WORLD BANK GROUP
Development Economics Data Group

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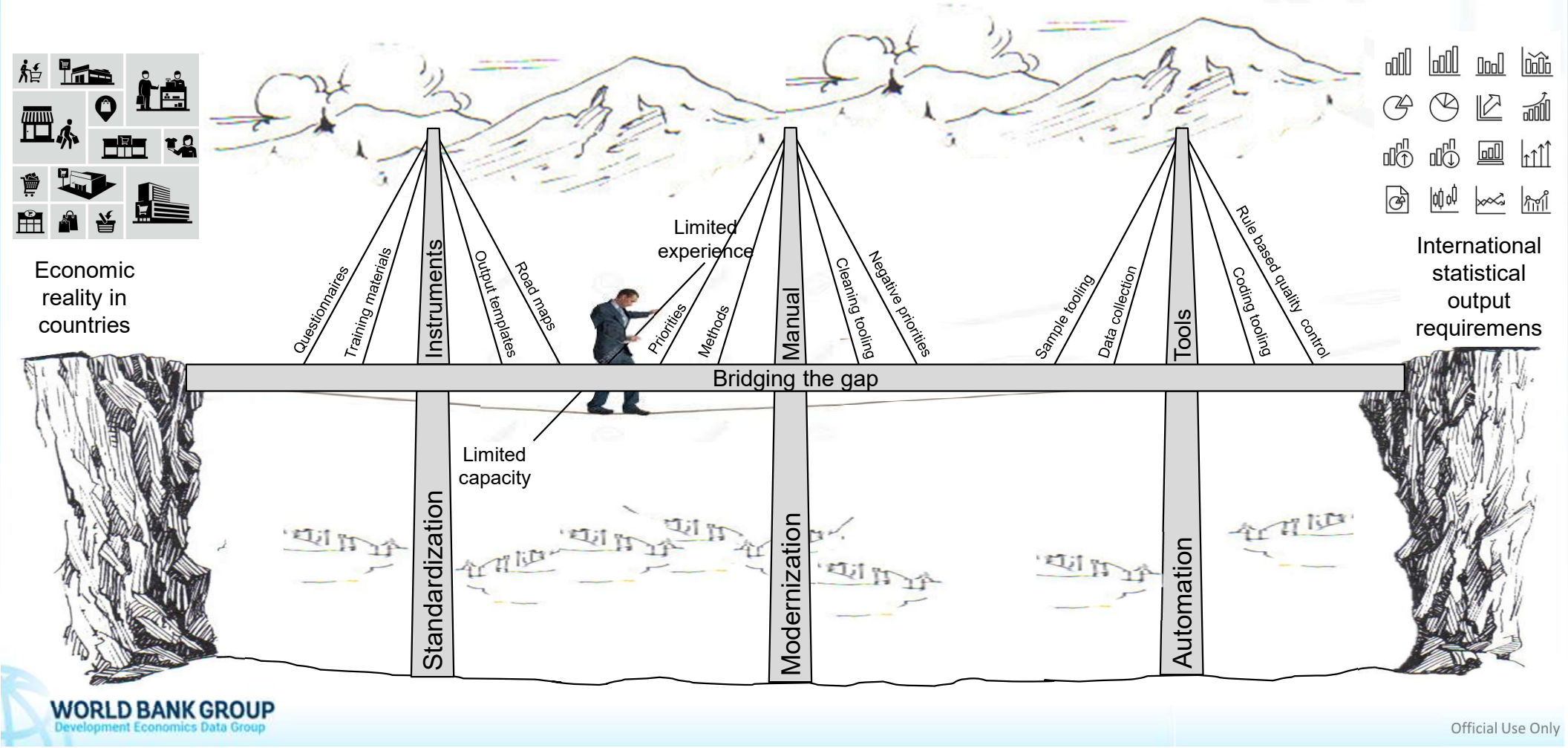
Arthur Giesberts, 2025
Development Economics
Data Group (DECDG)

The need for and suggested nature of technical assistance



Examples of standardization
Concepts, terminology and scope

1. of terminology
   (important for international comparability, but also for respondents and national users)
   Examples of names of surveys and publications for annual enterprise surveys (also as inputs for GPD/National Accounts)
   - "Census of industrial production"
   - "Manufacturing Sector Baseline Data Survey"
   - "Economic Activity Census"
   - "Annual financial statistics"

2. of concepts that need to be measured
   Structure, level and change (see subsequent slide)

3. of scope (important for efficiency, timeseries, sustainability, but also for administrative burden)
   Example of press release
   "Five major enterprise-related initiatives …. were discussed at the conference. These initiatives include the Annual Survey of Industries, Annual Survey of Unincorporated Sector Enterprises, Annual Survey of Service Sector Enterprises, Capital Expenditure Survey, and the Economic Census."

