IMF Strategy to Multi-source Information with Big Data

4th UN Conference on Big Data, Bogotá, Colombia, November 8-10, 2017

I. Big Data Activities in the Fund

IMF Big Data and Analytics Symposium (2015)

Aim: Raise awareness about the potential use of big data for surveillance and capacity building

IMF's Big Data Innovation Challenge (2015)

Aim: Fund staff to 'step out of their comfort zo[ne] and propose bold new ideas'

Top six out of 109 groundbreaking and innovative ideas selected for proof of concept development

I. Big Data Activities in the Fund

Staff Discussion Note (Sept 2017)

Staff provided to the Board a stocktaking and vision on how big data could benefit macro-economic and financial statistics

The SDN serves as a starting point for further research and detailed analyses for big data to support IMF surveillance
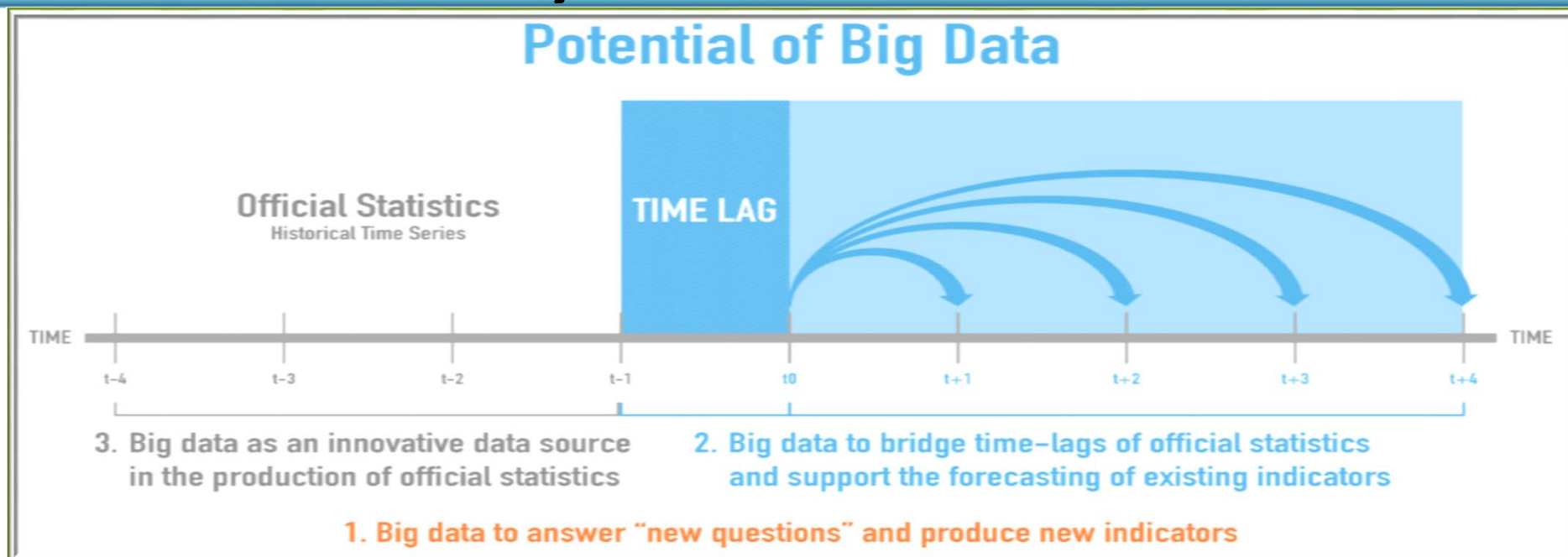
IMF interdepartmental Working Group on Statistical Innovation and Big Data (2017)

Develop coherent strategy for **multi-sourcing** information for Fund surveillance

Strategy includes big data use for Fund's core operations, and across membership

II. Big Data will benefit policymaking directly and indirectly

Potential of Big Data

Official Statistics — Historical Time Series

TIME LAG

3. Big data as an innovative data source in the production of official statistics

2. Big data to bridge time–lags of official statistics and support the forecasting of existing indicators

1. Big data to answer "new questions" and produce new indicators

II.A Directly – through mainstreaming big data in IMF surveillance

Core macro and financial surveillance

New indicators to obtain real-time correlations and early-warning systems to monitor the buildup of country- specific and systemic risks in the real, external, fiscal, and financial sectors

Bridge currently-identified data gaps of strategic importance to the Fund through now-casting key variables for WEO projections and reduce time lags of official data

The main Fund role is to transfer best practices across the membership in areas such as **now-casting, risk assessment, and turning points**

II.A Examples for mainstreaming big data in IMF surveillance

## Operationalizing IMF big data projects

SWIFT data for global financial flows monitoring

News Sentiment based Index for early warning detection of crises and sudden stops in capital flows

Now-cashing with daily governments' cash flow data to enhance surveillance and policy analysis

Now-casting quarterly world/country GDP

"Week@ the Beach Index" to assess relative costs and competitiveness of the tourism sector
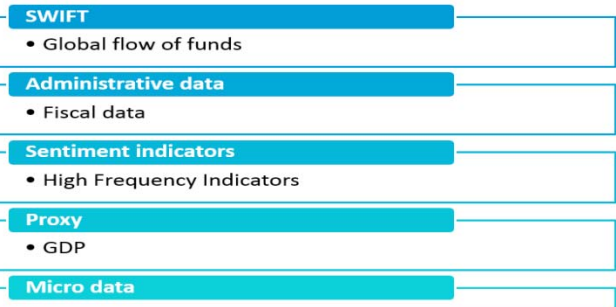
II.B Indirectly – through engagement with member countries

Learn from authorities that are ahead of the curve

As facilitator, document and transfer best practices across membership

> Integrate big data into traditional Technical Assistance for Low Income Countries

Serve as strategic partner to gain access to big data sources

Cooperate with international committees for official statistics, and other expert groups to develop data quality concepts and expand existing compilation frameworks to include big data

III.A Broadening the official sources of information for the Fund needs a coherent strategy

Build internal capacity (training on tools and applications; new technology)

Address potential skill gaps (re-profiling and special career streams)

Enhance cyber security policy (in line with data security, confidentiality, and privacy)

Build partnerships with other international organizations, member countries, and global private companies

III.B Quality control remains a major challenge

Quality assessments of indicators are needed to manage governance, political, and reputational risks

Statistical techniques and methodologies best practices are needed to specifically address *veracity* and *volatility*

Big data to uncover meaningful insights, trends, and sentiments may underlie different quality assessments compared to using big data in official statistics
- ❖ consistent and harmonized historical time series are still needed

Metadata are key to assess and interpret new data sources

Thank you

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IMF