



STATISTICS

Use of open data for compilation of high- frequency indicators of economic activity

APRIL 27, 2023

IMF STA Real Sector Division

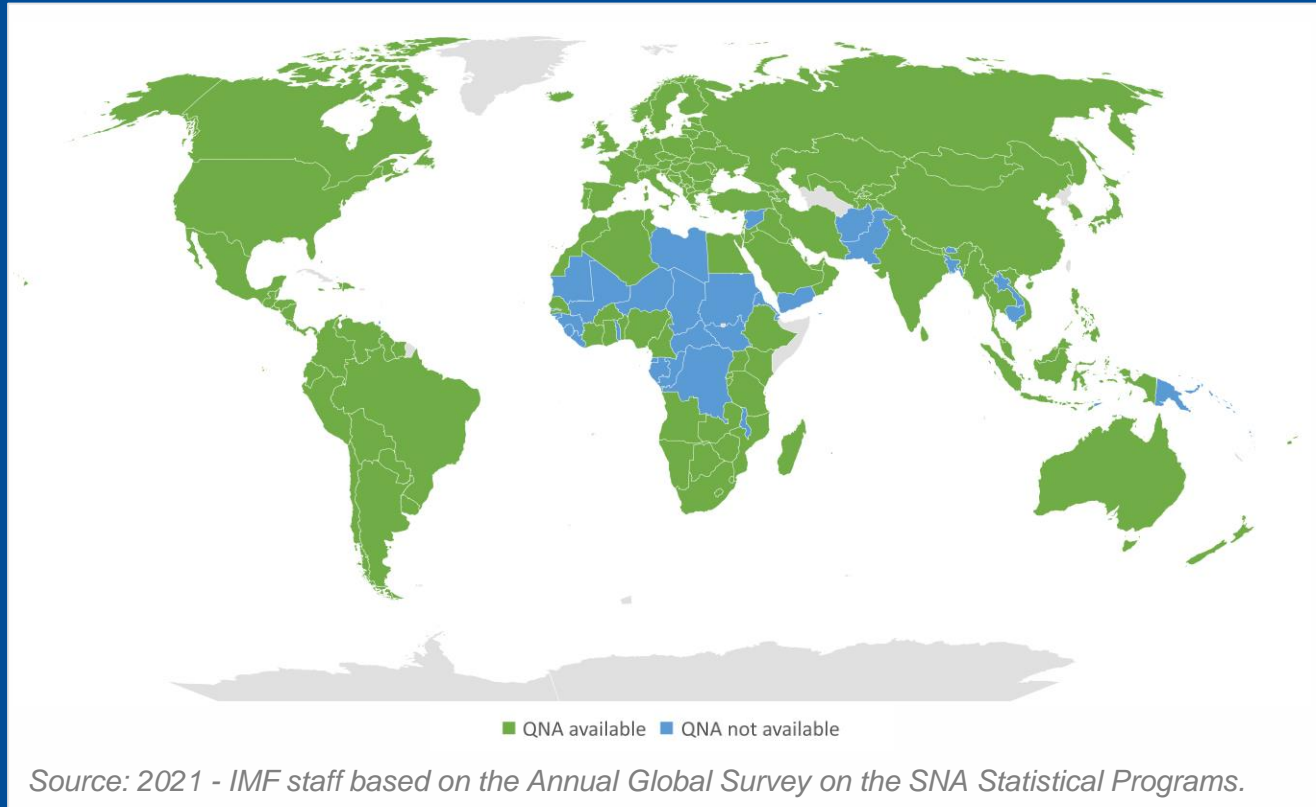
(Erich Strassner, Achille Pegoue, Anthony Silungwe, Jens Mehrhoff, Levan Karsaulidze, and Margarida Martins)

- Motivation and Background
- Key Features and Main Outcomes
- How Does it Work?
- Experimental Results
- Next Steps and Timeline

