rest of the world - CKO, CB and NY.dta”;

- PolStab comes from the filename Political Stability and Absence of Violence/Terrorism: Percentile Rank.

- Natres comes from the filename Total natural resources rents (% of GDP);

- Anticorrupt and CPIA are the same in our databases and come from the filename CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high). We have simply renamed the CPIA variable;

- FDI is derived from the dataset “Foreign direct investment: Inward and outward flows and stock, annual, especially Inward flow US\$ at current prices in millions” and “Gross domestic product: Total and per capita, current and constant (2015) prices: especially US\$ at current prices in millions.” Our FDI variable corresponds to the ratio between Foreign direct investment (Inward flows FDI US\$ at current prices in millions) and Gross domestic product (US\$ at current prices in millions);

- Commarch comes from the filename Sum of imports and exports - Total trade in goods (Percentage of Gross Domestic Product);

- GDPCap comes from the filename GDP per capita (constant 2015 US\$). It should be noted that GDPCap in our database was logged for the regressions;

- WorldDiaspo, EuroDiaspo, AmericDiaspo, AfricDiaspo, and AsiaDiaspo are derived from the dataset “International Migrant Stock 2020: Destination and Origin.” The calculations are detailed below;

- Savings is derived from the dataset “International Migrant Stock 2020: Destination and origin”; Labor force, total; Population ages 0–14, total; Population ages 65 and above, total; Population, total). The calculations are detailed below.

1. Transformation of Institutional Variables

The variables “pr” and “cl,” which are derived from “Political Rights and Civil Liberties, Especially Country and Territory Ratings and Statuses, 1973–2025” in the database “Database ECOWAS to Rest of the World - CKO, CB, and NY.dta,” have been transformed. In fact, the values of these variables in the aforementioned database range from 1 to 7 and 1 to 6, respectively, with 1 representing strong institutional quality. Consequently, to facilitate interpretation, we used the max-min method to rescale our variables on a scale from 0 to 1. The formula is as follows: $(\text{maximum value} - \text{score (origin value)}) / (\text{maximum value} - \text{minimum value})$. These rescaled values correspond to PolRight and CivLib and are consistent across the sample in both “Database ECOWAS to rest of the world - CKO, CB and NY.dta” and “Database ECOWAS to Africa - CKO, CB and NY.dta” as well as “Database ECOWAS to Asia - CKO, CB and NY.dta”. High scores indicate strong institutional quality.

“diaspPolStab” in the database “Database ECOWAS to Rest of the World - CKO, CB, and NY.dta,” is the product of WorldDiaspo and PolStab.

2. transformation of diaspora variables

2.1 Database ECOWAS to rest of the world - CKO, CB and NY.dta

WorldDiaspo is calculated as follows. The original variable from International Migrant Stock 2020: Destination and Origin, which we renamed “Stockinternationaldemigrantslesd,” underwent linear interpolation to fill in missing values. We then took the natural logarithm of the interpolated variable. Finally, we took the first difference of the logarithm of the interpolated variable to obtain WorldDiaspo.

EuroDiaspo is calculated as follows. The original variable from International Migrant Stock 2020: Destination and Origin, which we renamed “ecowaseurope,” underwent linear interpolation to fill in missing values. We then took the logarithm of the interpolated variable. Finally, we took the first difference of the logarithm of the interpolated variable to obtain EuroDiaspo.

AmericDiaspo is calculated as follows. The original variable from International Migrant Stock 2020: Destination and Origin, which we renamed “migranteconorth,” underwent linear interpolation to fill in missing values. We then took the logarithm of the interpolated variable. Finally, we took the first derivative of the logarithm of the interpolated variable to obtain AmericDiaspo.

2.2 Database ECOWAS to Africa - CKO CB and NY.dta

The original variable from International Migrant Stock 2020: Destination and Origin, which we renamed “diaspototalafrique,” underwent linear interpolation to fill in missing values. We then took the logarithm of the interpolated variable. Finally, we took the first difference of the logarithm of the interpolated variable to obtain AfricDiaspo.

2.3 Database ECOWAS to Asia - CKO, CB and NY.dta

The original variable from International Migrant Stock 2020: Destination and Origin, which we renamed “migrantsecowastoasia,” underwent linear interpolation to fill in missing values. We then took the logarithm of the interpolated variable. Finally, we took the first difference of the logarithm of the interpolated variable to obtain AsiaDiaspo.

