



IMF-MARIO (Multi-Analytical Regional Input-Output) Database

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Joaquim Guilhoto, Gregory Legoff, Erich Strassner,
Maria Borga, Achille Pegoue

IMF – Statistics Department

Disclaimer

The views expressed in this paper are those of the authors and do not necessarily represent the views of the IMF's Executive Directors, its management, or any of its members.

Agenda

- Motivation
- Estimation Methodology
- IMF-MARIO: Estimated SUTs & IOTs
- Dimensions & Key Variables
- Global MRIOs as Data Sources
- Uses & Applications
- Way Forward

Motivation for MARIO: analysis and modelling

- Domestic detailed relationships between producers and consumers.
- Cross-country data consistency.
- Analytical tool explaining inter-countries relationships and their role in the global value chain.
- Broad range of applications: climate, fiscal, gender, economic policy, surveillance, employment, investment, energy, industrial analysis, trade policy, impact analysis ...
- Improve IMF Climate Change Indicators Dashboard.

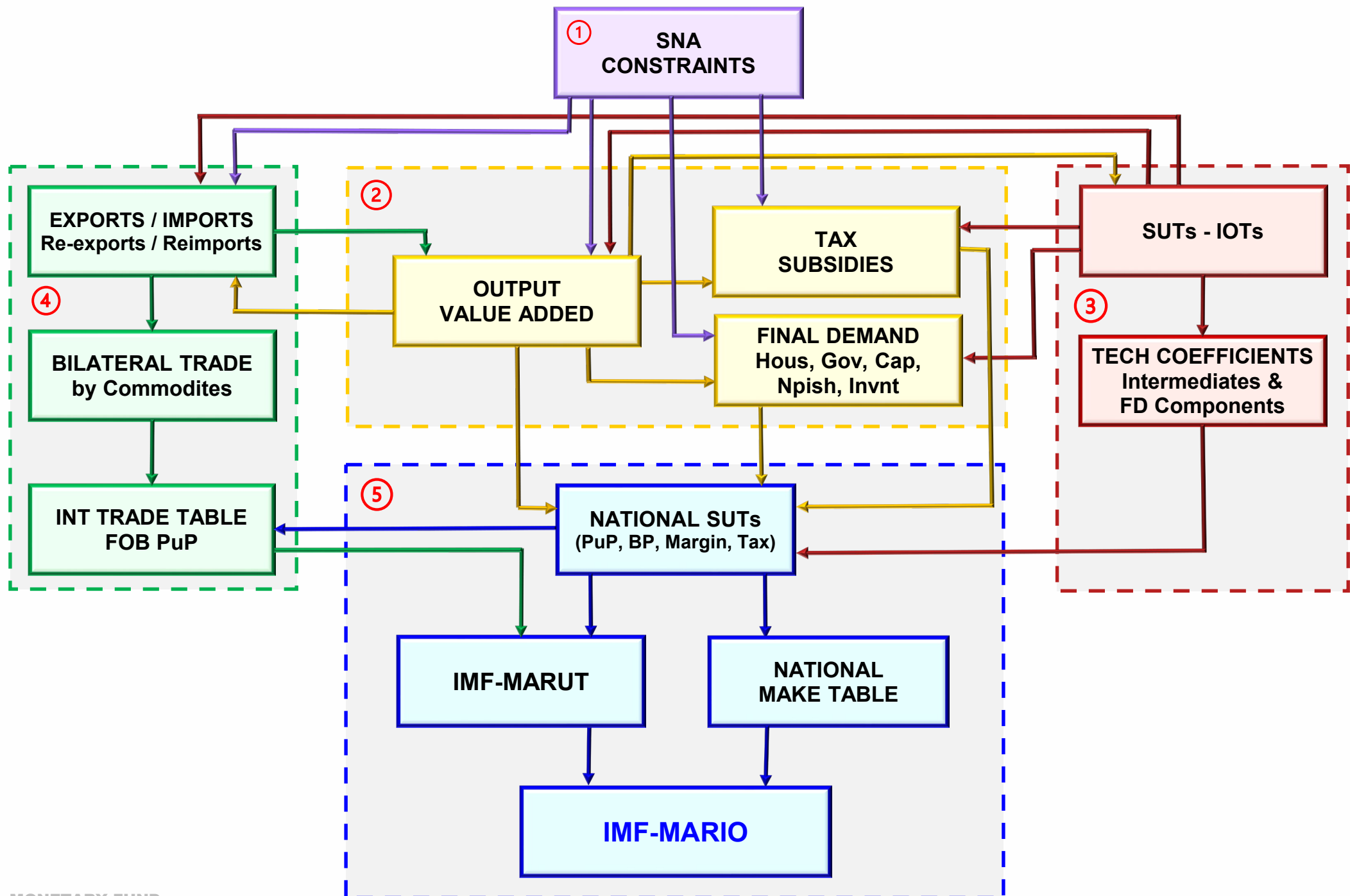
Motivation for MARIO: statistical improvements

- Better data and conceptual consistency between countries' IOTs.
- Help in the estimation and use of SUTs and national accounts.
- Integrated in technical assistance.
- Improved geographical coverage and timeliness.
- Reduced IMF dependence on other MRIO.

Estimation Methodology

Estimation Process

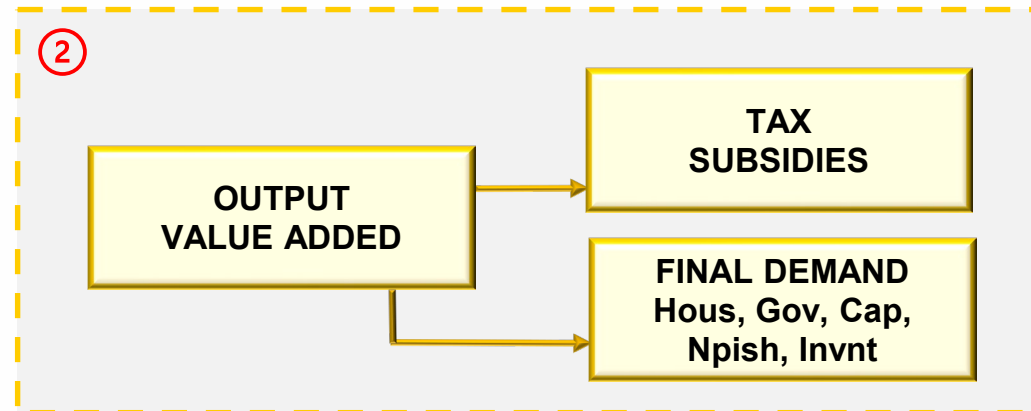
- Estimation is done into 5 integrated blocks
 1. SNA Constraints.
 2. Output, value added, tax, subsidies, and final demand components.
 3. Technical coefficients for intermediate consumption and final demand.
 4. International trade table
 5. IMF-MARIO



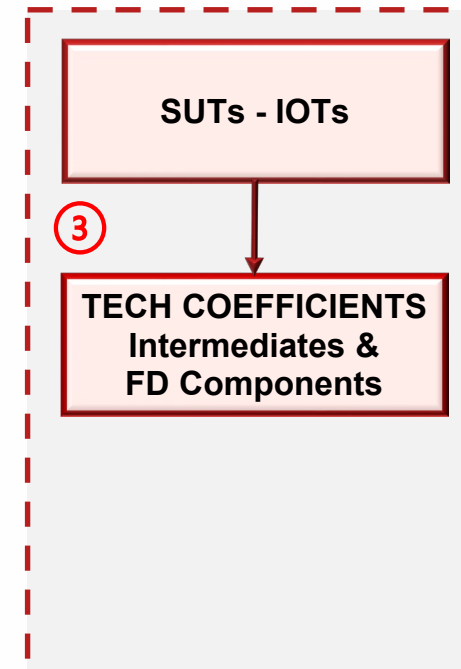
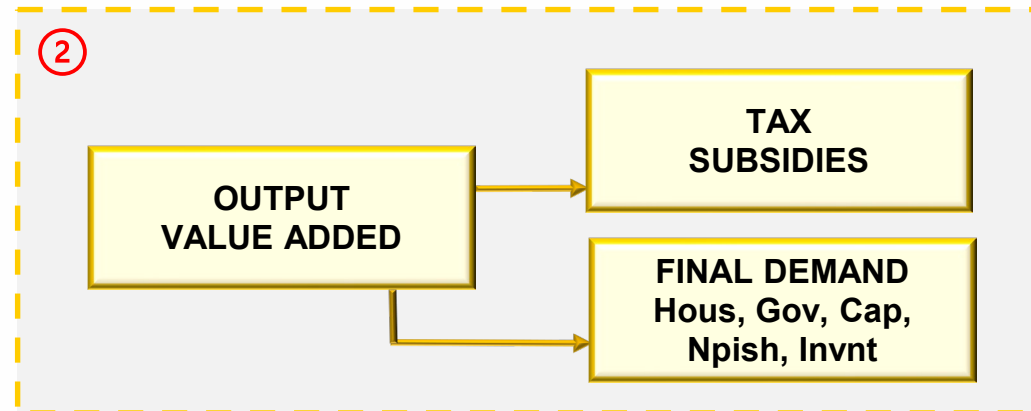
①