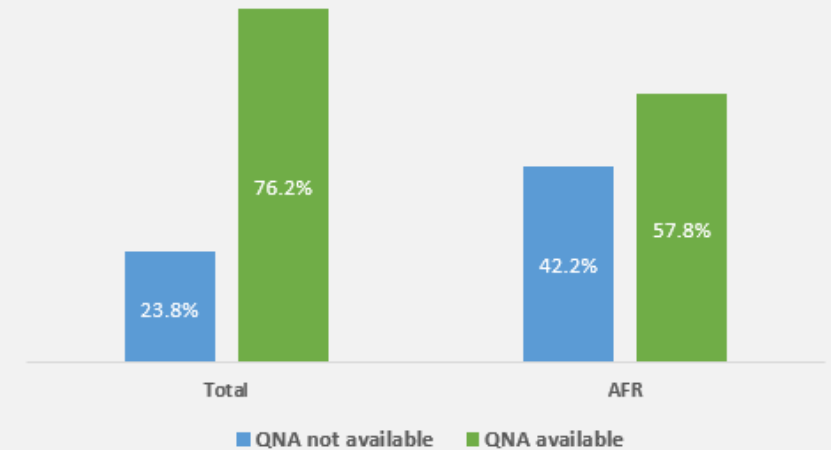
Motivation and Background

- **Data needed for short-term monitoring of crisis:**
 - ▶ Granularity
 - ▶ High-frequency
 - ▶ Timeliness
- **Current situation: data inadequacy for surveillance and policy making**
 - ▶ Availability of annual GDP with long lag.
 - ▶ Lack of comprehensive sub-annual economic data for many IMF member economies.
- **Hurdles on ongoing capacity development on QNA and HFIs**
 - ▶ Weak resources for data collection and compilation.
 - ▶ Alternative source data and new compilation tools needed to leverage HFI development.

Motivation and Background



Number of IMF Member Economies
compiling QNA
(%, 2021)



Source: 2021 - IMF staff based on the Annual Global Survey on the SNA Statistical Programs.

Key Features and Main Outcomes

- The project is being developed in **two stages**:

Stage 1: Alternative Data for Capacity Development on HFIs

Development of a **database of economic HFIs**:

- Focused on **volume** estimates by the **production approach**;
- Using open source **traditional and non-traditional data**;
- Classified to **international classifications** and aligned with international concepts.

Compilation of **experimental Monthly Indicators of Economic Growth (MIEGs)**:

- Benchmarked to the **quarterly or annual national accounts**;
- Using the **SNA framework**.

Development of **compilation tools**:

- **Excel and R based**, to facilitate use;
- To be **shared with capacity development recipients** for MIEG compilation.

Key Features and Main Outcomes

- The project is being developed in **two stages**:

Stage 2: Nowcasting GDP Using Monthly Data *(to start at a later period)*

Trend forward **quarterly GDP using monthly indicators**.

- Assess the possibility of accurately **nowcast quarterly GDP using monthly indicators**;
- Building on the work developed during the **first stage** of the project.

Assess how experimental MIEGs **contribute to improving the nowcasting results** currently available.

- Results expected to demonstrate how the use of experimental MIEGs developed using the SNA recommendations can **contribute to improve nowcasting results** currently available.

Key Features and Main Outcomes

Main Outcomes

Stage 1: Alternative Data for HFIs CD

- **Target economies:** focus on low- and lower-middle-income economies.
- **Target users:** capacity development recipients, national authorities, and IMF experts.
- **Expected deliverables:** database of “plug and play” HFIs, experimental MIEGs for a set of economies, IT tools, documentation.

Stage 2: Nowcasting QGDP Using Monthly Data

- **Target economies:** around 10 pilot economies.
- **Target users:** national authorities and IMF nowcasting team.
- **Expected deliverables:** nowcasting estimates for the pilot economies, IT tools, documentation.

Database of Economic HFIs by Activity

- **Database** is currently under development:

Step 1:

Data from IMF and other international organizations (under development)

IMF IFS SNA and UN databases (national accounts)
IMF CPI database (CPIs)
IMF IFS PPLT & UNIDO databases (industrial production index)
IMF DOTS & UN COMTRADE (international trade data)
BCEAO (industrial production and turnover index)...

Step 2:

Incremental incorporation of non-traditional data sources (under analysis)

Google Trends data
Mobility data
Flight data
Nightlight data, Earth Observation data,
Mastercard / Visa...