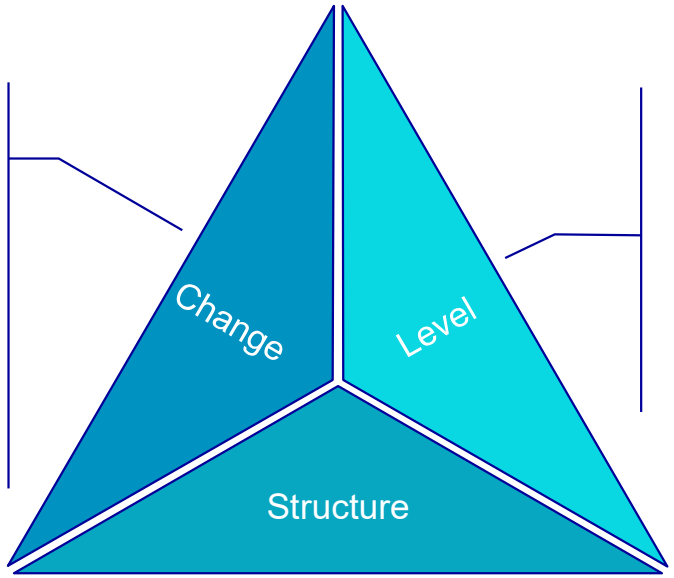
4. of (dynamic) questionnaires (automatically adjusting to industry, size and circumstances)
   Dissociated from "text book" questionnaires (too ambitious and unrealistic to collect and to process: less is more)

5. of etc.

Example of standardization 1/2
What needs to be measured and published (and how)

Key characteristics of short-term statistics:

- **Indices/growth rates** (monthly/quarterly)
- Partly easy/cheap (turnover) and partly more difficult/expensive (prices and industrial production)
- Publications are in high demand
- Relevant for business sector and crucial for economic and monetary policies
- Time consuming to establish new series
- Challenges are maintenance and creating seasonal corrected time series



Key characteristics of annual statistics:

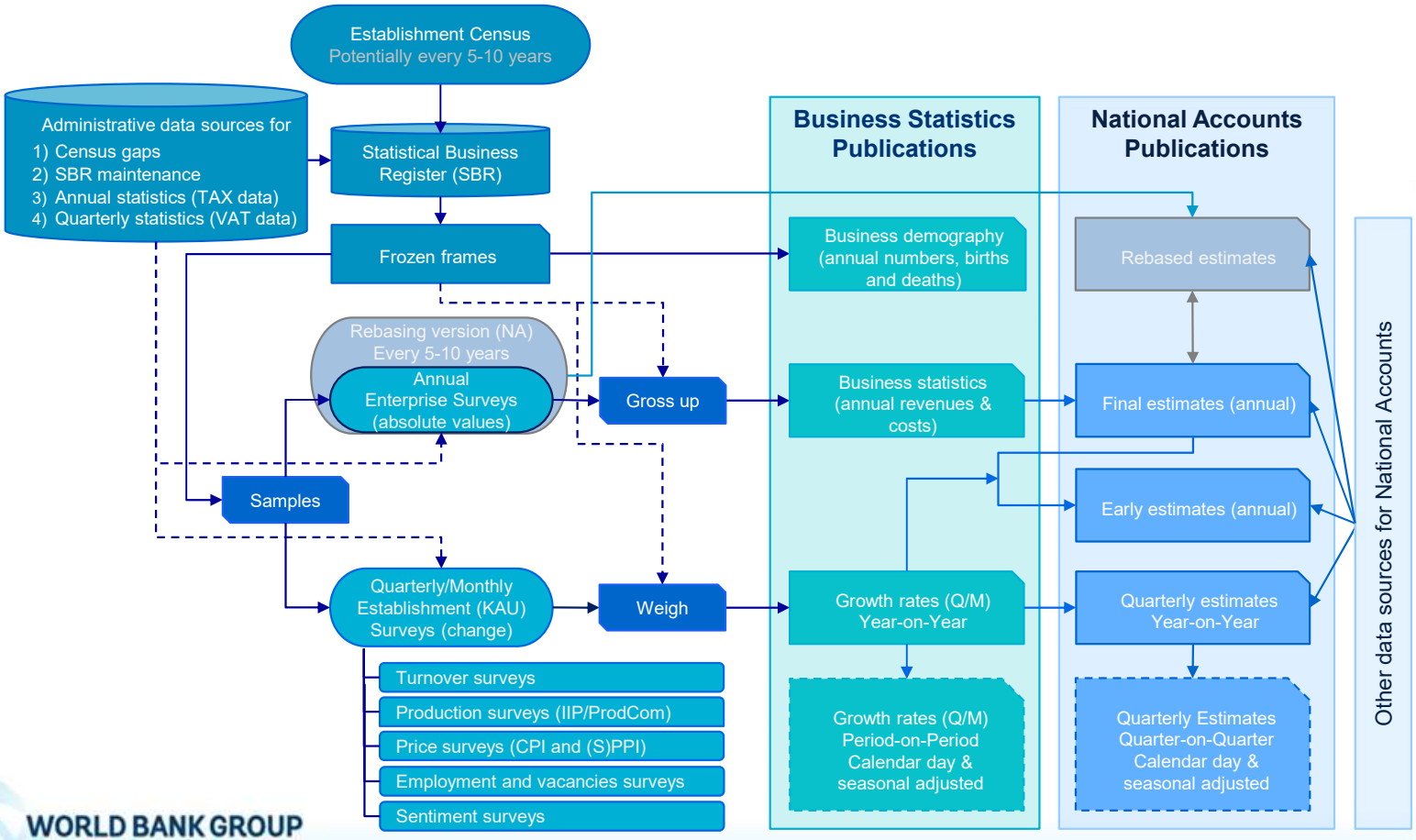
- **Absolute values** (mostly annual)
- Most difficult (due to need for exhaustiveness)
- Most costly and time consuming (per publication)
- Substantial time lag in publication
- Interesting for in-depth analysis (measurement of structures and changes in structures)