SNA CONSTRAINTS

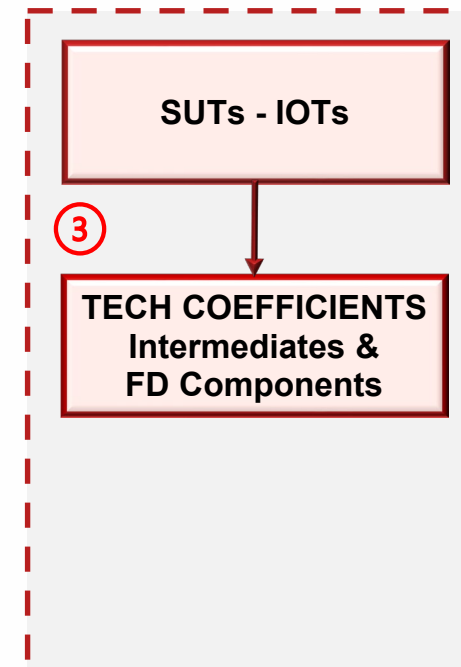
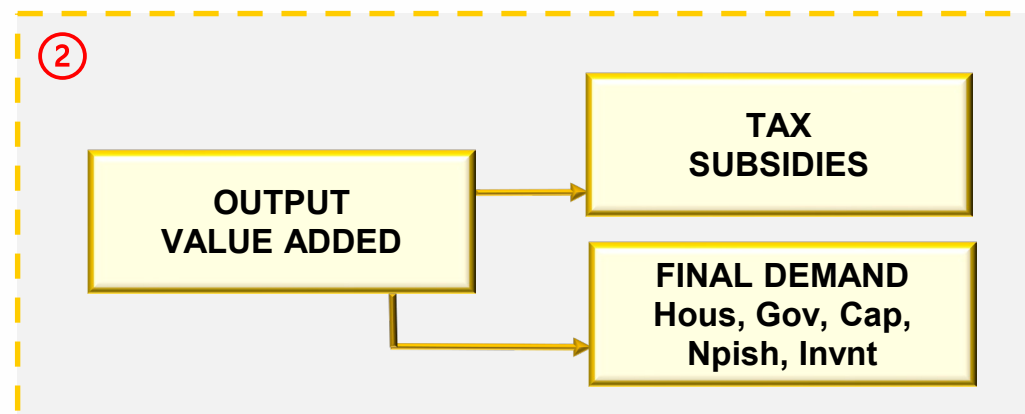
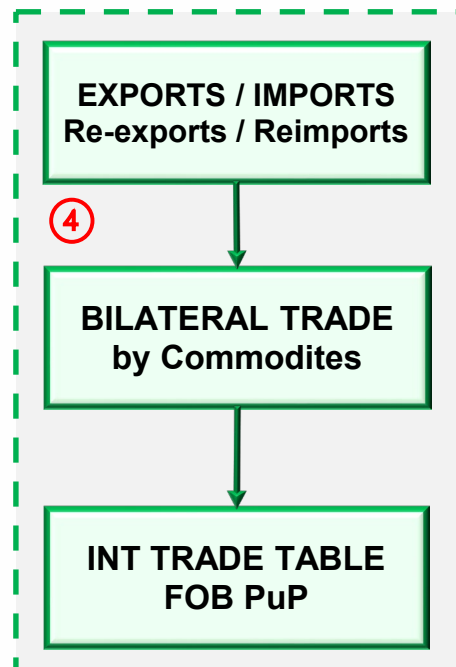
① **SNA
CONSTRAINTS**



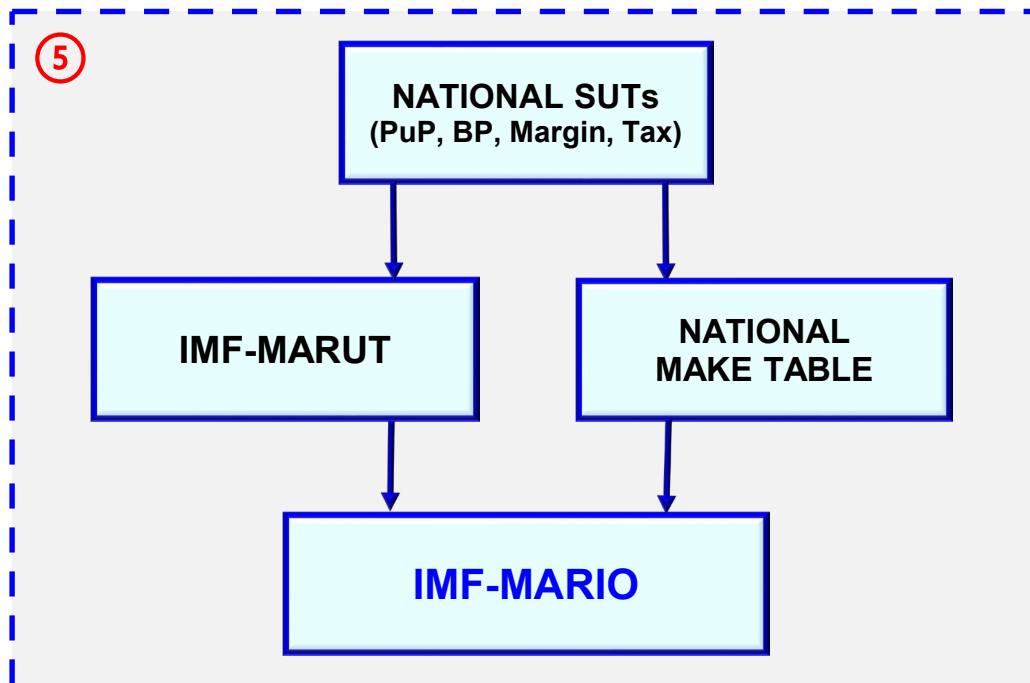
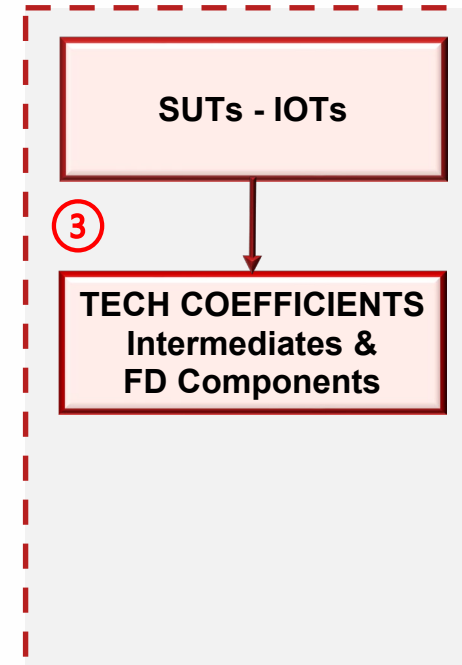
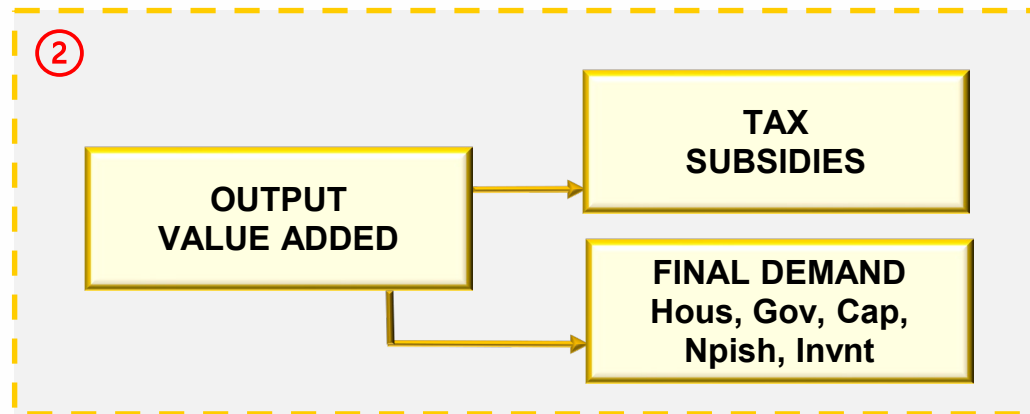
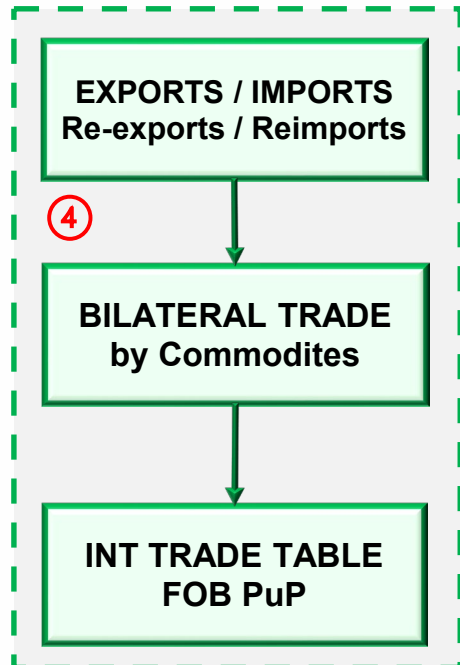
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CONSTRAINTS**