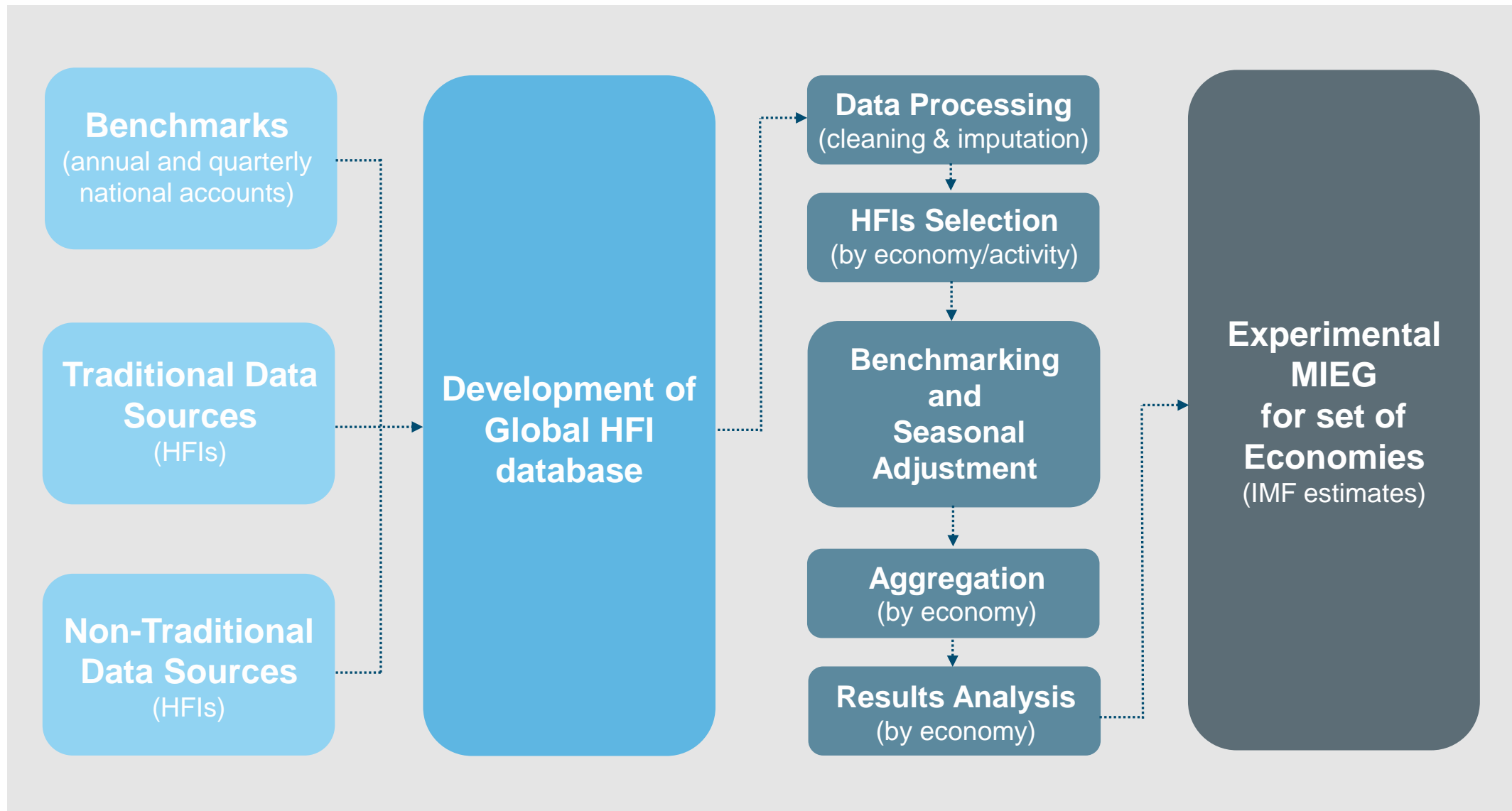
Step 3:

Incorporation of economy specific HFI data sources (focus of CD)

Value Added Tax Data
Agricultural Output
Scanner Data...