Each statistic has different strengths and weaknesses, uses different methods and is published differently. Methods are not as interchangeable as one may think.

Key characteristics of statistical business registers (SBR):

- **Number of enterprises, births and deaths**
- Main characteristics are industry, size and location
- Based on economic establishment census, administrative data and survey data
- Relatively easy but expensive
- Interesting for all types of users, including general public

Examples of standardization 2/2
Generic work program in Business Statistics and linkage with NA



Notes regarding this work program:

- For feasibility, it is a best practice to gradual implement this work program (with increasing maturity stages)
- Permanent work in progress due to changing economy and requirements

Business demography: Implementation initially requires data for 1 period only

Business statistics: Implementation initially requires data for 1 period only

Regular short-term statistics: Implementation requires data for 13 months or 5 quarters

Adjusted short-term statistics: Implementation requires data for 5+ years

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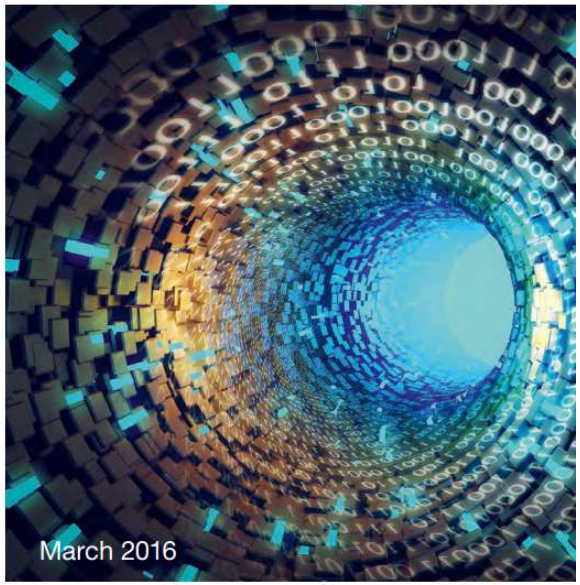
Examples of modernization
UK, Australia, the Netherlands

Independent Review of UK Economic Statistics

Professor Sir Charles Bean



Modernization Processes in National Statistical Offices - Transforming the Australian Bureau of Statistics

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Abstract

The Australian Bureau of Statistics (ABS) has commenced one of the most significant change processes in its 100 year history. In order to harness new opportunities, meet changing community expectations and ensure its ability to continue to provide trusted statistics that shape decision making, the ABS Transformation will encompass activity across six dimensions – environment, strategy, governance, people, culture and infrastructure.

This paper explores the drivers and goals guiding the ABS Transformation, as well as the actions underway across each of these six goal areas and how we will measure our progress over the coming years. It posits that the success of the transformation will be driven not only by the ABS's ability to implement a new set of statistical business infrastructure and processes, but by the way in which our people work, with new skills and a transformed culture.

Key Words

Transformation, Environment, Strategy, Governance, People, Culture, Infrastructure, Statistical Business, Stakeholders, Data Integration, Risk, Change.

