



Irving Fisher Committee on
Central Bank Statistics

BANK FOR INTERNATIONAL SETTLEMENTS

IFC – Bank Indonesia International Workshop and Seminar on *“Big Data for Central Bank Policies / Building Pathways for Policy Making with Big Data”*

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The framework of big data: a microdata strategy¹

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¹ This presentation was prepared for the meeting. The views expressed are those of the author and do not necessarily reflect the views of the BIS, the IFC or the central banks and other institutions represented at the meeting.

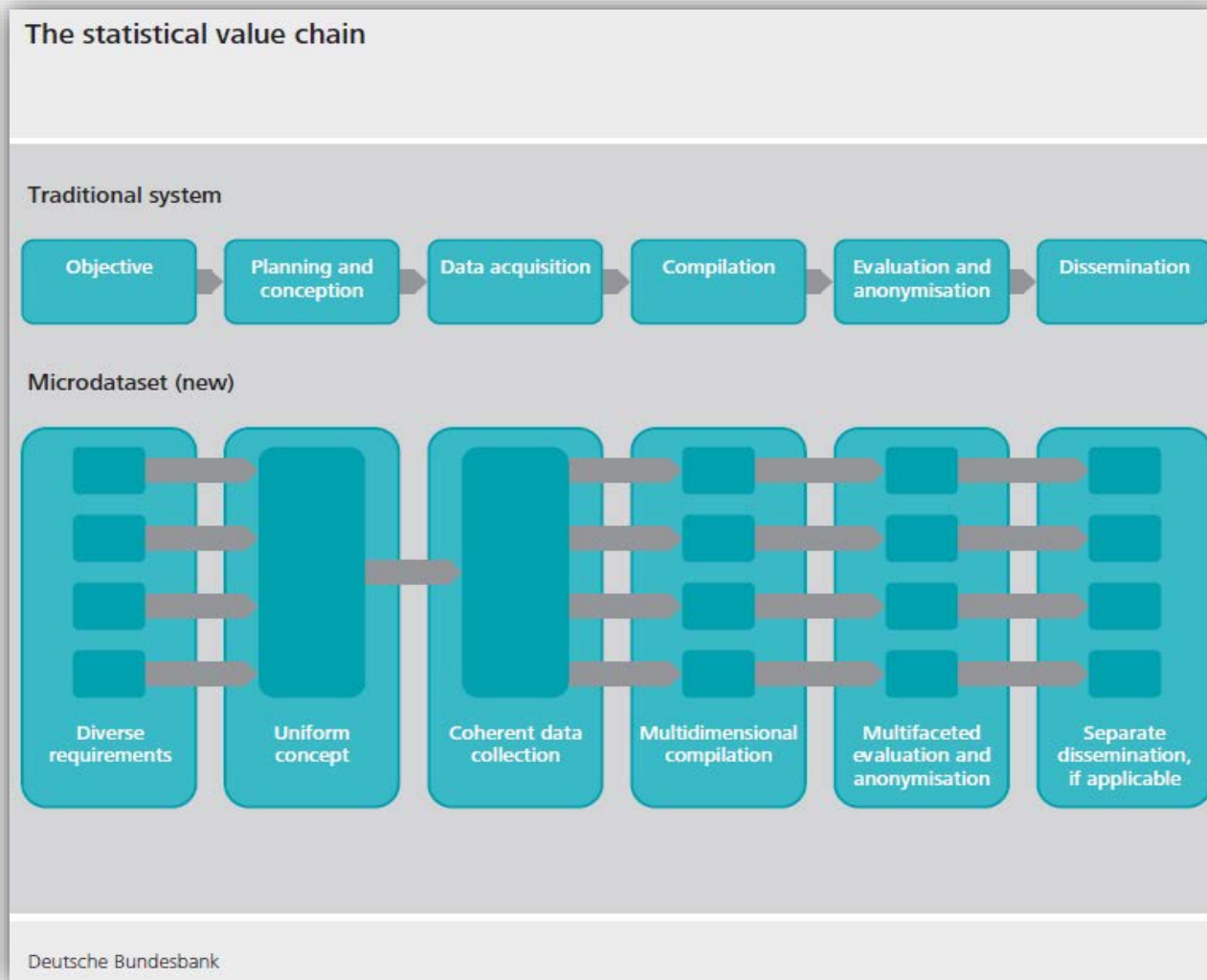
The framework of Big Data: A microdata strategy

BIS/IFC International Seminar on Big Data: Building Pathways for Policy Making with Big Data

Robert Kirchner, Deputy Director General Statistics, Deutsche Bundesbank

- 1) On the way from yesterday to tomorrow: the statistical value added chain**
- 2) The Bundesbank's Integrated Microdata based Information and Analysis System (IMIDIAS)**
- 3) Enhancing knowledge sharing: INEXDA**
- 4) Big Data Projects**
- 5) Conclusion**