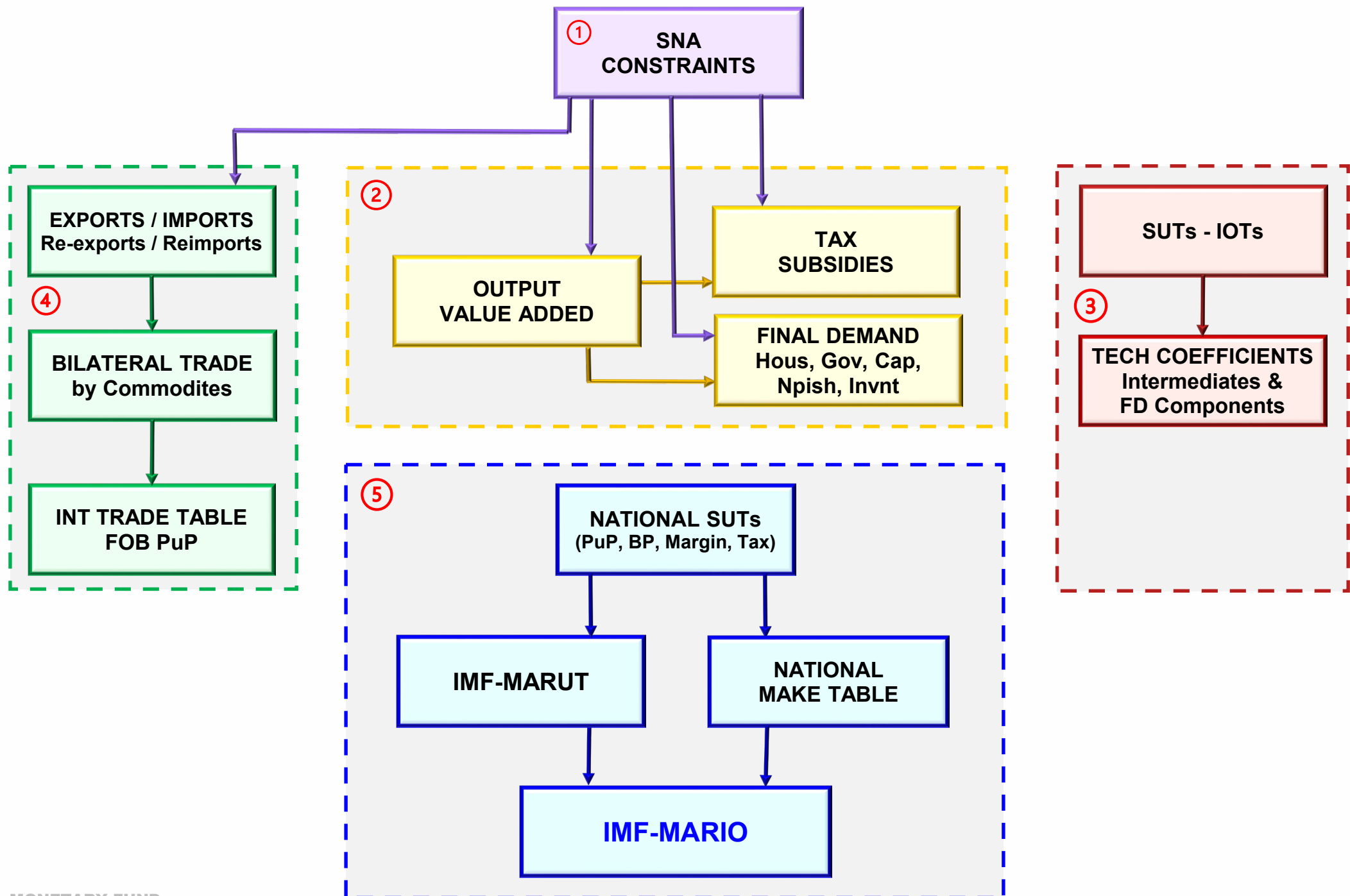


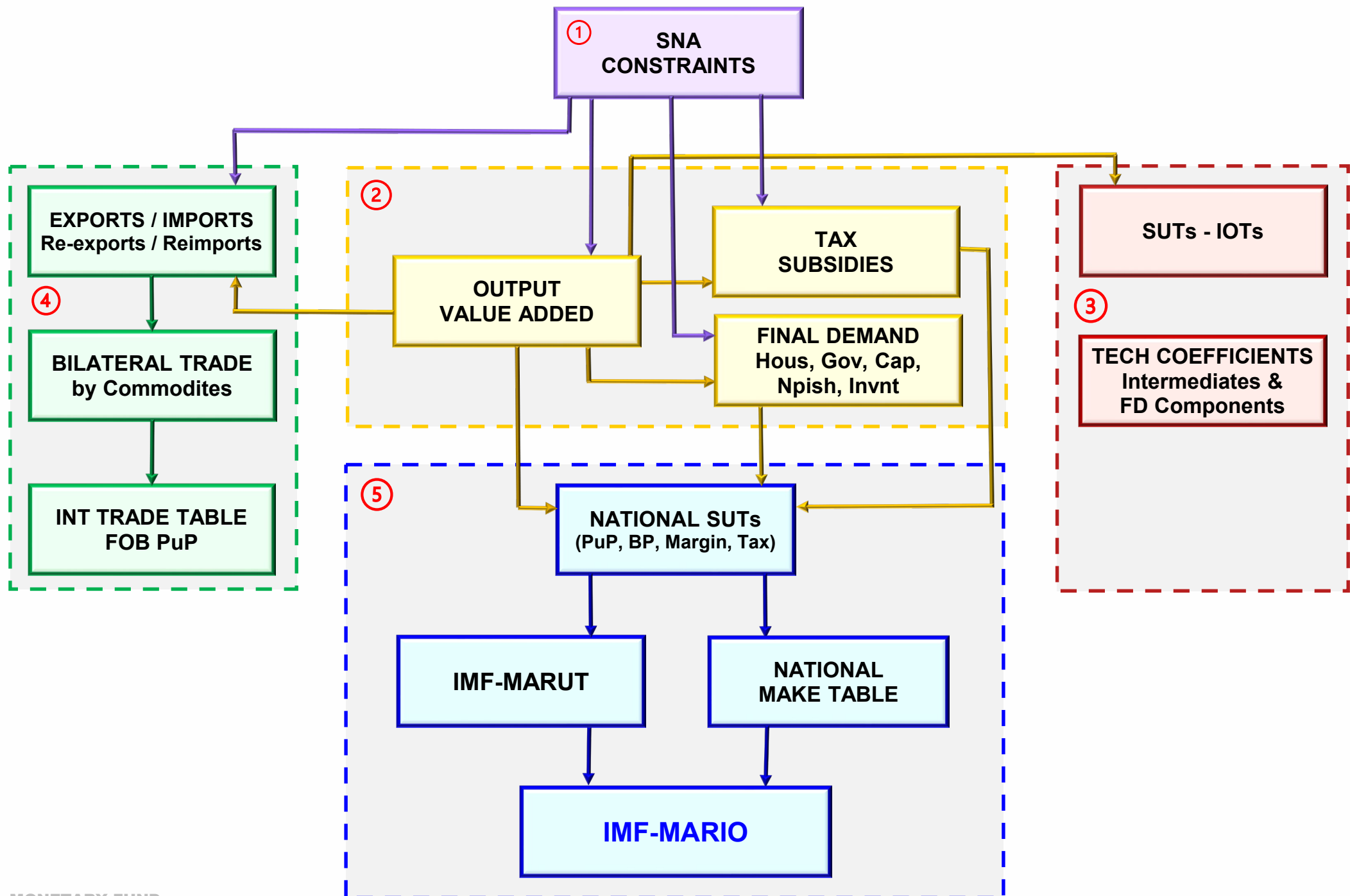
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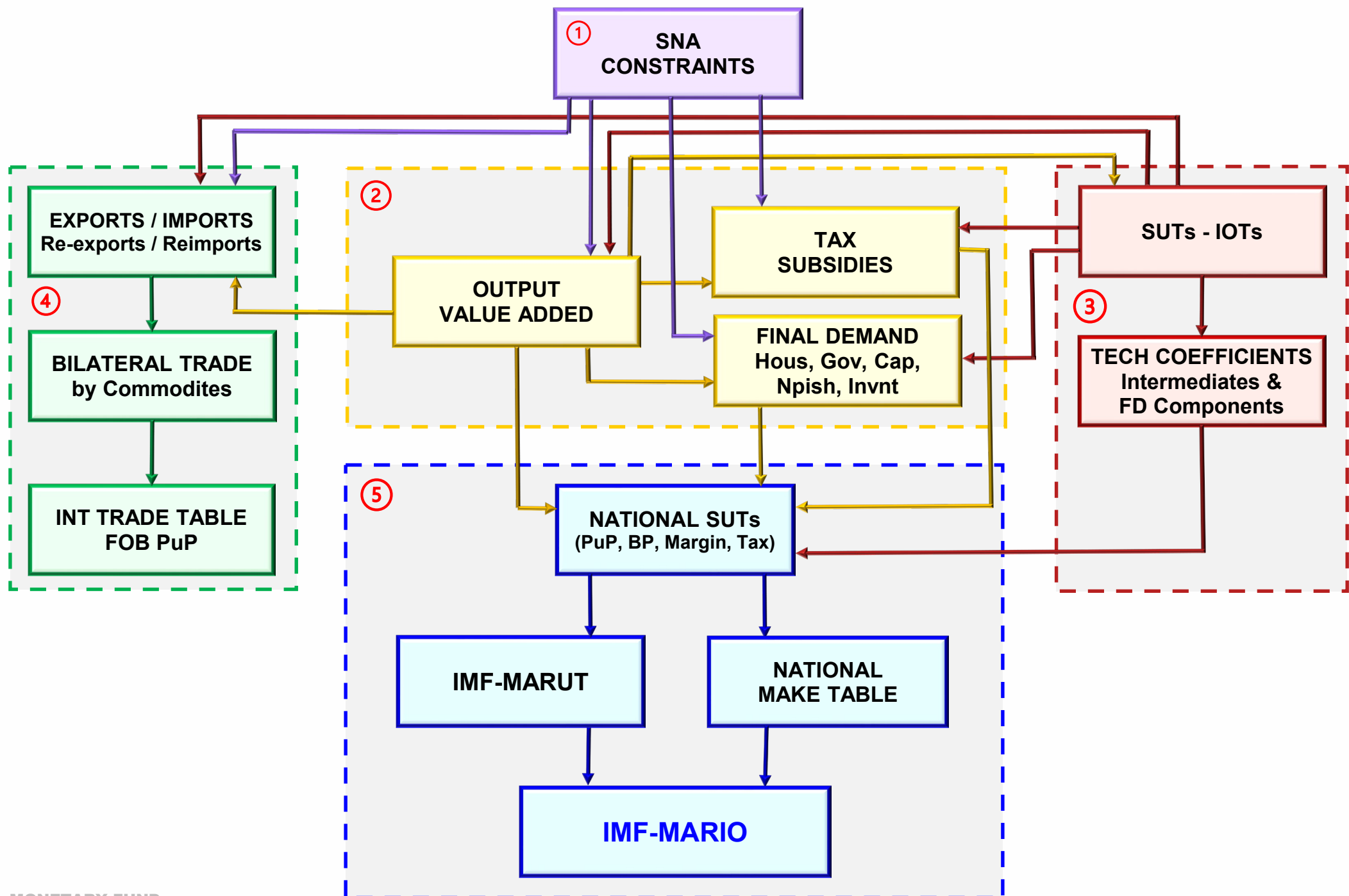