Conference Paper | PDF Available

Redesigning the chain of economic statistics at Statistics Netherlands: STS-statistics as an example

October 2008
Conference: International Association for Official Statistics (IAOS) · At: Shanghai, China

Authors:

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Centraal Bureau voor de Statistiek

Frank Aelen

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Citations (3) References (13)

Abstract

Statistics Netherlands (SN) started a programme called HEcS+ in order to redesign the chain of economic statistics. The programme aims to improve the quality of the statistical outcomes, to reduce the response burden and to realise budget cuts. Central to the HEcS+ programme is the business architecture: a framework for (re)designing statistical processes. One of the projects within the programme investigates whether survey data of small and medium-sized units can be replaced by VAT data to compile short-term statistics (STS). This paper firstly gives a brief overview of the HEcS+ programme and its business architecture and subsequently focuses on the methodology and results of the STS-project.

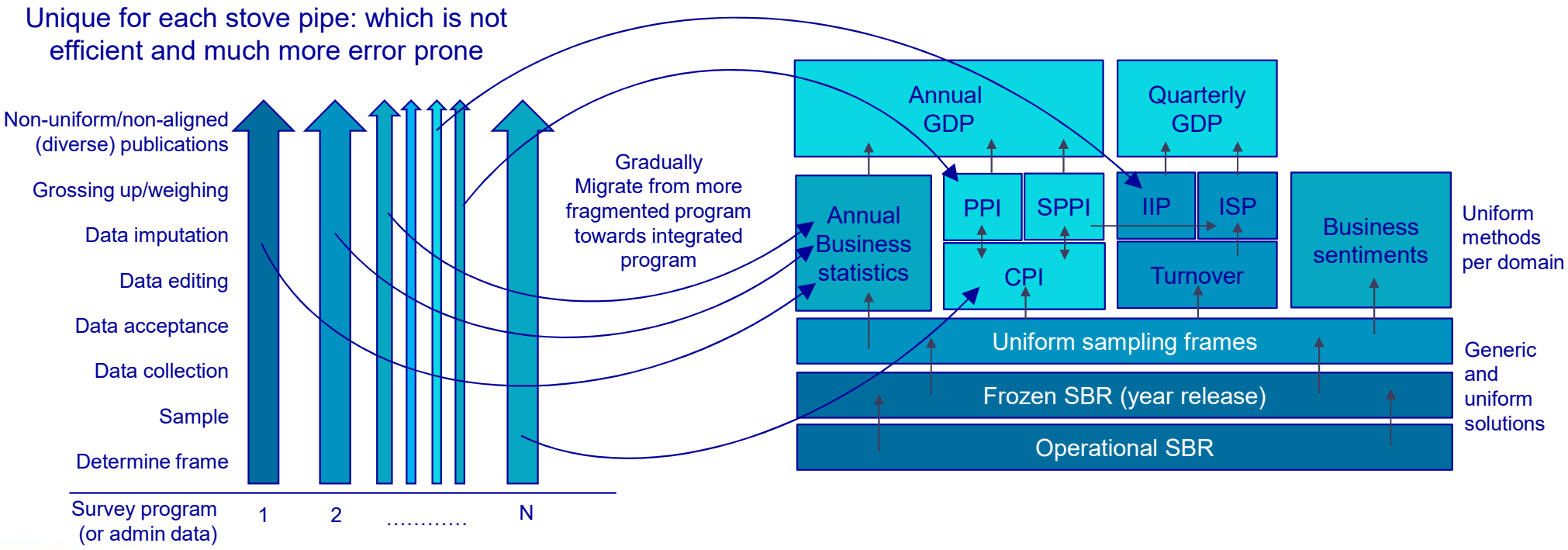
Example of modernization
From “historical grown” stove pipes to a modern integrated system

Stove pipes (more traditional)

Circumstantial grown, occasionally better for a specific survey or industry; perhaps only representative for the sample

Fully integrated work program in Economic statistics (redesigned)

On average a higher quality, more efficiency, more control and more user satisfaction