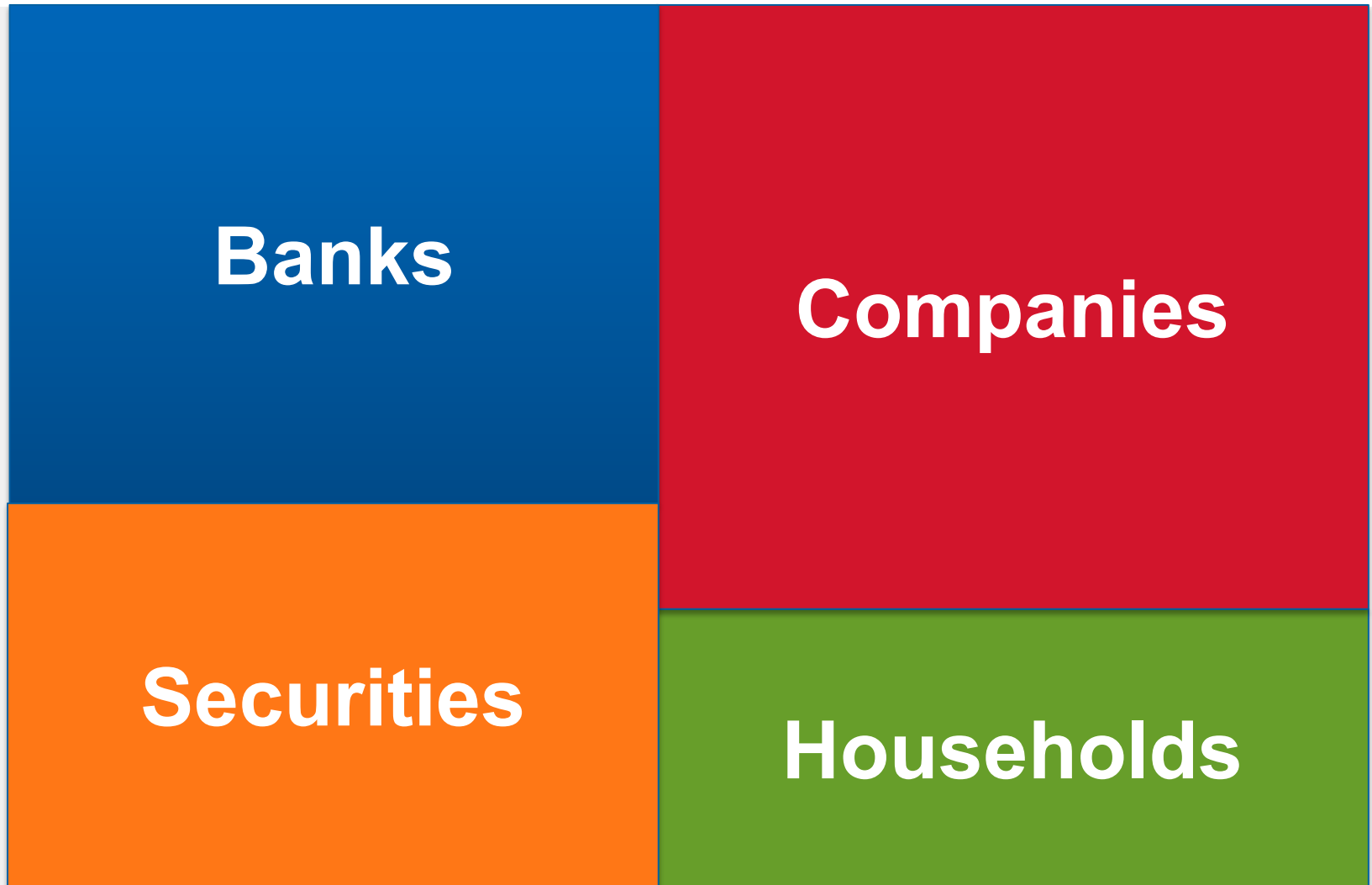
On the way from yesterday to tomorrow: the statistical value added chain