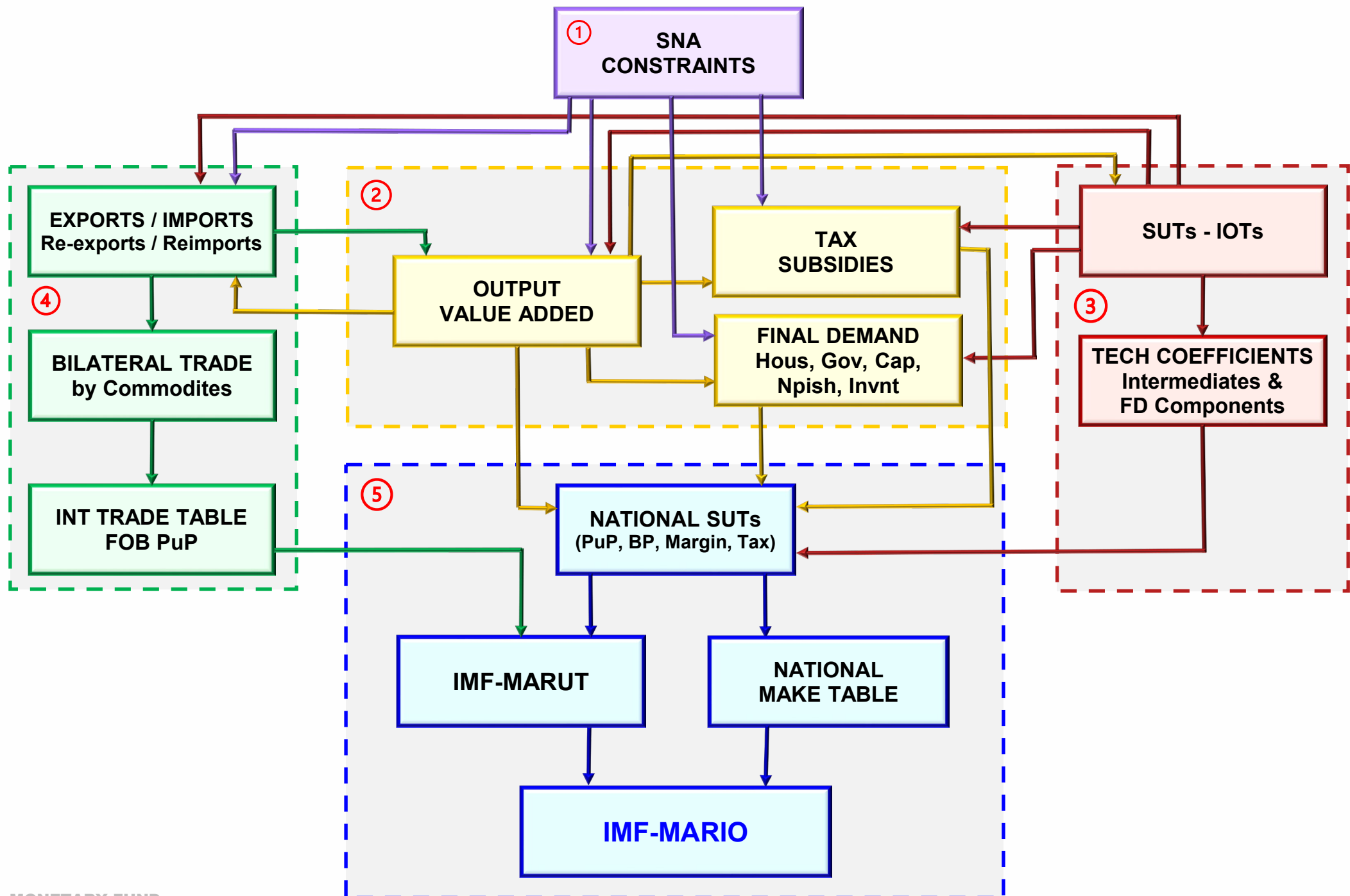
① SNA
CONSTRAINTS

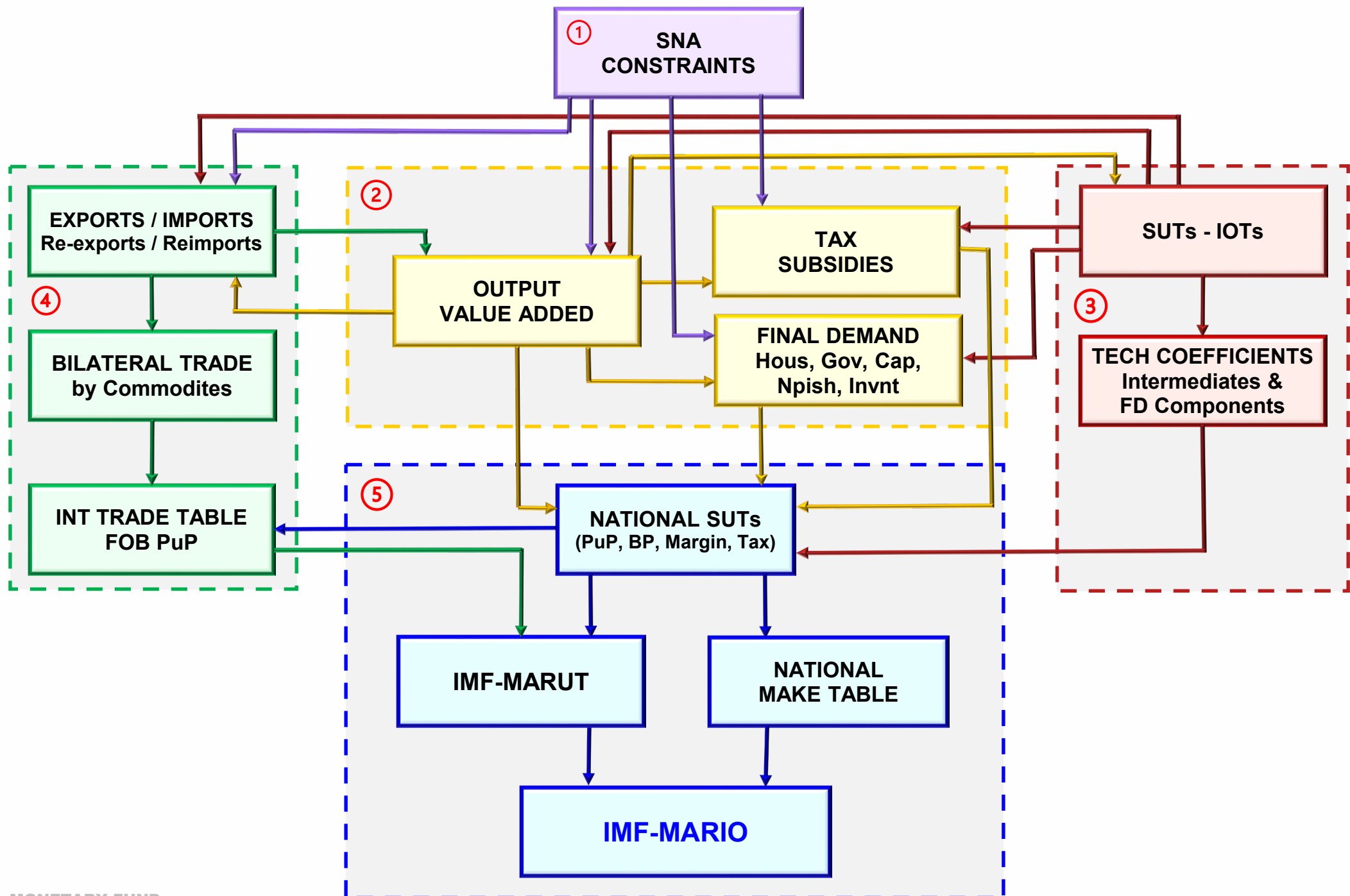












IMF-MARIO Estimated SUTs & IOTs

National SUTs

Supply table

| | | Industry | | | | Valuation | | | | |
|---------|-------|----------|----|----|----|-----------|---------|---------|-----------|----------|
| | | I1 | I2 | I3 | I4 | Total BP | Imports | Margins | Tax & Sub | Total PP |
| Product | P1 | B2 & B3 | | | | B2 | B2 | | | |
| | P2 | | | | | | | | | |
| | P3 | | | | | | | | | |
| | P4 | | | | | | | | | |
| | Total | B2 | | | | | B1 | | | |

National SUTs

Use table at purchasers' prices

| | | Industry | | | | Final Demand | | | |
|----------------------------|-----------------|----------|----|----|----|--------------|-----|-----|-------|
| | | I1 | I2 | I3 | I4 | FD1 | FD2 | FD3 | Total |
| Product | P1 | B2 & B3 | | | | B2 & B3 | | | B2 |
| | P2 | | | | | | | | |
| | P3 | | | | | | | | |
| | P4 | | | | | | | | |
| Value Added, Tax & Subsidy | Labor | B2 | | | | | | | B1 |
| | Capital | | | | | | | | |
| | Other Tax & Sub | | | | | | | | |
| Total | | B2 | | | | B1 | | | |

National SUTs

Use table at basic prices

| | | Industry | | | | Final Demand | | | |
|------------------------------|-----------------|----------|----|----|----|--------------|-----|-----|-------|
| | | I1 | I2 | I3 | I4 | FD1 | FD2 | FD3 | Total |
| Product | P1 | B2 & B3 | | | | B2 & B3 | | | B2 |
| | P2 | | | | | | | | |
| | P3 | | | | | | | | |
| | P4 | | | | | | | | |
| | Imports | | | | | | | | |
| Value Added Tax & Subsidy | Tax & Sub Prod. | | | | | | | | B1 |
| | Labor | B2 | | | | | | | |
| | Capital | | | | | | | | |
| | Other Tax & Sub | | | | | | | | |
| | Total | B2 | | | | B1 | | | |

National SUTs

Margin, tax and subsidy tables

| | | Industry | | | | Final Demand | | | |
|---------|-------|----------|--------------------|----|----|--------------|--------------------|-----|-----------|
| | | I1 | I2 | I3 | I4 | FD1 | FD2 | FD3 | Total |
| Product | P1 | | | | | | | | |
| | P2 | | | | | | | | |
| | P3 | | <i>B2 & B3</i> | | | | <i>B2 & B3</i> | | <i>B2</i> |
| | P4 | | | | | | | | |
| | Total | | | | | | | | |

Multi-Analytical Regional Use Table (SUTs)

IMF-MARUT at basic prices

| | | Industry | | | | Final Demand | | | | |
|------------------------------|-----------------|----------|---------|------|---------|--------------|---------|-------|---------|-------|
| | | I_E1 | I_E2 | I_E3 | I_E4 | FD_E1 | FD_E2 | FD_E3 | FD_E4 | Total |
| Product | P_E1 | B5 | | | B4 & B5 | B5 | | | B4 & B5 | B2 |
| | P_E2 | | B5 | | | | B5 | | | |
| | P_E3 | B4 & B5 | | B5 | | B4 & B5 | | B5 | | |
| | P_E4 | | | | B5 | | | | B5 | |
| Value Added Tax & Subsidy | Tax & Sub Prod. | | B4 & B5 | | | | B4 & B5 | | | B1 |
| | Labor | | | | | | | | | |
| | Capital | | B2 | | | | | | | |
| | Other Tax & Sub | | | | | | | | | |
| | Total | B2 | | | | | B1 | | | |

Multi-Analytical Regional Input-Output Table (IOTs)

IMF-MARIO at basic prices

| | | Industry | | | | Final Demand | | | | |
|------------------------------|-----------------|----------|-----------|------|------|--------------|-----------|-------|-------|-----------|
| | | I_E1 | I_E2 | I_E3 | I_E4 | FD_E1 | FD_E2 | FD_E3 | FD_E4 | Total |
| Industry | I_E1 | | | | | | | | | B2 |
| | I_E2 | | | | | | | | | |
| | I_E3 | | B5 | | | | B5 | | | |
| | I_E4 | | | | | | | | | |
| Value Added Tax & Subsidy | Tax & Sub Prod. | | | | | | | | | B1 |
| | Labor | | | | | | | | | |
| | Capital | | B2 | | | | | | | |
| | Other Tax & Sub | | | | | | | | | |
| Total | | | B2 | | | | B1 | | | |

Dimensions & Key Variables

Dimensions

- From 1990 to 2022
- 209 Countries/economies
 - ❖ 190 IMF member-countries
 - ❖ 13 IMF member-countries territories
 - ❖ 5 Non-IMF member-countries
 - ❖ Rest of the world
- 144 Industries and 178 Products
 - ❖ Highly associated with IEA Energy Balances classifications of products and industries
 - ❖ Key items for the net-zero transition
 - ✓ Minerals for batteries
 - ✓ Solar panels, wind turbines
 - ✓ Renewable energy
 - ✓ Electrical vehicles
 - ✓ And so on ...