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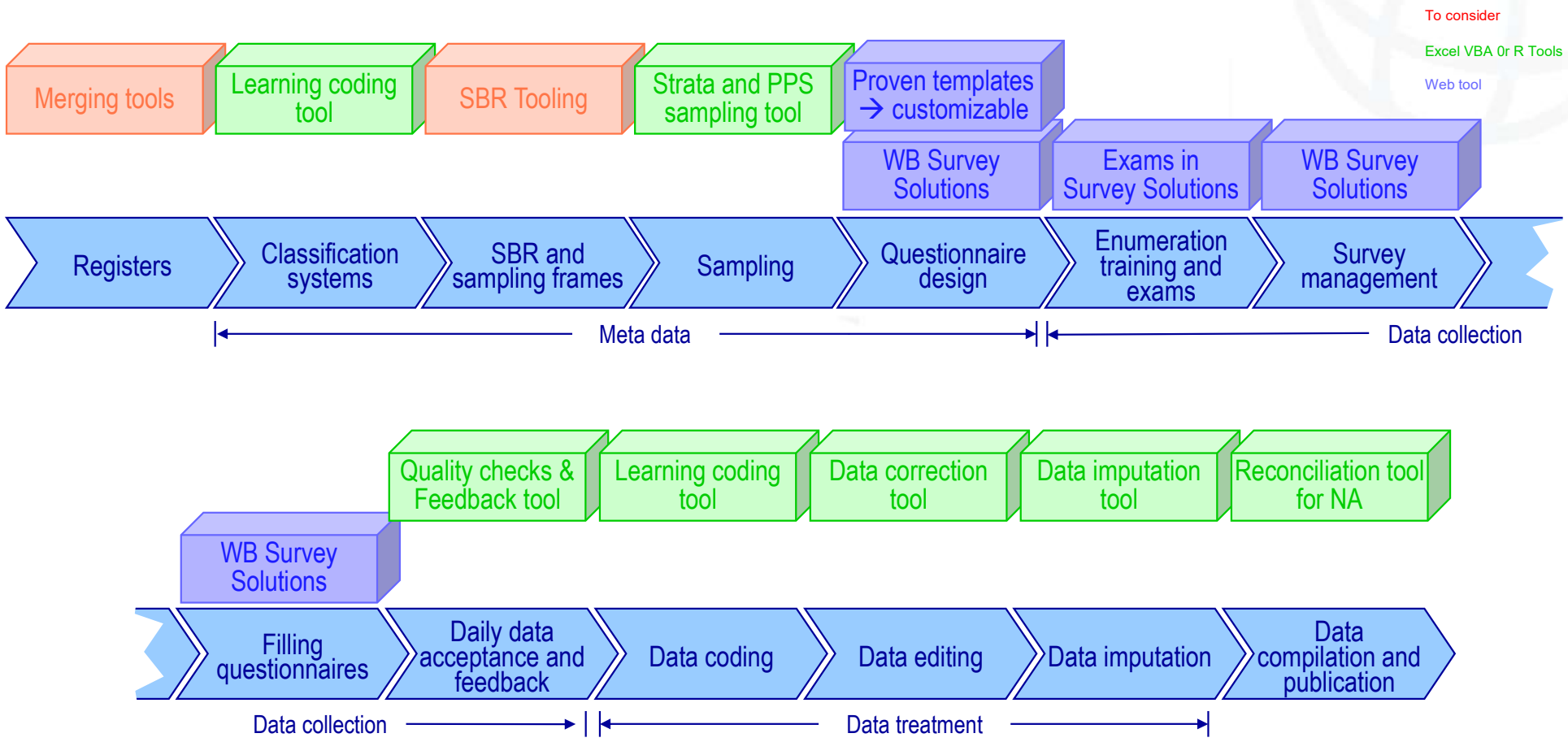
Examples of automation
Versatile tools and rule-based data processing

1. of data collection (important for international comparability, but also for respondents and national users)
   Examples of names of surveys and publications for annual enterprise surveys (also as inputs for GPD/National Accounts)
   - "Census of industrial production"
   - "Manufacturing Sector Baseline Data Survey"
   - "Economic Activity Census"
   - "
2. of quality checks and feedback (important for international comparability, but also for respondents and national users)
   Examples of names of surveys and publications for annual enterprise surveys (also as inputs for GPD/National Accounts)
   - "Census of industrial production"

3. of enumerator exams (important for international comparability, but also for respondents and national users)
   Examples of names of surveys and publications for annual enterprise surveys (also as inputs for GPD/National Accounts)
   - "Census of industrial production"

4. of data coding (important for international comparability, but also for respondents and national users)
   Examples of names of surveys and publications for annual enterprise surveys (also as inputs for GPD/National Accounts)
   - "Census of industrial production"

Example of automation
Process steps and enabling tooling



There are important overlaps, creating energy

Need and possibilities for standardization

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Possible because differences within countries are larger than between countries