2.4 Computation for ECOWAS diaspora savings in the rest of the world

The calculation formula is:

$$\text{Savings} = \frac{\text{ECOWAS diaspora stock} * \text{Propensity to save} * \text{inverse of the dependency ratio}}{\text{Average earnings}}$$

- Savingsreal is the interpolated variable as defined in the database “Database ECOWAS to rest of the world - CKO, CB and NY.dta”;
- ECOWAS diaspora stock (for each ECOWAS country in the rest of the world) is derived from International Migrant Stock 2020: Destination and origin;
- Propensity to save is 20% (see Paper Appendix C, specifically propensity to save);
- Inverse of the dependency ratio = Working population of the rest of the world / Dependent population (children and older people) of the rest of the world.
 - Working Population of the rest of the world = Global working-age population – ECOWAS working-age population;
 - Dependent population (children and older people) = Global dependent population (population aged 0–14 and population aged 65 and over) – ECOWAS dependent population (population aged 0–14 and population aged 65 and over) ;

- Average earnings = (Global real GDP – ECOWAS real GDP) / (Global total population – ECOWAS total population);

It should be noted that the data used for Dependent population and Average earnings come from the World Bank’s World Development Indicators.

Next, to fill in missing values, we perform a linear interpolation of diaspora savings, which allows us to obtain the variable “savingsreal” in the aforementioned database. Then, we took the natural logarithm of the interpolated variable. Finally, we took the first difference of the natural logarithm of the interpolated variable to obtain “savings”.

It is important to note that the other databases were selected based on the respective countries. In addition, the variables defined are the ones used in our regressions with the codes, since we have several variables in our various databases.

Statement about Rights

I certify that the author(s) of the manuscript have legitimate access to and permission to use the data used in this manuscript.

3. Instructions for Replicators

Execute the codes with the different databases. For replication, everything is explained in the do.file.

4. List of Exhibits

The provided codes reproduce all tables and figures presented in the paper.

List of Exhibits in the Main Section of the Paper:

Exhibit name	Output filename	Script	Note
Figure 1	Computation diaspora savings and data for figures - CKO^J CB and NY.xlsx	Excel	- Source: UNDESA - Calculation: See detailed note below.

Figure 2	Computation diaspora savings and data for figures - CKO^J CB and NY.xlsx	Excel	- Source: UNDESA and World Bank's World Development Indicators - Calculation: See detailed note below.
Table 1	descriptives1.doc, descriptives2.doc, descriptives3.doc	Codes for regressions diaspora in the rest of the world.do	
Table 2	descriptives4.doc, descriptives5.doc, descriptives6.doc	Codes for regressions diaspora in the rest of the world.do	
Table 3	regression_results1.doc, regression_results3.doc, regression_results5.doc, regression_results7.doc, regression_results9.doc	Codes for regressions diaspora in the rest of the world.do	
Table 4	regression_results2.doc, regression_results4.doc, regression_results6.doc, regression_results8.doc, regression_results10.doc	Codes for regressions diaspora in the rest of the world.do	

Figure 1:

- Source: UNDESA
- Calculation: We added up the number of migrants from each ECOWAS country by destination region and by year and then divided the total by the number of countries in our sample.
- For example: To calculate the average number of migrants bound for Europe in 2005, we added up the number of migrants from each ECOWAS country bound for Europe in 2005 and then divided that number by the number of countries in our sample.
- In our Excel file, for the ECOWAS diaspora in the rest of the world for the year 2005, and based on the location of our cells, we used: For 2005, $\text{SUM}(\text{C26:C39})/14$; for 2010, $\text{SUM}(\text{D26:D39})/14$; for 2015, $\text{SUM}(\text{E26:E39})/14$; for 2020, $\text{SUM}(\text{F26:F39})/14$.
- Similarly:
 - o For the ECOWAS diaspora in Europe: for 2005, $\text{SUM}(\text{I26:I39})/14$; for 2010, $\text{SUM}(\text{J26:J39})/14$; for 2015, $\text{SUM}(\text{K26:K39})/14$; for 2020, $\text{SUM}(\text{L26:L39})/14$.
 - o For the ECOWAS diaspora residing in North America, we have: for 2005, $\text{SUM}(\text{O26:O39})/14$; for 2010, $\text{SUM}(\text{P26:P39})/14$; for 2015, $\text{SUM}(\text{Q26:Q39})/14$; for 2020, $\text{SUM}(\text{R26:R39})/14$;
 - o For the ECOWAS diaspora residing in Africa: for 2005, $\text{SUM}(\text{U26:U37})/12$; for 2010, $\text{SUM}(\text{V26:V37})/12$; for 2015, $\text{SUM}(\text{W26:W37})/12$; for 2020, $\text{SUM}(\text{X26:X37})/12$.
 - o For the ECOWAS diaspora residing in Asia, for 2005, $\text{SUM}(\text{AA26:AA33})/8$; for 2010, $\text{SUM}(\text{AB26:AB33})/8$; for 2015, $\text{SUM}(\text{AC26:AC33})/8$; for 2020, $\text{SUM}(\text{AD26:AD33})/8$.
- Please note that you must enter the equals sign (=) well before entering the formulas above. After selecting the data, we clicked on “Recommended Chart” to automatically generate our chart. The results used to create this figure are located in cells in the range C7 to G12.