Key variables

- 144 industries
 - ❖ 9 Agriculture
 - ❖ 19 Mining and quarrying
 - ❖ 53 Manufacturing
 - ❖ 21 Electricity, gas, water, waste management
 - ❖ 1 Construction
 - ❖ 41 Trade and services
- 178 products, including key items for the net-zero transition
 - ❖ 9 Agriculture
 - ❖ 25 Mining and quarrying
 - ❖ 76 Manufacturing
 - ❖ 26 Electricity, gas, water, waste management
 - ❖ 1 Construction
 - ❖ 41 Trade and services

Components

Tax, subsidy and value added components on national SUTs at basic prices, MARUT and MARIO

| No | Code | Component |
|----|---------|--|
| 1 | D21 | Taxes on products |
| 2 | D31 | Subsidies on products |
| 3 | D1 | Compensation of employees |
| 4 | B2N | Net operating surplus |
| 5 | B3N | Net mixed income |
| 6 | K1 | Consumption of fixed capital |
| 7 | D29_D39 | Other taxes less subsidies on production |

Tax, subsidy and value added components on national SUTs at purchasers' prices

| No | Code | Component |
|----|---------|--|
| 1 | D1 | Compensation of employees |
| 2 | B2N | Net operating surplus |
| 3 | B3N | Net mixed income |
| 4 | K1 | Consumption of fixed capital |
| 5 | D29_D39 | Other taxes less subsidies on production |

Final demand components on national SUTs

| No | Code | Component | SNA Code |
|----|-------|--|----------|
| 1 | HFCE | Household final consumption expenditure | P3S14 |
| 2 | NPISH | NPISH final consumption expenditure | P3S15 |
| 3 | GGFC | Government final consumption expenditure | P3S13 |
| 4 | GFCF | Gross fixed capita formation | P51 |
| 5 | INVNT | Changes in inventories | P52_53 |
| 6 | P34 | Non-residents final consumption on the territory | P34 |
| 7 | P6 | Exports | P6 |

Valuation components on national SUTs

| No | Code | Component |
|----|-------|---|
| 1 | P1 | Output at basic prices |
| 2 | P7 | Imports |
| 3 | P33 | Direct purchases abroad by residents |
| 4 | TSBP | Total supply at basic prices |
| 5 | WMV | Trade margin wholesale and retail mv - economy |
| 6 | WST | Trade margin wholesale trade, except mv - economy |
| 7 | RTT | Trade margin retail trade, except mv - economy |
| 8 | LAND | Transport margin land - economy |
| 9 | WATER | Transport margin water - economy |
| 10 | AIR | Transport margin air - economy |
| 11 | D21 | Tax on products - economy |
| 12 | D31 | Subsidies on products - economy |
| 13 | DUTY | Duty and tax on imports |
| 14 | TSPP | Total supply at purchasers' prices |

Final demand components on MARUT and MARIO

| No | Code | Component | SNA Code |
|----|-------|--|----------|
| 1 | HFCE | Household final consumption expenditure | P3S14 |
| 2 | NPISH | NPISH final consumption expenditure | P3S15 |
| 3 | GGFC | Government final consumption expenditure | P3S13 |
| 4 | GFCF | Gross fixed capita formation | P51G |
| 5 | INVNT | Changes in inventories | P52 |
| 6 | P33 | Residents' final consumption abroad | P33 |

Global MRIOs as Data Sources

Main Global MRIO Databases, publicly available data

| Database | Release | Years | Economies | SUT | I-O | Products | Industries |
|----------------|---------|------------------|-----------|-----|-----|----------|------------|
| FIGARO | 2022 | 2010 to 2020 | 46 | X | X | 64 | 64 |
| ICIO | 2021 | 1995 to 2018 | 67 | | X | | 45 |
| GLORIA | 2023 | 1990 to 2027 | 164 | X | X | 120 | 120 |
| EXIOBASE 3.8.2 | 2021 | 1995 to 2022 | 49 | X | X | 200 | 163 |
| EXIOBASE 3rx | 2019 | 1995 to 2015 | 214 | X | X | 200 | 163 |
| ADB-MRIO-1 | 2022 | 2000, 2007-2021 | 63 | | X | | 35 |
| ADB-MRIO-2 | 2022 | 2017-2021 | 73 | | X | | 35 |
| ECLAC-ADB-1 | 2020 | 2007, 2011, 2017 | 73 | | X | | 20 |
| ECLAC-ADB-2 | 2020 | 2011 | 73 | | X | | 38 |
| ECLAC-ADB-3 | 2020 | 2011 | 79 | | X | | 25 |
| ECLAC-ADB-4 | 2020 | 2011 | 79 | | X | | 18 |
| ECLAC-LAC | 2020 | 2014 | 55 | | X | | 40 |

Sources: Eurostat (2022), OECD (2021), Industrial Ecology Virtual Laboratory (2023), EXIOBASE (2021), Asian Development Bank (2022), ECLAC (2020).

Uses & Applications

Uses

- IMF Statistics Department
 - ❖ Estimation of industrial, fiscal, cross-border, and final demand indicators – environment, economy, social
 - ✓ Surveillance, reports, and external users
 - ✓ Carbon pricing modelling
- IMF Departments and external users
 - ❖ Harmonized data by industry, development of tools and models using IMF-MARIO incorporating users' needs
 - ✓ Surveillance, reports, and external users
- Capacity Development
 - ❖ Improve countries capacity on the estimation of national accounts and balance of payments statistics, and the consistency of statistics across them
 - ✓ Improve the estimation of national accounts and bilateral trade by countries.

IMF-MARIO Extensions

- MARIO in constant prices
- MARIO AMNE (Activity of Multinational Enterprises)
- Satellite information
 - ❖ Employment, total and by gender
 - ❖ Income distribution
 - ❖ Environmental variables: emissions, energy, water, ...

Applications

- Structural Analysis
- Impact analysis
- Centrality analysis
- Productivity
- Intangible capital
- Semiconductors
- Income distribution and demographic analysis.
- Use of natural resources, through material flows analysis
- Price models
- And so on ...

Way Forward

Way Forward

- The development of the IMF-MARIO framework will take around 18 months, expected to be delivered in the 2nd semester of 2024
- Flexible estimation process to allow:
 - ❖ Nowcast to obtain results for more recent years
 - ❖ Nowcast to obtain quarterly results
 - ❖ Forecast to future years
- Estimation will benefit from the GIANT initiative (**G**lobal **I**nter-Country **A**ccounts **N**etworks), an inter-agency network consisting of the IMF, European Commission, OECD, ADB, and UN-ECLAC.
 - ❖ The goal of GIANT is to converge on a common global benchmark for the input data used by the five partner organizations to produce global Inter-Country Supply, Use and Input-Output tables.

Comments



Questions

Thank You!

ANNEX

Economies

| Number | Economy | Code | IMF |
|--------|------------------------------------|------|-----|
| 1 | Afghanistan | AFG | ✓ |
| 2 | Albania | ALB | ✓ |
| 3 | Algeria | DZA | ✓ |
| 4 | Andorra | AND | ✓ |
| 5 | Angola | AGO | ✓ |
| 6 | Antigua and Barbuda | ATG | ✓ |
| 7 | Argentina | ARG | ✓ |
| 8 | Armenia | ARM | ✓ |
| 9 | Australia | AUS | ✓ |
| 10 | Austria | AUT | ✓ |
| 11 | Azerbaijan | AZE | ✓ |
| 12 | Bahamas | BHS | ✓ |
| 13 | Bahrain | BHR | ✓ |
| 14 | Bangladesh | BGD | ✓ |
| 15 | Barbados | BRB | ✓ |
| 16 | Belarus | BLR | ✓ |
| 17 | Belgium | BEL | ✓ |
| 18 | Belize | BLZ | ✓ |
| 19 | Benin | BEN | ✓ |
| 20 | Bhutan | BTN | ✓ |
| 21 | Bolivia (Plurinational State of) | BOL | ✓ |
| 22 | Bosnia and Herzegovina | BIH | ✓ |
| 23 | Botswana | BWA | ✓ |
| 24 | Brazil | BRA | ✓ |
| 25 | Brunei Darussalam | BRN | ✓ |
| 26 | Bulgaria | BGR | ✓ |
| 27 | Burkina Faso | BFA | ✓ |
| 28 | Burundi | BDI | ✓ |
| 29 | Cabo Verde | CPV | ✓ |
| 30 | Cambodia | KHM | ✓ |
| 31 | Cameroon | CMR | ✓ |
| 32 | Canada | CAN | ✓ |
| 33 | Central African Republic | CAF | ✓ |
| 34 | Chad | TCD | ✓ |
| 35 | Chile | CHL | ✓ |
| 36 | China (People's Republic of) | CHN | ✓ |
| 37 | Colombia | COL | ✓ |
| 38 | Comoros | COM | ✓ |
| 39 | Congo (Democratic Republic of the) | COD | ✓ |
| 40 | Congo | COG | ✓ |
| 41 | Costa Rica | CRI | ✓ |
| 42 | Côte d'Ivoire | CIV | ✓ |
| 43 | Croatia | HRV | ✓ |
| 44 | Cyprus | CYP | ✓ |
| 45 | Czech Republic - Czechia | CZE | ✓ |
| 46 | Denmark | DNK | ✓ |
| 47 | Djibouti | DJI | ✓ |
| 48 | Dominica | DMA | ✓ |
| 49 | Dominican Republic | DOM | ✓ |
| 50 | Ecuador | ECU | ✓ |
| 51 | Egypt | EGY | ✓ |
| 52 | El Salvador | SLV | ✓ |
| 53 | Equatorial Guinea | GNQ | ✓ |
| 54 | Eritrea | ERI | ✓ |