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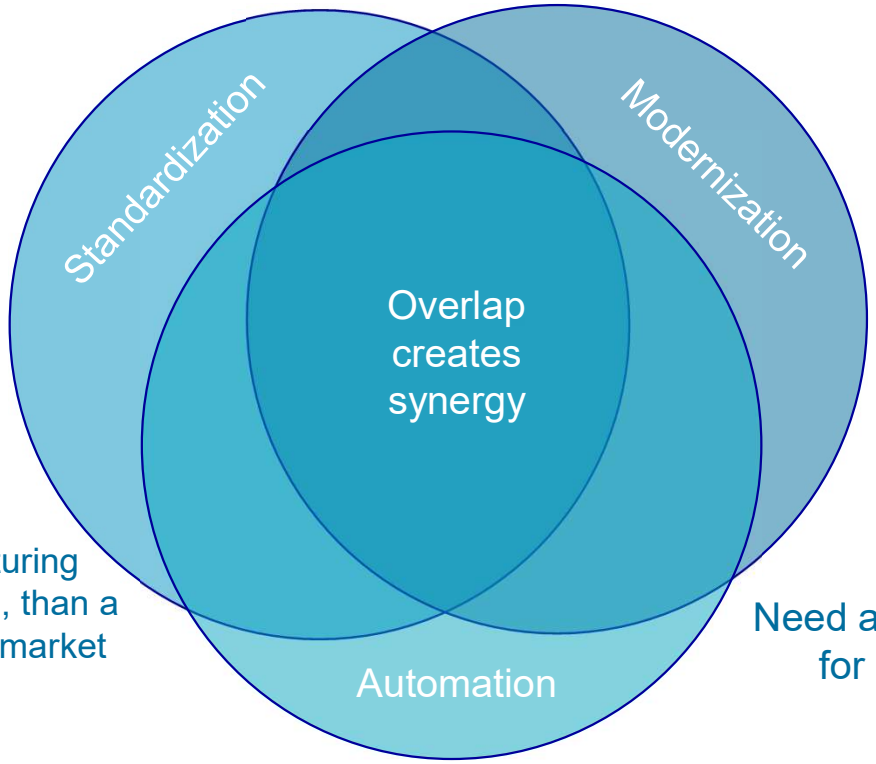
Large supermarkets (or manufacturing plants) between countries differ less, than a large supermarket and an informal market stall within a country



Need and possibilities for modernization

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Often traditional methods, instruments and approaches are used, while modernization is possible and creates synergies

Need and possibilities for automation

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Automation addresses core issues like lack of quality, timeliness, budgets, experience, capacity.

Example of synergy
Using technology allows for modernization

Traditional paper based statistical process

∑ 40 weeks

Introducing technology: Digital questionnaires and automated data processing

∑ 20 weeks

Introducing a mindshift: Lean implies a.o eliminating waste: Waiting times

∑ 15 weeks

The impact of parallel processes has an even larger impact on the quality than on the timeliness.

Immediate feedback on detected issues improves the data that has been collected (while in the field), but more importantly, it improves data collection during the remaining period.

∑ 10-12 weeks preliminary results

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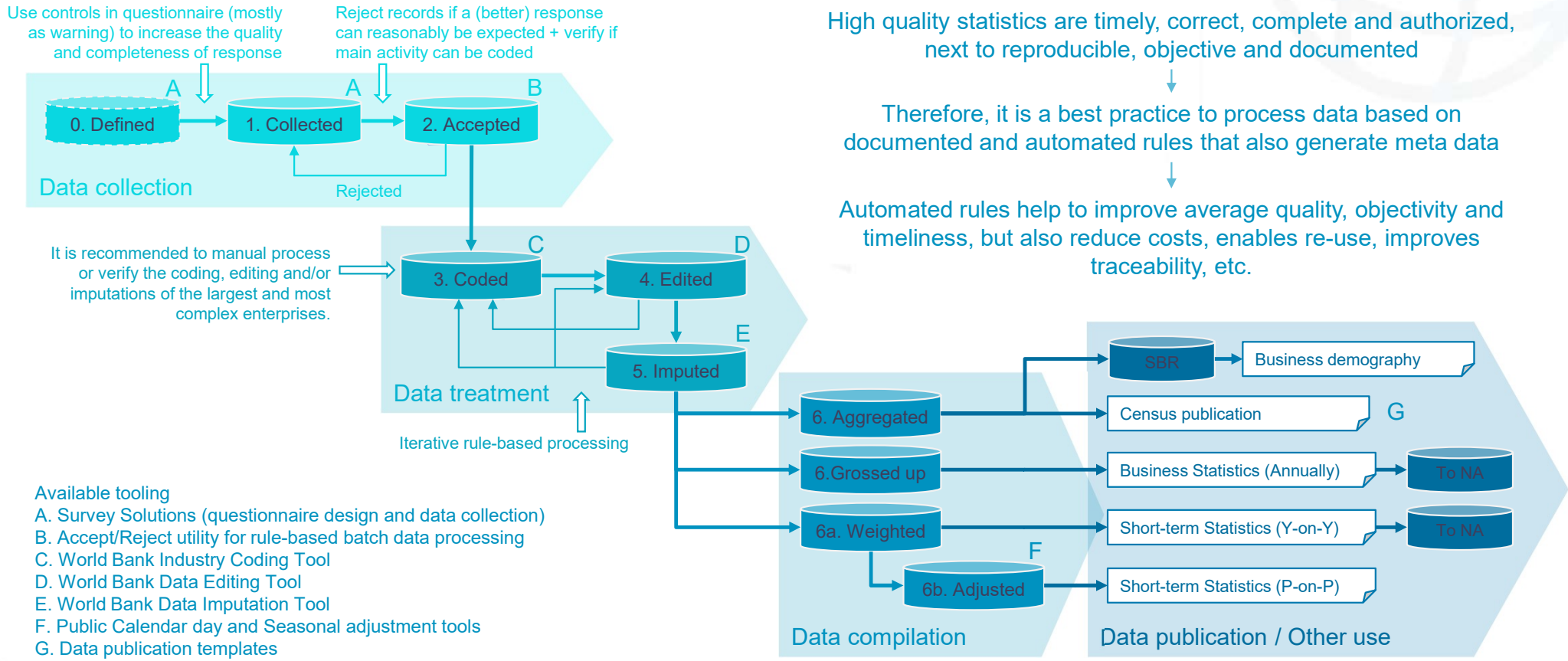
Example of synergy between modernization and automation
Demarcated process stages and rule-bases data processing