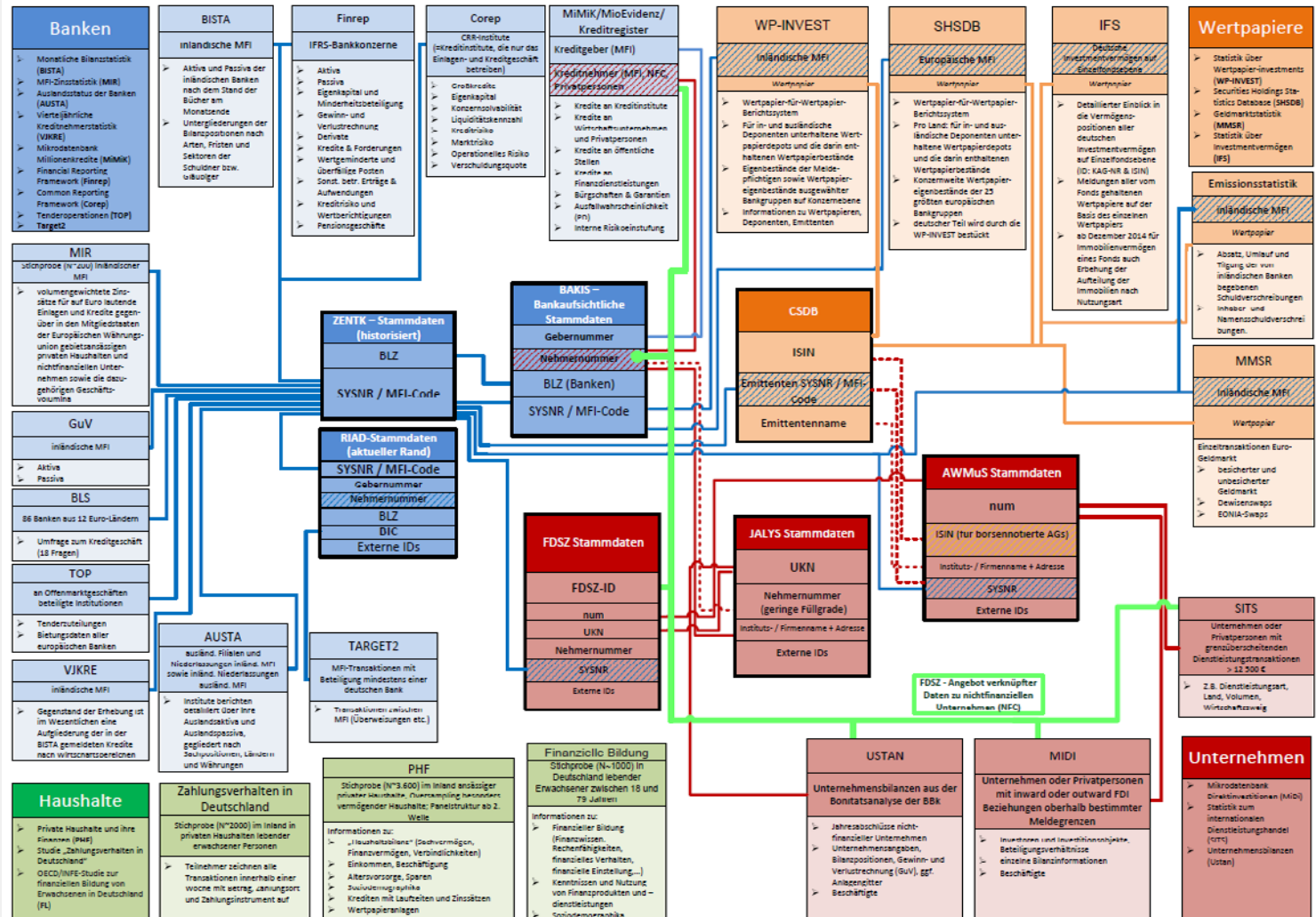
On the way from yesterday to tomorrow: the statistical value added chain

- The **four fundamental advantages of microdata**, which supplement the established macroeconomic analyses, can be summarized as:
 - **Distribution**
 - **Interconnectedness**
 - **Flexibility**
 - **Policy evaluation**
- **First lesson: Make better use of existing data**

On the way from yesterday to tomorrow: the statistical value added chain



On the way from yesterday to tomorrow: the statistical value added chain



The Bundesbank's Integrated Microdata based Information and Analysis System (IMIDIAS)

- **Goals:**

- Enhance internal accessibility of micro data
- Support evidence-based policy-making
- Encourage cooperation with (external) researchers

- **Structure:**

- Steering Committee
- House of Microdata: Warehouse for internal policy work
- Research Data and Service Centre (RDSC)

- **The RDSC supports internal and external research.**

- 12 working places for guest researchers
- > 300 active projects, >160 institutions involved

Enhancing knowledge sharing: INEXDA



- On 6th January 2017,



BANK OF ENGLAND



BANCO DE PORTUGAL
EUROSISTEMA



- have launched the **I**nternational **N**etwork of **E**xchanging Experiences on **S**tatistical Handling of **G**ranular **D**ata (INEXDA), an international cooperative project to declare their willingness to further strengthen their cooperation.
- Since its foundation, the following institutions have joined INEXDA as a member:

BANCODE ESPAÑA
Eurosistema



- **The INEXDA framework comprises several workstreams:**
 - Metadata and database
 - Administrative Data Research Facility (ADRF)
 - Modes of Accreditation
 - Contracts for research projects/bodies
 - Models of data provision
 - Dissemination
 - Procedures on output control
 - Procedures of risk management for results published out of data access

1) Internal stocktaking

2) Selected projects:

- Götz, Thomas B., Knetsch, Thomas A. (2017). **Google data in bridge equation models for German GDP**. Bundesbank Discussion Paper No 18/2017.
- Fecht, F., Thum, S. and Weber, P. (2018). **Fear, Deposit Insurance Schemes, and Deposit Reallocation in the German Banking System**. Available at SSRN: <https://ssrn.com/abstract=3180107>.
- Oehler, S. (Forthcoming). **Developments in the residential mortgage market in Germany – What can Google data tell us?**

3) General Issues:

- Inference problems occurring from large but biased samples
- See: **Meng, X.L. (2014)**, “A Trio of inference problems that could win you a nobel price in statistics [...]”

- **Fundamental paradigm shift from the traditional system to a microdata approach**
- **Big Data projects are part of the new system**
- **Traditional samples remain important**