| Number | Economy | Code | IMF |
|--------|----------------------------------|------|-----|
| 55 | Estonia | EST | ✓ |
| 56 | Eswatini | SWZ | ✓ |
| 57 | Ethiopia | ETH | ✓ |
| 58 | Fiji | FJI | ✓ |
| 59 | Finland | FIN | ✓ |
| 60 | France | FRA | ✓ |
| 61 | Gabon | GAB | ✓ |
| 62 | Gambia | GMB | ✓ |
| 63 | Georgia | GEO | ✓ |
| 64 | Germany | DEU | ✓ |
| 65 | Ghana | GHA | ✓ |
| 66 | Greece | GRC | ✓ |
| 67 | Grenada | GRD | ✓ |
| 68 | Guatemala | GTM | ✓ |
| 69 | Guinea | GIN | ✓ |
| 70 | Guinea-Bissau | GNB | ✓ |
| 71 | Guyana | GUY | ✓ |
| 72 | Haiti | HTI | ✓ |
| 73 | Honduras | HND | ✓ |
| 74 | Hungary | HUN | ✓ |
| 75 | Iceland | ISL | ✓ |
| 76 | India | IND | ✓ |
| 77 | Indonesia | IDN | ✓ |
| 78 | Iran (Islamic Republic of) | IRN | ✓ |
| 79 | Iraq | IRQ | ✓ |
| 80 | Ireland | IRL | ✓ |
| 81 | Israel | ISR | ✓ |
| 82 | Italy | ITA | ✓ |
| 83 | Jamaica | JAM | ✓ |
| 84 | Japan | JPN | ✓ |
| 85 | Jordan | JOR | ✓ |
| 86 | Kazakhstan | KAZ | ✓ |
| 87 | Kenya | KEN | ✓ |
| 88 | Kiribati | KIR | ✓ |
| 89 | Korea | KOR | ✓ |
| 90 | Kosovo | UVK | ✓ |
| 91 | Kuwait | KWT | ✓ |
| 92 | Kyrgyzstan | KGZ | ✓ |
| 93 | Lao People's Democratic Republic | LAO | ✓ |
| 94 | Latvia | LVA | ✓ |
| 95 | Lebanon | LBN | ✓ |
| 96 | Lesotho | LSO | ✓ |
| 97 | Liberia | LBR | ✓ |
| 98 | Libya | LBY | ✓ |
| 99 | Lithuania | LTU | ✓ |
| 100 | Luxembourg | LUX | ✓ |
| 101 | Madagascar | MDG | ✓ |
| 102 | Malawi | MWI | ✓ |
| 103 | Malaysia | MYS | ✓ |
| 104 | Maldives | MDV | ✓ |
| 105 | Mali | MLI | ✓ |
| 106 | Malta | MLT | ✓ |
| 107 | Marshall Islands | MHL | ✓ |
| 108 | Mauritania | MRT | ✓ |
| 109 | Mauritius | MUS | ✓ |
| 110 | Mexico | MEX | ✓ |

Economies

| Number | Economy | Code | IMF |
|--------|----------------------------------|------|-----|
| 111 | Micronesia (Federated States of) | FSM | ✓ |
| 112 | Moldova (the Republic of) | MDA | ✓ |
| 113 | Mongolia | MNG | ✓ |
| 114 | Montenegro | MNE | ✓ |
| 115 | Morocco | MAR | ✓ |
| 116 | Mozambique | MOZ | ✓ |
| 117 | Myanmar | MMR | ✓ |
| 118 | Namibia | NAM | ✓ |
| 119 | Nauru | NRU | ✓ |
| 120 | Nepal | NPL | ✓ |
| 121 | Netherlands | NLD | ✓ |
| 122 | New Zealand | NZL | ✓ |
| 123 | Nicaragua | NIC | ✓ |
| 124 | Niger | NER | ✓ |
| 125 | Nigeria | NGA | ✓ |
| 126 | North Macedonia | MKD | ✓ |
| 127 | Norway | NOR | ✓ |
| 128 | Oman | OMN | ✓ |
| 129 | Pakistan | PAK | ✓ |
| 130 | Palau | PLW | ✓ |
| 131 | Panama | PAN | ✓ |
| 132 | Papua New Guinea | PNG | ✓ |
| 133 | Paraguay | PRY | ✓ |
| 134 | Peru | PER | ✓ |
| 135 | Philippines | PHL | ✓ |
| 136 | Poland | POL | ✓ |
| 137 | Portugal | PRT | ✓ |
| 138 | Qatar | QAT | ✓ |
| 139 | Romania | ROU | ✓ |
| 140 | Russian Federation | RUS | ✓ |
| 141 | Rwanda | RWA | ✓ |
| 142 | Samoa | WSM | ✓ |
| 143 | San Marino | SMR | ✓ |
| 144 | Sao Tome and Principe | STP | ✓ |
| 145 | Saudi Arabia | SAU | ✓ |
| 146 | Senegal | SEN | ✓ |
| 147 | Serbia | SRB | ✓ |
| 148 | Seychelles | SYC | ✓ |
| 149 | Sierra Leone | SLE | ✓ |
| 150 | Singapore | SGP | ✓ |
| 151 | Slovak Republic | SVK | ✓ |
| 152 | Slovenia | SVN | ✓ |
| 153 | Solomon Islands | SLB | ✓ |
| 154 | Somalia | SOM | ✓ |
| 155 | South Africa | ZAF | ✓ |
| 156 | South Sudan | SSD | ✓ |
| 157 | Spain | ESP | ✓ |
| 158 | Sri Lanka | LKA | ✓ |
| 159 | Saint Kitts and Nevis | KNA | ✓ |
| 160 | Saint Lucia | LCA | ✓ |
| 161 | Saint Vincent and the Grenadines | VCT | ✓ |
| 162 | Sudan | SDN | ✓ |
| 163 | Suriname | SUR | ✓ |
| 164 | Sweden | SWE | ✓ |
| 165 | Switzerland | CHE | ✓ |

| Number | Economy | Code | IMF |
|--------|--|------|-----|
| 166 | Syrian Arab Republic | SYR | ✓ |
| 167 | Tajikistan | TJK | ✓ |
| 168 | Tanzania, United Republic of | TZA | ✓ |
| 169 | Thailand | THA | ✓ |
| 170 | Timor-Leste | TLS | ✓ |
| 171 | Togo | TGO | ✓ |
| 172 | Tonga | TON | ✓ |
| 173 | Trinidad and Tobago | TTO | ✓ |
| 174 | Tunisia | TUN | ✓ |
| 175 | Türkiye | TUR | ✓ |
| 176 | Turkmenistan | TKM | ✓ |
| 177 | Tuvalu | TUV | ✓ |
| 178 | Uganda | UGA | ✓ |
| 179 | Ukraine | UKR | ✓ |
| 180 | United Arab Emirates | ARE | ✓ |
| 181 | United Kingdom | GBR | ✓ |
| 182 | United States | USA | ✓ |
| 183 | Uruguay | URY | ✓ |
| 184 | Uzbekistan | UZB | ✓ |
| 185 | Vanuatu | VUT | ✓ |
| 186 | Venezuela (Bolivarian Republic of) | VEN | ✓ |
| 187 | Viet Nam | VNM | ✓ |
| 188 | Yemen | YEM | ✓ |
| 189 | Zambia | ZMB | ✓ |
| 190 | Zimbabwe | ZWE | ✓ |
| 191 | Hong Kong, China | HKG | \$ |
| 192 | Macao, China | MAC | \$ |
| 193 | French Polynesia, FRA | PYF | \$ |
| 194 | New Caledonia, FRA | NCL | \$ |
| 195 | Aruba, Kingdom of the Netherlands | ABW | \$ |
| 196 | Curaçao, Kingdom of the Netherlands | CUW | \$ |
| 197 | Sint Maarten, Kingdom of the Netherlands | SXM | \$ |
| 198 | Anguilla, GBR | AIA | \$ |
| 199 | Bermuda, GBR | BMU | \$ |
| 200 | Cayman Islands, GBR | CYM | \$ |
| 201 | Montserrat, GBR | MSR | \$ |
| 202 | Turks and Caicos Islands, GBR | TCA | \$ |
| 203 | Puerto Rico, USA | PRI | \$ |
| 204 | Cuba | CUB | ± |
| 205 | Liechtenstein | LIE | ± |
| 206 | People's Republic of Korea | PRK | ± |
| 207 | Chinese Taipei | TWN | ± |
| 208 | West Bank and Gaza | WBG | ± |
| 209 | Rest of the World | ROW | & |

| Note: | |
|-------|------------------------------|
| ✓ | IMF member country |
| \$ | IMF member country territory |
| ± | Non-IMF member country |
| & | Rest of the World |