Figure 2:

- Source: UNDESA and World Bank’s World Development Indicators.
- Calculation: To calculate the savings of the ECOWAS diaspora for each period, we multiplied the ECOWAS diaspora stock for the specified year by the propensity to save (20%), then by the inverse of the dependency ratio, and finally by the average earnings in the rest of the world.
- In Excel, Figure 2 corresponds to the calculation of savings by the ECOWAS diaspora in the rest of the world. The Excel calculation (based on the location of my cells) is as follows: For 2005, $\text{C6}*\text{D6}*(\text{E6}*\text{F6})$; For 2010, $\text{C7}*\text{D7}*(\text{E7}*\text{F7})$; For 2015, $\text{C8}*\text{D8}*(\text{E8}*\text{F8})$; For 2020, $\text{C9}*\text{D9}*(\text{E9}*\text{F9})$.

- Please note that you must enter the equals sign (=) well before entering the formulas above. Then, to create the graph, we rounded the data (in US\$ billion).
- Consequently, we have 16.6 for 2005; 21 for 2010; 26 for 2015; and 28.8 for 2020 (all of this data is shown in Excel Figure 2). After selecting the data, we clicked on “Recommended Chart” to automatically generate our chart based on the rounded data.
- It should be noted that the graph extends from cell C15 to cell D19. Additionally, the results of the calculation of savings by the ECOWAS diaspora in the rest of the world—which were calculated without rounding—are in cells G6 through G9 in Excel.

List of Exhibits in the Appendix:

Exhibit name	Output filename	Script	Note
Table A1	regression_results1.doc	Codes for regressions diaspora in the rest of the world.do	
Table A2	regression_results3.doc	Codes for regressions diaspora in the rest of the world.do	
Table A3	regression_results5.doc	Codes for regressions diaspora in the rest of the world.do	
Table A4	regression_results7.doc	Codes for regressions diaspora in the rest of the world.do	

Table A5	regression_results9.doc	Codes for regressions diaspora in the rest of the world.do	
Table A6	regression_results2.doc	Codes for regressions diaspora in the rest of the world.do	
Table A7	regression_results4.doc	Codes for regressions diaspora in the rest of the world.do	
Table A8	regression_results6.doc	Codes for regressions diaspora in the rest of the world.do	
Table A9	regression_results8.doc	Codes for regressions diaspora in the rest of the world.do	
Table A10	regression_results10.doc	Codes for regressions diaspora in the rest of the world.do	
Table B1	Does not contain analytical output.		
Table B2	Does not contain analytical output.		
Table B3	Does not contain analytical output.	Codes for regressions	

		diaspora in the rest of the world.do	
Table B4	Corr_Matrix.docx	Codes for regressions diaspora in the rest of the world.do	
Table B5	- Fisher_pvalues.docx is for ADF-Fisher non-stationarity test level I(0), for all variables except AfricDiaspo and AsiaDiaspo - Fisher_pvalues_FirstDifference.docx is for ADF-Fisher non-stationarity test first difference I(1), for all variables except AfricDiaspo and AsiaDiaspo; - Fisher_AfricDiaspo_Level.docx is for ADF-Fisher non-stationarity test level I(0), for AfricDiaspo; - Fisher_AfricDiaspo_Difference.docx is for ADF-Fisher non-stationarity test first difference I(1), for AfricDiaspo; - Fisher_AsiaDiaspo_Level.docx is for ADF-Fisher non-stationarity test level I(0), for AsiaDiaspo; - Fisher_AsiaDiaspo_Difference.docx is for ADF-Fisher non-stationarity test first difference I(1), for AsiaDiaspo.	Codes for regressions diaspora in the rest of the world.do	

5. Software Requirements

Stata 17

- xtset id year;
- outreg2;
- estout.