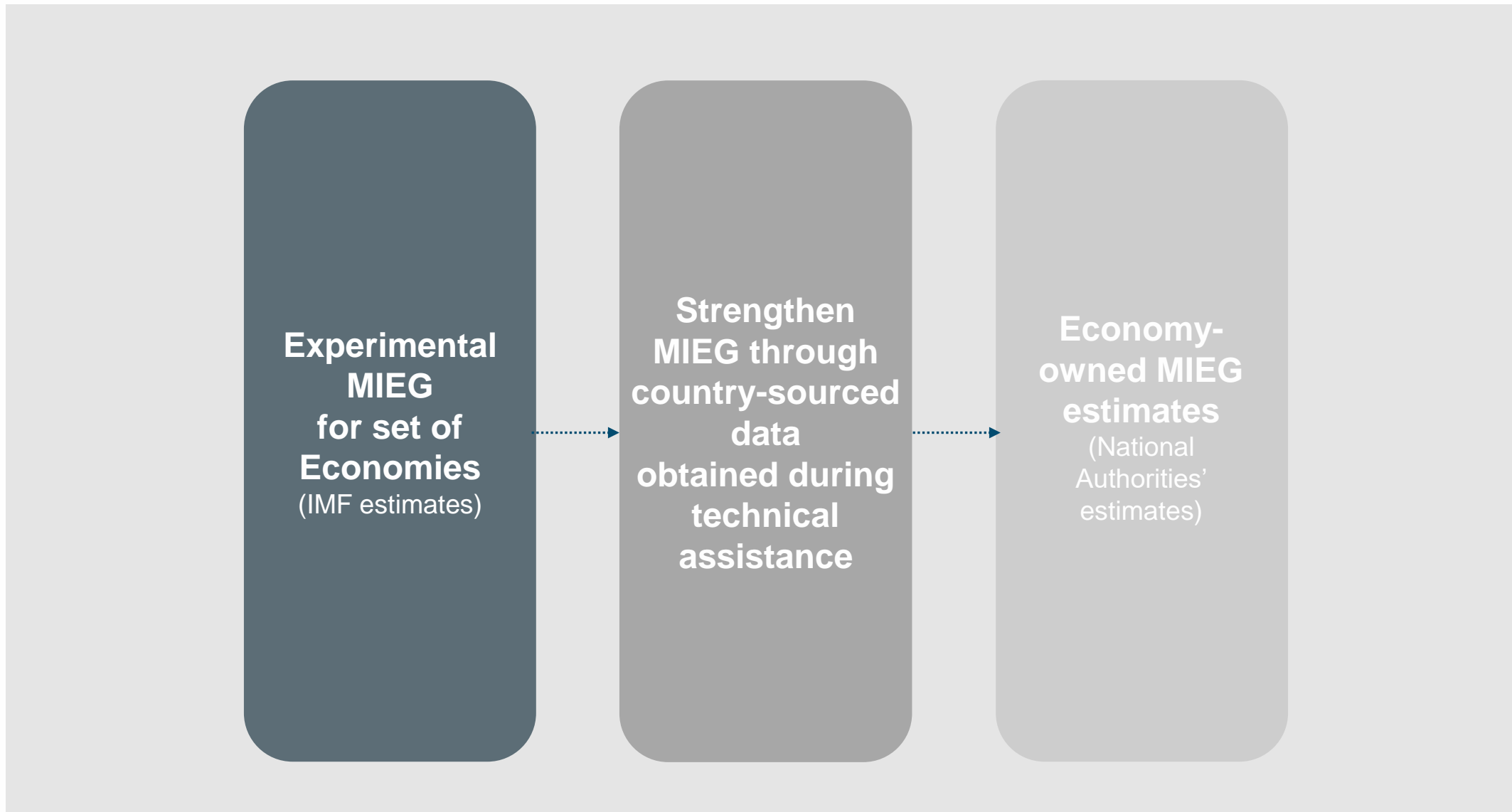
How Does it Work?