Industries

| No. | Code | Industry | ISIC 4 | Name |
|-----|-------|---|--------|-----------------------------------|
| 1 | I01.a | Paddy rice production | A | Agriculture, forestry and fishing |
| 2 | I01.b | Oil seeds production | | |
| 3 | I01.c | Sugar cane and sugar beet production | | |
| 4 | I01.d | Other crops production | | |
| 5 | I01.e | Cattle and sheep production | | |
| 6 | I01.f | Others animal production and hunting | | |
| 7 | I02.a | Silviculture | | |
| 8 | I02.b | Extraction and gathering of forest products | | |
| 9 | I03 | Fishing and aquaculture | | |
| 10 | I05 | Mining of coal and lignite | B | Mining and quarrying |
| 11 | I06.a | Extraction of crude petroleum | | |
| 12 | I06.b | Extraction of natural gas | | |
| 13 | I07.a | Mining of uranium and thorium ores | | |
| 14 | I07.b | Mining of iron ores | | |
| 15 | I07.c | Mining of copper ores and concentrates | | |
| 16 | I07.d | Mining of nickel ores and concentrates | | |
| 17 | I07.e | Mining of aluminium ores and concentrates | | |
| 18 | I07.f | Mining of precious metal ores and concentrates | | |
| 19 | I07.g | Mining of lead, zinc and tin ores and concentrates | | |
| 20 | I07.h | Mining of Lithium ores and concentrates | | |
| 21 | I07.i | Mining of Cobalt ores and concentrates | | |
| 22 | I07.j | Mining of Manganese ores and concentrates | | |
| 23 | I07.k | Mining of Graphite ores and concentrates | | |
| 24 | I07.l | Mining of Rare earth ores and concentrates | | |
| 25 | I07.m | Mining of other non-ferrous metal ores and concentrates | | |
| 26 | I08.a | Quarrying of stone, sand and clay | | |
| 27 | I08.b | Mining of chemical and fertilizer minerals, production of salt, other mining and quarrying n.e.c. | | |
| 28 | I09 | Mining support service activities | | |
| 29 | I10.a | Manufacture of vegetable oils and fats | C | Manufacturing |
| 30 | I10.b | Manufacture of food products n.e.c. | | |
| 31 | I11 | Manufacture of beverages | | |
| 32 | I12 | Manufacture of tobacco products | | |
| 33 | I13 | Manufacture of textiles | | |
| 34 | I14 | Manufacture of wearing apparel | | |
| 35 | I15 | Manufacture of leather and related products | | |
| 36 | I16 | Manufacture of wood and of products of wood and cork, etc. | | |
| 37 | I17 | Manufacture of paper and paper products | | |
| 38 | I18 | Printing and reproduction of recorded media | | |
| 39 | I19.a | Manufacture of coke oven products | | |
| 40 | I19.b | Manufacture of refined petroleum products | | |
| 41 | I20.a | Manufacture of fuel elements for nuclear reactors | | |
| 42 | I20.b | Manufacture of basic plastics | | |
| 43 | I20.c | Manufacture of nitrogenous fertilizers | | |
| 44 | I20.d | Manufacture of non-nitrogenous and mixed fertilizers | | |
| 45 | I20.e | Manufacture of biofuels | | |
| 46 | I20.f | Manufacture of hydrogen, green | | |
| 47 | I20.g | Manufacture of hydrogen, non-green | | |
| 48 | I20.h | Manufacture of other chemical products n.e.c. | | |
| 49 | I21 | Manufacture of basic pharmaceutical products and preparations | | |
| 50 | I22 | Manufacture of rubber and plastics products | | |

| No. | Code | Industry | ISIC 4 | Name |
|-----|--------|--|--------|---|
| 51 | I23.a | Manufacture of glass and glass products | C | Manufacturing |
| 52 | I23.b | Manufacture of clay building materials | | |
| 53 | I23.c | Manufacture of cement, lime and plaster | | |
| 54 | I23.d | Manufacture of other non-metallic mineral products | | |
| 55 | I24.a | Manufacture of iron and steel - Electric Arc Furnace (EAF) | | |
| 56 | I24.b | Manufacture of iron and steel - Basic Oxygen Furnace (BOF) | | |
| 57 | I24.c | Manufacture of copper | | |
| 58 | I24.d | Manufacture of nickel | | |
| 59 | I24.e | Manufacture of aluminium | | |
| 60 | I24.f | Manufacture of precious metal | | |
| 61 | I24.g | Manufacture of lead, zinc and tin | | |
| 62 | I24.h | Manufacture of Lithium | | |
| 63 | I24.i | Manufacture of Cobalt | | |
| 64 | I24.j | Manufacture of Manganese | | |
| 65 | I24.k | Manufacture of Graphite | | |
| 66 | I24.l | Manufacture of rare earth metal | | |
| 67 | I24.m | Manufacture of other non-ferrous metal | | |
| 68 | I25 | Manufacture of fabricated metal products, except machinery & equipment | | |
| 69 | I26.a | Manufacture of semiconductors | | |
| 70 | I26.b | Manufacture of computer, electronic and optical products n.e.c. | | |
| 71 | I27.a | Manufacture of batteries and accumulators | D | Electricity, gas, steam and air conditioning supply |
| 72 | I27.b | Manufacture of solar panels | | |
| 73 | I27.c | Manufacture of electrical equipment n.e.c. | | |
| 74 | I28.a | Manufacture of wind turbines | | |
| 75 | I28.b | Manufacture of machinery and equipment n.e.c. | | |
| 76 | I29.a | Manufacture of electric vehicles | | |
| 77 | I29.b | Manufacture of hybrid electric vehicles | | |
| 78 | I29.c | Manufacture of internal combustion engine vehicles | | |
| 79 | I30 | Manufacture of other transport equipment | | |
| 80 | I31T32 | Manufacture of furniture, other manufacturing | | |
| 81 | I33 | Repair and installation of machinery and equipment | | |
| 82 | I35.a | Production of electricity by coal | | |
| 83 | I35.b | Production of electricity by gas | | |
| 84 | I35.c | Production of electricity by nuclear | | |
| 85 | I35.d | Production of electricity by hydro | | |
| 86 | I35.e | Production of electricity by wind | | |
| 87 | I35.f | Production of electricity by petroleum and other oil derivatives | | |
| 88 | I35.g | Production of electricity by biomass and waste | | |
| 89 | I35.h | Production of electricity by solar photovoltaic | | |
| 90 | I35.i | Production of electricity by solar thermal | | |
| 91 | I35.j | Production of electricity by tide, wave, ocean | | |
| 92 | I35.k | Production of electricity by Geothermal | | |
| 93 | I35.l | Production of electricity nec | | |
| 94 | I35.m | Transmission and distribution of electricity | E | Water supply, sewerage, waste management and remediation activities |
| 95 | I35.n | Manufacture of gas; distribution of gaseous fuels through mains | | |
| 96 | I35.o | Steam and air conditioning supply | | |
| 97 | I36 | Water collection, treatment and supply | | |
| 98 | I37 | Sewerage | | |
| 99 | I38.a | Recycling of waste | | |
| 100 | I38.b | Incineration of waste | | |
| 101 | I38.c | Treatment and disposal of waste nec | | |
| 102 | I39 | Remediation activities and other waste management services | | |

Industries

| No. | Code | Industry | ISIC 4 | Name |
|-----|--------|---|--------|--|
| 103 | I41T43 | Construction | F | Construction |
| 104 | I45 | Wholesale and retail trade and repair of motor vehicles and motorcycles | G | Wholesale and retail trade, repair of motor vehicles and motorcycles |
| 105 | I46 | Wholesale trade, except of motor vehicles and motorcycles | | |
| 106 | I47 | Retail trade, except of motor vehicles and motorcycles | | |
| 107 | I49.a | Land transport, passengers | H | Transportation and storage |
| 108 | I49.b | Land and pipelines transport, freight | | |
| 109 | I50.a | Water transport, passengers | | |
| 110 | I50.b | Water transport, freight | | |
| 111 | I51.a | Air transport, passengers | | |
| 112 | I51.b | Air transport, freight | | |
| 113 | I52 | Warehousing and support activities for transportation | | |
| 114 | I53 | Postal and courier activities | I | Accommodation and food service activities |
| 115 | I55 | Accommodation | | |
| 116 | I56 | Food and beverage service activities | | |
| 117 | I58 | Publishing activities | J | Information and communication |
| 118 | I59T60 | Audiovisual and broadcasting activities | | |
| 119 | I61 | Telecommunications | | |
| 120 | I62T63 | IT and other information services | | |
| 121 | I64 | Financial service activities, except insurance and pension funding | K | Financial and insurance activities |
| 122 | I65 | Insurance, reinsurance and pension funding, except compulsory S.S. | | |
| 123 | I66 | Activities auxiliary to financial service and insurance activities | | |
| 124 | I68.a | Imputed rents of owner-occupied dwellings | L | Real estate activities |
| 125 | I68.b | Real estate activities excluding imputed rents | | |
| 126 | I69T70 | Legal, accounting, head offices, management consultancy activities | M | Professional, scientific and technical activities |
| 127 | I71 | Architectural and engineering activities, technical testing & analysis | | |
| 128 | I72 | Scientific research and development | | |
| 129 | I73 | Advertising and market research | | |
| 130 | I74T75 | Other professional, scientific and tech. activities, veterinary activ. | | |
| 131 | I77 | Rental and leasing activities | N | Administrative and support service activities |
| 132 | I78 | Employment activities | | |
| 133 | I79 | Travel agency, tour operator, reservation service & related activities | | |
| 134 | I80T82 | Security, services to buildings and other business support activities | | |
| 135 | I84 | Public administration and defense, compulsory social security | O | Public administration and defense, compulsory social security |
| 136 | I85 | Education | P | Education |
| 137 | I86 | Human health activities | Q | Human health and social work activities |
| 138 | I87T88 | Residential care and social work activities | | |
| 139 | I90T92 | Arts, cultural activities, gambling and betting activities | R | Arts, entertainment and recreation |
| 140 | I93 | Sports activities and amusement and recreation activities | | |
| 141 | I94 | Activities of membership organizations | S | Other service activities |
| 142 | I95 | Repair of computers and personal and household goods | | |
| 143 | I96 | Other personal service activities | | |
| 144 | I97T98 | Act. of HH as employers, undif. G&S-prod. activities of HH for own use | T | Act. of HH as employers, undif. G&S-prod. activities of HH for own use |