High quality statistics are timely, correct, complete and authorized, next to reproducible, objective and documented

↓

Therefore, it is a best practice to process data based on documented and automated rules that also generate meta data

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Automated rules help to improve average quality, objectivity and timeliness, but also reduce costs, enables re-use, improves traceability, etc.

Available tooling
A. Survey Solutions (questionnaire design and data collection)
B. Accept/Reject utility for rule-based batch data processing
C. World Bank Industry Coding Tool
D. World Bank Data Editing Tool
E. World Bank Data Imputation Tool
F. Public Calendar day and Seasonal adjustment tools
G. Data publication templates

Steps towards a compilation manual and more

- Collecting and showcasing best practices
- Examples 10 rules for census
- Examples 10 rules for annual economic statistics

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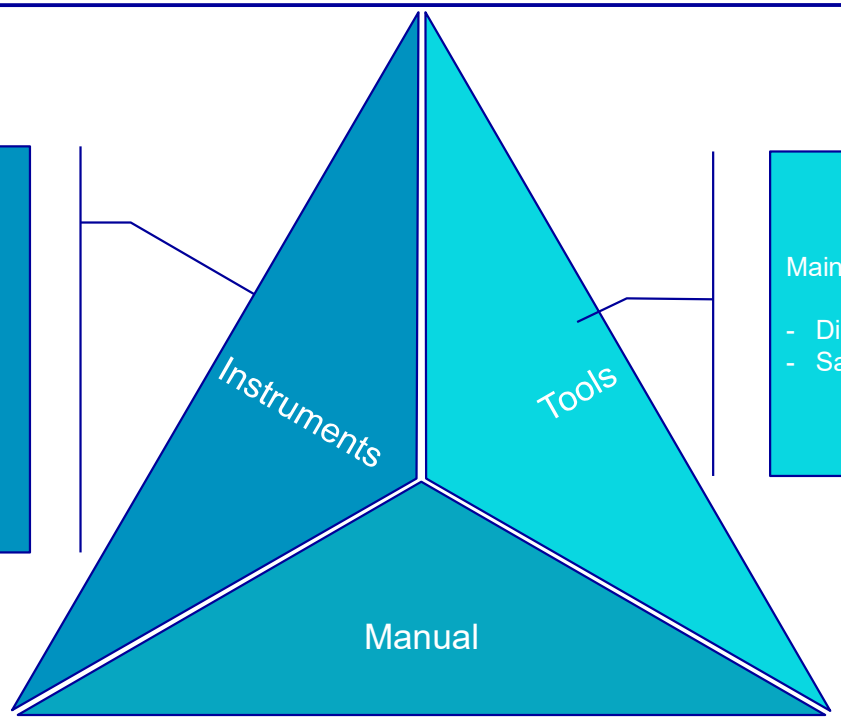
Business statistics (also for National Accounts purposes) measure different aspects of the economy

Instruments

- Sampling advice (concrete and practical)
- Questionnaire templates
- Training materials
- Enumerator exams
- Daily quality checks and immediate feedback



Main tools (automated data processing)

- Digital data collection software (CAPI/CATI/CAWI)
- Sampling

Each aspect uses different methods, characteristics, strengths and weaknesses. Methods are not as interchangeable as you may think.