- Development phase



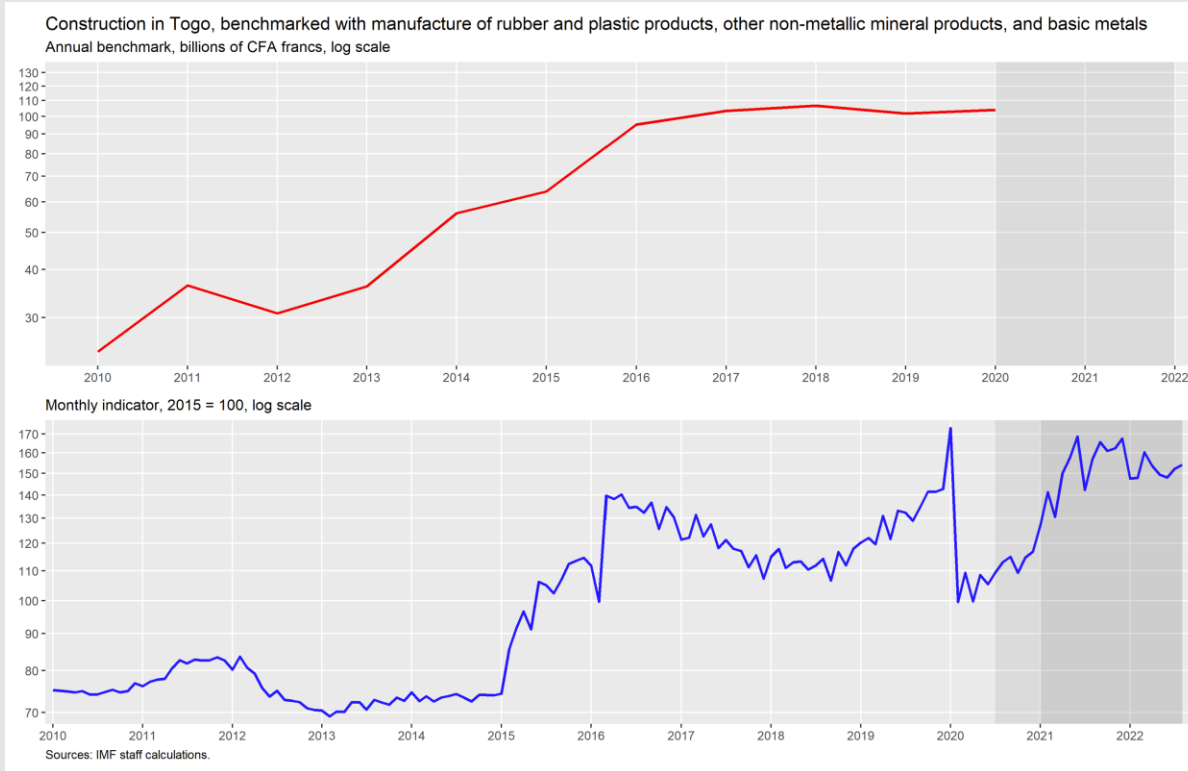
How Does it Work?

- Capacity Development phase



Experimental Estimates

Togo – Construction Annual National Accounts estimates (red), 2015-2020 MIEG estimates (blue), 2015 M1-2022 M7



Step 1

Obtain annual national accounts estimates and available high-frequency indicators



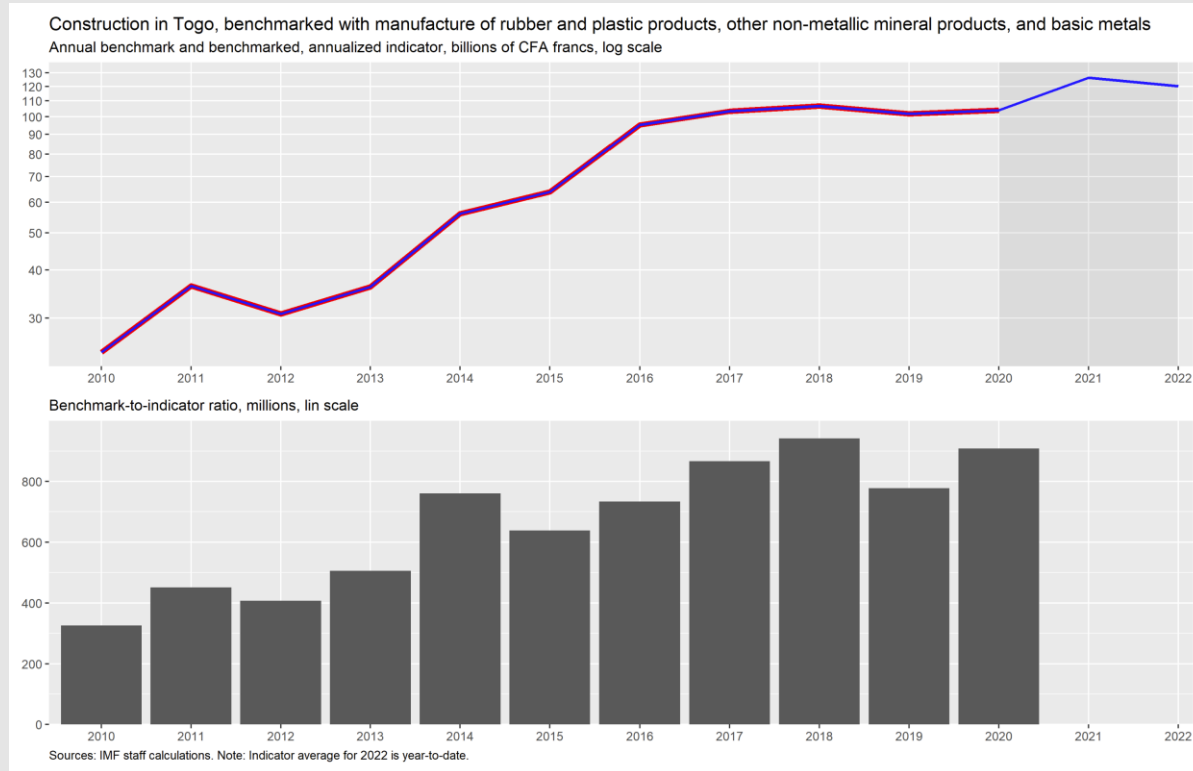
Step 2

Compare the evolution of the annual national accounts benchmark and the monthly indicator