Products

| No | Code | Product | ISIC 4 | Name |
|----|---------|---|--------|------------------------------------|
| 1 | P01.a | Paddy rice | A | Agriculture, forestry, and fishing |
| 2 | P01.b | Oil seeds | | |
| 3 | P01.c | Sugar cane and sugar beet | | |
| 4 | P01.d | Other crops | | |
| 5 | P01.e | Cattle and sheep | | |
| 6 | P01.f | Others animal production and hunting | | |
| 7 | P02.a | Silviculture products | | |
| 8 | P02.b | Extraction and gathering of forest products | | |
| 9 | P03 | Fishing products and aquaculture | | |
| 10 | P05.a | Anthracite | B | Mining and quarrying |
| 11 | P05.b | Coking coal | | |
| 12 | P05.c | Other bituminous coal | | |
| 13 | P05.d | Sub-bituminous coal | | |
| 14 | P05.e | Lignite | | |
| 15 | P05.f | Peat | | |
| 16 | P05.g | Other coal products nec | | |
| 17 | P06.a | Crude petroleum | | |
| 18 | P06.b | Natural gas | | |
| 19 | P07.a | Uranium and thorium ores | | |
| 20 | P07.b | Iron ores | | |
| 21 | P07.c | Copper ores and concentrates | | |
| 22 | P07.d | Nickel ores and concentrates | | |
| 23 | P07.e | Aluminium ores and concentrates | | |
| 24 | P07.f | Precious metal ores and concentrates | | |
| 25 | P07.g | Lead, zinc and tin ores and concentrates | | |
| 26 | P07.h | Lithium ores and concentrates | | |
| 27 | P07.i | Cobalt ores and concentrates | | |
| 28 | P07.j | Manganese ores and concentrates | | |
| 29 | P07.k | Graphite ores and concentrates | | |
| 30 | P07.l | Rare earth ores and concentrates | | |
| 31 | P07.m | Other non-ferrous metal ores and concentrates | | |
| 32 | P08.a | Stone, sand and clay | | |
| 33 | P08.b | Chemical and fertilizer minerals, production of salt, other mining and quarrying n.e.c. | | |
| 34 | P09 | Mining support services | | |
| 35 | P10.a | Vegetable oils and fats products | C | Manufacturing |
| 36 | P10.b | Food products n.e.c. | | |
| 37 | P11 | Beverages | | |
| 38 | P12 | Tobacco products | | |
| 39 | P13 | Textiles | | |
| 40 | P14 | Wearing apparel | | |
| 41 | P15 | Leather and related products | | |
| 42 | P16 | Wood & prod. of wood & cork, exc. furniture, of straw & plaiting mat. | | |
| 43 | P17 | Paper and paper products | | |
| 44 | P18 | Printing and recording services | | |
| 45 | P19.a.1 | Coke Oven Coke | | |
| 46 | P19.a.2 | Gas Coke | | |
| 47 | P19.a.3 | Coal Tar | | |
| 48 | P19.b.1 | Motor Gasoline | | |
| 49 | P19.b.2 | Aviation Gasoline | | |
| 50 | P19.b.3 | Gasoline Type Jet Fuel | | |

| No | Code | Product | ISIC 4 | Name |
|-----|----------|---|--------|---------------|
| 51 | P19.b.4 | Kerosene Type Jet Fuel | C | Manufacturing |
| 52 | P19.b.5 | Kerosene | | |
| 53 | P19.b.6 | Gas/Diesel Oil | | |
| 54 | P19.b.7 | Heavy Fuel Oil | | |
| 55 | P19.b.8 | Refinery Gas | | |
| 56 | P19.b.9 | Liquefied Petroleum Gases (LPG) | | |
| 57 | P19.b.10 | Refinery Feedstocks | | |
| 58 | P19.b.11 | Ethane | | |
| 59 | P19.b.12 | Naphtha | | |
| 60 | P19.b.13 | White Spirit & SBP | | |
| 61 | P19.b.14 | Lubricants | | |
| 62 | P19.b.15 | Bitumen | | |
| 63 | P19.b.16 | Paraffin Waxes | | |
| 64 | P19.b.17 | Petroleum Coke | | |
| 65 | P19.b.18 | Non-specified Petroleum Products | | |
| 66 | P20.a | Nuclear fuel | | |
| 67 | P20.b | Plastics, basic | | |
| 68 | P20.c | Nitrogenous fertilizers | | |
| 69 | P20.d | Non-nitrogenous and mixed fertilizers | | |
| 70 | P20.e.1 | Charcoal | | |
| 71 | P20.e.2 | Additives/Blending Components | | |
| 72 | P20.e.3 | Biogasoline | | |
| 73 | P20.e.4 | Biodiesels | | |
| 74 | P20.e.5 | Other Liquid Biofuels | | |
| 75 | P20.f | Hydrogen, green | | |
| 76 | P20.g | Hydrogen, non-green | | |
| 77 | P20.h | Other chemical products nec | | |
| 78 | P21 | Basic pharmaceutical products and pharmaceutical preparations | | |
| 79 | P22 | Rubber and plastics products | C | Manufacturing |
| 80 | P23.a | Glass and glass products | | |
| 81 | P23.b | Clay building materials | | |
| 82 | P23.c | Cement, lime and plaster | | |
| 83 | P23.d | Other non-metallic mineral products | | |
| 84 | P24.a | Iron and steel - Electric Arc Furnace (EAF) | | |
| 85 | P24.b | Iron and steel - Basic Oxygen Furnace (BOF) | | |
| 86 | P24.c | Copper | | |
| 87 | P24.d | Nickel | | |
| 88 | P24.e | Aluminium | | |
| 89 | P24.f | Precious metal | | |
| 90 | P24.g | Lead, zinc and tin | | |
| 91 | P24.h | Lithium | | |
| 92 | P24.i | Cobalt | | |
| 93 | P24.j | Manganese | | |
| 94 | P24.k | Graphite | | |
| 95 | P24.l | Rare earth metal | | |
| 96 | P24.m | Other non-ferrous metal | | |
| 97 | P25 | Fabricated metal products, except machinery and equipment | | |
| 98 | P26.a | Semiconductors | | |
| 99 | P26.b | Computer, electronic and optical products n.e.c. | | |
| 100 | P27.a | Batteries and accumulators | | |

Products

| No | Code | Product | ISIC 4 | Name |
|-----|---------|--|--------|--|
| 101 | P27.b | Solar panels | C | Manufacturing |
| 102 | P27.c | Electrical equipment n.e.c. | | |
| 103 | P28.a | Wind turbines | | |
| 104 | P28.b | Machinery and equipment n.e.c. | | |
| 105 | P29.a | Electric vehicles | | |
| 106 | P29.b | Hybrid electric vehicles | | |
| 107 | P29.c | Internal combustion engine vehicles | | |
| 108 | P30 | Other transport equipment | | |
| 109 | P31T32 | Furniture and other manufacturing | | |
| 110 | P33 | Repair and installation of machinery and equipment | | |
| 111 | P35.a | Electricity by coal | D | Electricity, gas, steam and air conditioning supply |
| 112 | P35.b | Electricity by gas | | |
| 113 | P35.c | Electricity by nuclear | | |
| 114 | P35.d | Electricity by hydro | | |
| 115 | P35.e | Electricity by wind | | |
| 116 | P35.f | Electricity by petroleum and other oil derivatives | | |
| 117 | P35.g | Electricity by biomass and waste | | |
| 118 | P35.h | Electricity by solar photovoltaic | | |
| 119 | P35.i | Electricity by solar thermal | | |
| 120 | P35.j | Electricity by tide, wave, ocean | | |
| 121 | P35.k | Electricity by Geothermal | | |
| 122 | P35.l | Electricity nec | | |
| 123 | P35.m | Transmission and distribution services of electricity | | |
| 124 | P35.n.1 | Coke oven gas | | |
| 125 | P35.n.2 | Blast Furnace Gas | | |
| 126 | P35.n.3 | Oxygen Steel Furnace Gas | | |
| 127 | P35.n.4 | Gas Works Gas | | |
| 128 | P35.n.5 | Biogas | | |
| 129 | P35.n.6 | Distribution services of gaseous fuels through mains | | |
| 130 | P35.o | Steam and air conditioning supply | | |
| 131 | P36 | Natural water, water treatment and supply services | E | Water supply, sewerage, waste management and remediation activities |
| 132 | P37 | Sewerage | | |
| 133 | P38.a | Recycling of waste | | |
| 134 | P38.b | Incineration of waste | | |
| 135 | P38.c | Treatment and disposal of waste nec | | |
| 136 | P39 | Remediation activities and other waste management services | | |
| 137 | P41T43 | Constructions and construction works | F | Construction |
| 138 | P45 | Wholesale and retail trade and repair serv. of motor vehicles & cycles | G | Wholesale and retail trade, repair of motor vehicles and motorcycles |
| 139 | P46 | Wholesale trade services, except of motor vehicles and motorcycles | | |
| 140 | P47 | Retail trade services, except of motor vehicles and motorcycles | | |
| 141 | P49.a | Land transport services, passengers | H | Transportation and storage |
| 142 | P49.b | Land and pipelines transport services, freight | | |
| 143 | P50.a | Water transport services, passengers | | |
| 144 | P50.b | Water transport services, freight | | |
| 145 | P51.a | Air transport services, passengers | | |
| 146 | P51.b | Air transport services, freight | | |
| 147 | P52 | Warehousing and support services for transportation | | |
| 148 | P53 | Postal and courier services | | |
| 149 | P55 | Accommodation services | I | Accommodation and food service activities |
| 150 | P56 | Food and beverage serving services | | |

| No | Code | Product | ISIC 4 | Name |
|-----|--------|---|--------|--|
| 151 | P58 | Publishing services | J | Information and communication |
| 152 | P59T60 | Audiovisual and broadcasting services | | |
| 153 | P61 | Telecommunications services | | |
| 154 | P62T63 | Computer programming, consultancy and related serv., information serv. | | |
| 155 | P64 | Financial services, except insurance and pension funding | K | Financial and insurance activities |
| 156 | P65 | Insurance, reinsurance & pension funding services, exc. compulsory S.S. | | |
| 157 | P66 | Services auxiliary to financial services and insurance services | | |
| 158 | P68.a | Imputed rents of owner-occupied dwellings | L | Real estate activities |
| 159 | P68.b | Real estate activities excluding imputed rents | | |
| 160 | P69T70 | Legal, accounting, head offices services, management consultancy serv. | M | Professional, scientific and technical activities |
| 161 | P71 | Architectural, engineering, tech. testing and analysis services | | |
| 162 | P72 | Scientific research and development services | | |
| 163 | P73 | Advertising and market research services | | |
| 164 | P74T75 | Other professional, scientific, technical and veterinary services | N | Administrative and support service activities |
| 165 | P77 | Rental and leasing services | | |
| 166 | P78 | Employment services | | |
| 167 | P79 | Travel agency, tour operator & other reservation services & related | | |
| 168 | P80T82 | Security & investigation serv., serv. to buildings & other bus. Support | O | Public administration and defense, compulsory social security |
| 169 | P84 | Public administration and defense services, compulsory S.S. services | | |
| 170 | P85 | Education services | P | Education |
| 171 | P86 | Human health services | Q | Human health and social work activities |
| 172 | P87T88 | Residential care services, social work services without accommodation | | |
| 173 | P90T92 | Creative, arts, entmnt, library, museum, other cult. serv., gambling | R | Arts, entertainment and recreation |
| 174 | P93 | Sporting services and amusement and recreation services | | |
| 175 | P94 | Services furnished by membership organisations | S | Other service activities |
| 176 | P95 | Repair services of computers and personal and household goods | | |
| 177 | P96 | Other personal services | | |
| 178 | P97T98 | Services of HH as employers, undif. G&S prod. by HH for own use | T | Act. of HH as employers, undif. G&S-prod. activities of HH for own use |