Production Diversification and Economic Development

*Replication materials*

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**Files included in the replication folder**

* **Scripts used for configurations**
  + dom\_IOloading\_JEBO.m
  + total\_IOloading\_JEBO.m
  + output\_loading\_JEBO.m
  + cons\_loading\_JEBO.m
  + density\_allmeasures\_JEBO.m
  + density\_domesticmeasures\_JEBO.m
  + Gloria et al\_JEBO\_May2023.do
  + development\_density\_model\_calibration\_nov23\_JEBO.m
  + development\_density\_model\_nov23\_counterfactual\_JEBO.m
* **Data files** 
  + master1.xlsx (OECD Input-Output tables)
  + master\_dom1.xlsx (OECD Input-Output tables, with only domestic networks)
  + data\_panel\_95\_11\_JEBO.xlsx (main data set, 55 countries from 1995 to 2011)

**Configuration of the main variable *Density* and associated measures:**

* Necessary Files:
  + Matlab Scripts
    - dom\_IOloading\_JEBO.m
    - total\_IOloading\_JEBO.m
    - output\_loading\_JEBO.m
    - density\_allmeasures\_JEBO.m
    - density\_domesticmeasures\_JEBO.m
  + Excel files
    - master1.xlsx
    - master\_dom1.xlsx
* Steps

1. ‘master1.xlsx’ and ‘master\_dom1.xlsx’ contain OECD Input-Output (I-O) tables from 1995 to 2011 for all industries (including exports and imports) and for only domestic industries, respectively, across 55 countries.
2. Running the code in ‘dom\_IOloading\_JEBO.m’, ‘total\_IOloading\_JEBO.m’, and ‘output\_loading\_JEBO.m’ would prepare I-O matrices for calculating variables[[1]](#footnote-1). They are styled as ‘ioYEAR’, ‘outputYEAR’ and ‘iodomYEAR’. Ensure that these matrices are stored in the same folder.
3. Once all I-O matrices have been compiled you may run code in ‘density\_allmeasures\_JEBO.m’ to create the *Density* variable and associated measures. The file ‘density\_domesticmeasures\_JEBO.m’ will calculate the *Density* measure that only considers domestic networks[[2]](#footnote-2).

**Configuration of Regression Tables and Figure 2:**

* Necessary Files:
  + - data\_panel\_95\_11\_JEBO.xlsx
    - Gloria et al\_JEBO\_May2023.do
* Steps

1. ‘data\_panel\_95\_11\_JEBO.xlsx’ houses our main data set with all variables (see “Data section” in manuscript). Data sources are the World Bank database, World Governance Indicators, and Penn World Tables. Variables were collected for each of the 55 OECD countries in our analysis, with as many data points as possible from 1995 to 2011. We find the data to be strongly balanced.
2. Once ‘data\_panel\_95\_11\_JEBO.xlsx’ has been imported into STATA, you may run the code in ‘Gloria et al\_JEBO\_May2023.do’. This will result in all tables and Figure 2 in manuscript.

**Configuration of Counterfactuals and their associated figures:**

* Necessary Files:
  + - development\_density\_model\_calibration\_nov23\_JEBO.m
    - development\_density\_model\_nov23\_counterfactual\_JEBO.m
* Steps

1. ‘development\_density\_model\_calibration\_nov23\_JEBO.m’ performs the calibration of varrho\_M, the love of diversification parameter.

2. ‘development\_density\_model\_calibration\_nov23\_JEBO.m’ simulate long series of each of the four economies we use in the counteractuals. The parameters epsQ, varrhoM, sigma\_z, and the selected countries must be changed according to the numbers stated in the paper.

**Codebook**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Definition** | **Source** |
| ECI+ | Economic Complexity Index + | Hartmann et al complexity index + |
| dens1\_dom | domestic network density threshold 1 | OECD I-O DATA |
| dens1 | total network density threshold 0.0005 | OECD I-O DATA |
| dens2 | domestic network density threshold 0.001 | OECD I-O DATA |
| dens3 | total network density threshold 0.005 | OECD I-O DATA |
| service | service sector share | OECD I-O DATA |
| dens4 | total network density threshold 0.00001 | OECD I-O DATA |
| for\_io | Forward IO linkages | OECD I-O DATA |
| back\_io | Backward IO linkages | OECD I-O DATA |
| nr | natural resources | OECD I-O DATA |
| trade | trade to GDP | world bank |
| gdppc | GDP per-capita | world bank |
| control of corruption | control of corruption | The Worldwide Governance Indicators |
| Regulatory Quality | Regulatory Quality | The Worldwide Governance Indicators |
| Political Stability | Political Stability | The Worldwide Governance Indicators |
| Gov't Effectiveness | Government Effectiveness | The Worldwide Governance Indicators |
| voice\_account | voice and accountability | The Worldwide Governance Indicators |
| rule\_of\_law |  | The Worldwide Governance Indicators |
| size\_fin | production financial sector / total production | OECD I-O DATA |
| schooling | Mean years of schooling (years) | World Bank |
| population | population | World bank |
| Mean years of schooling (years) | Avg Years of Schooling | World Bank |
| cap\_stock | Capital Stock | Penn World Tables |
| cou\_code | country code | N/A |

1. Variable codes, their definitions and sources can be found in the ‘Codebook’ of this document. [↑](#footnote-ref-1)
2. Note: Both scripts will result in data for 61 OECD countries However, we only employ 55 countries in our final analysis. The main data file (‘data\_panel\_95\_11\_JEBO.xlsx’) only contains these 55 countries. They are coded in accordance with the order in the ‘master1.xlsx’ file. [↑](#footnote-ref-2)