Compilation manual

- **Scope (which surveys and admin data): Modular?**
- **Concise steps per compilation process**
- **Methodologies (concrete sampling advice)**
- **Main issues/challenges**
- **Best practices**

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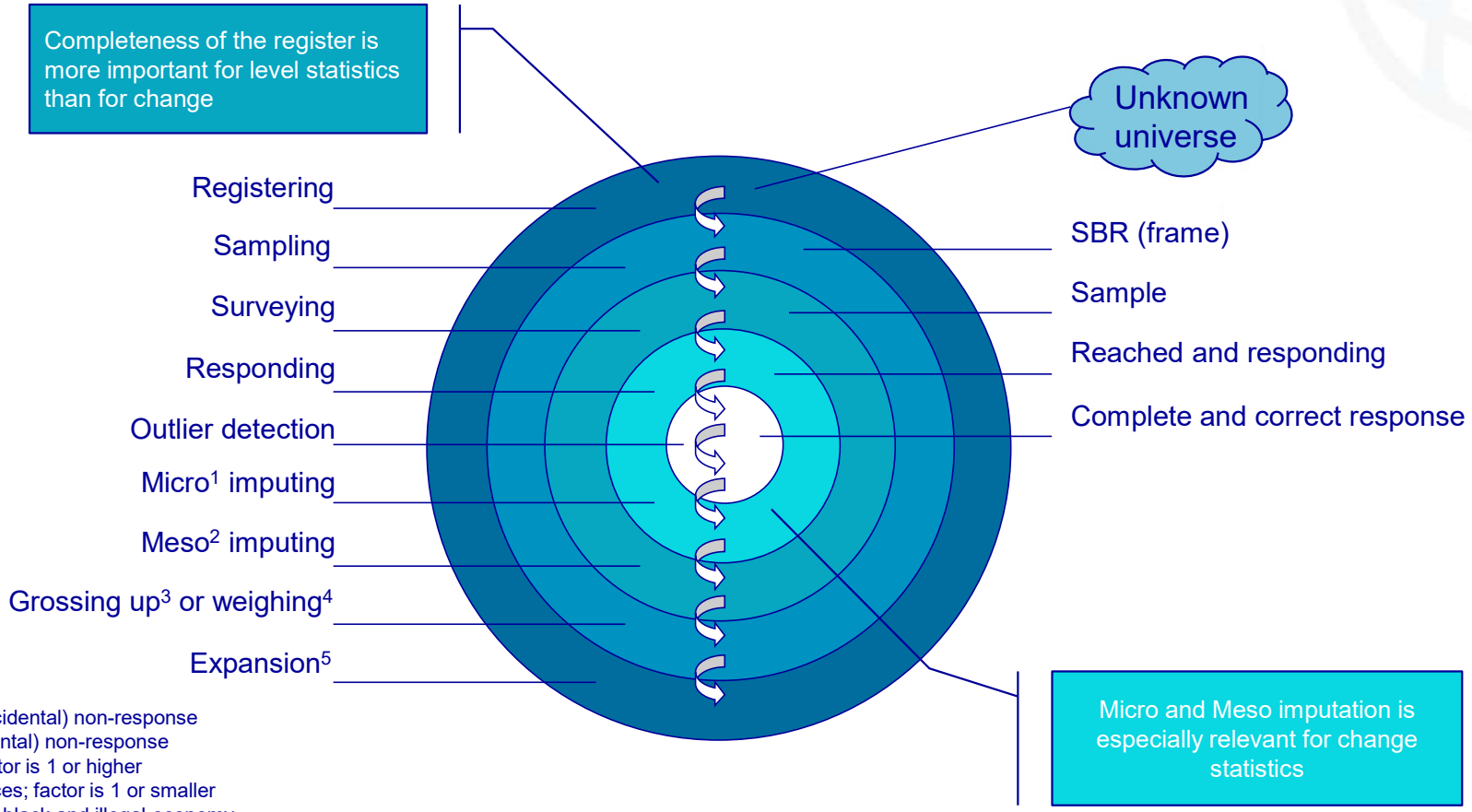
Statistical terms and concepts
Frame, Survey, Outlier detection, Imputation, etc.



1) In case of partial (incidental) non-response
2) In case of full (incidental) non-response
3) Of nominal data; factor is 1 or higher
4) Of growth rates/indices; factor is 1 or smaller
5) E.g., to cover for the black and illegal economy