Experimental Estimates

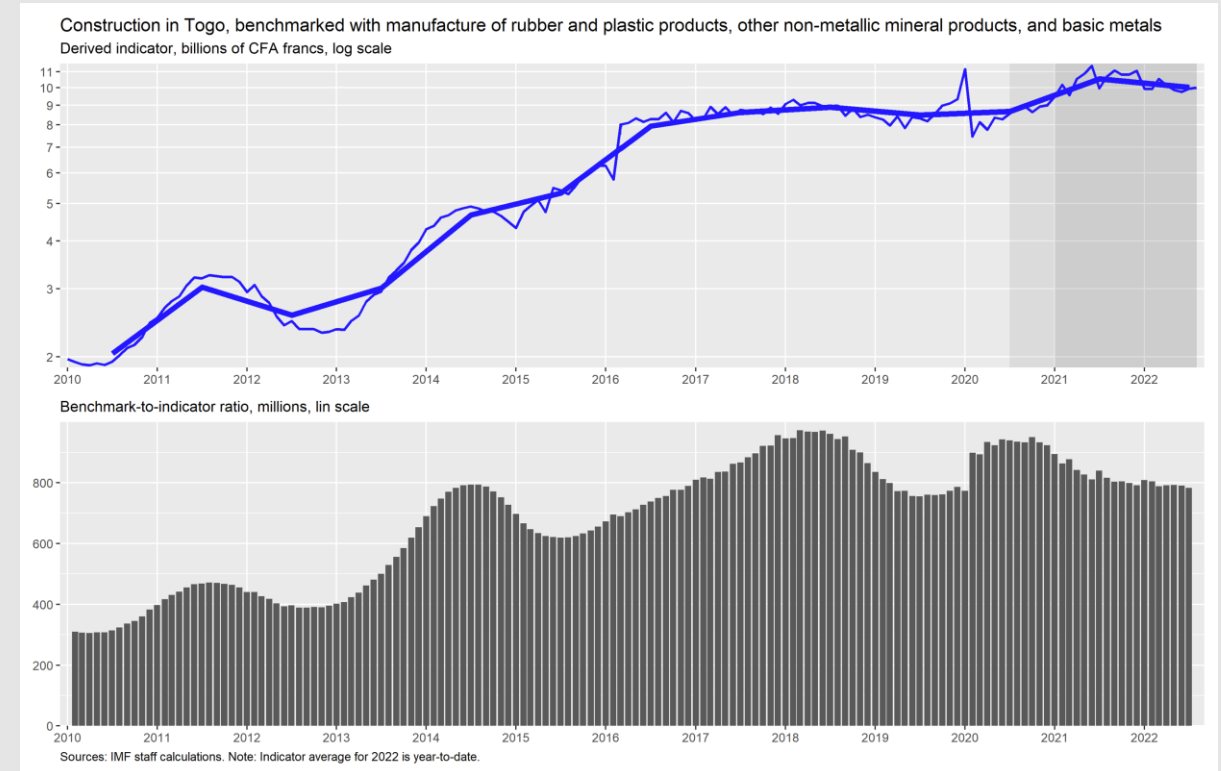
Togo – Construction

Annual National Accounts estimates (red), 2015-2020
MIEG estimates (blue), 2015 M1-2022 M7



Step 3

Benchmark the indicator to the annual national accounts estimates



Step 2

Derive the monthly indicator

Next Steps and Timeline

- Further discuss with IMF Departments to ensure that the results of the project are relevant for economic analysis and surveillance.
- Contact national authorities directly to better understand demand.
- Follow-up with capacity development activities having experimental monthly indicators of economic activity developed by IMF as starting point.
- Timeline for Stage 1:
 - Database – 2023;
 - Experimental indicators – 2023;
 - Compilation tools – 2024;
 - Capacity development activities – 2023 and 2024 (according to availability of national agencies).

Thank you!