



Welcome to Q&A

January 16, 2019

by Prof. Dr. Frauke Kreuter, IPSDS Program Director

Coordination & Funding



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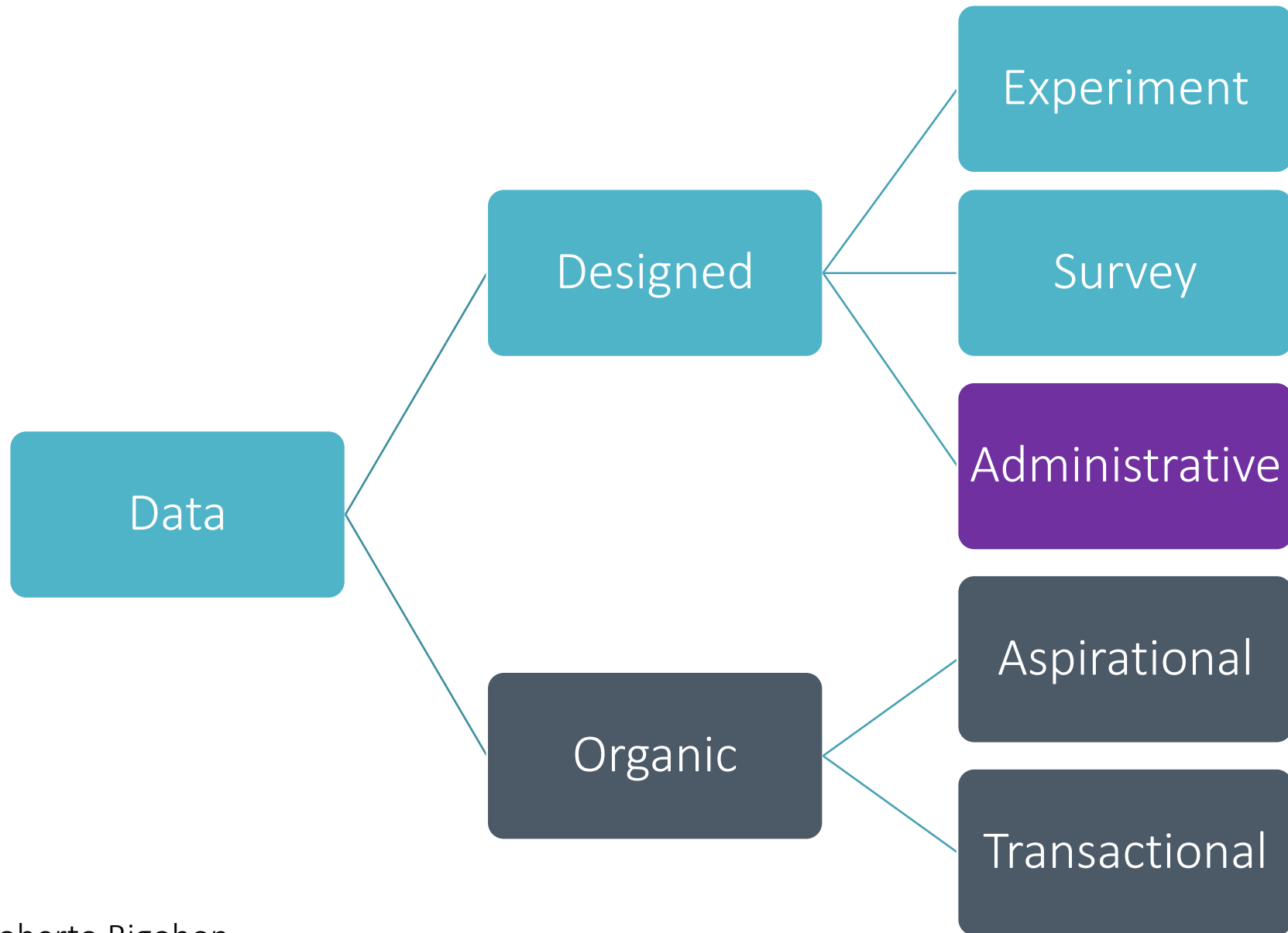
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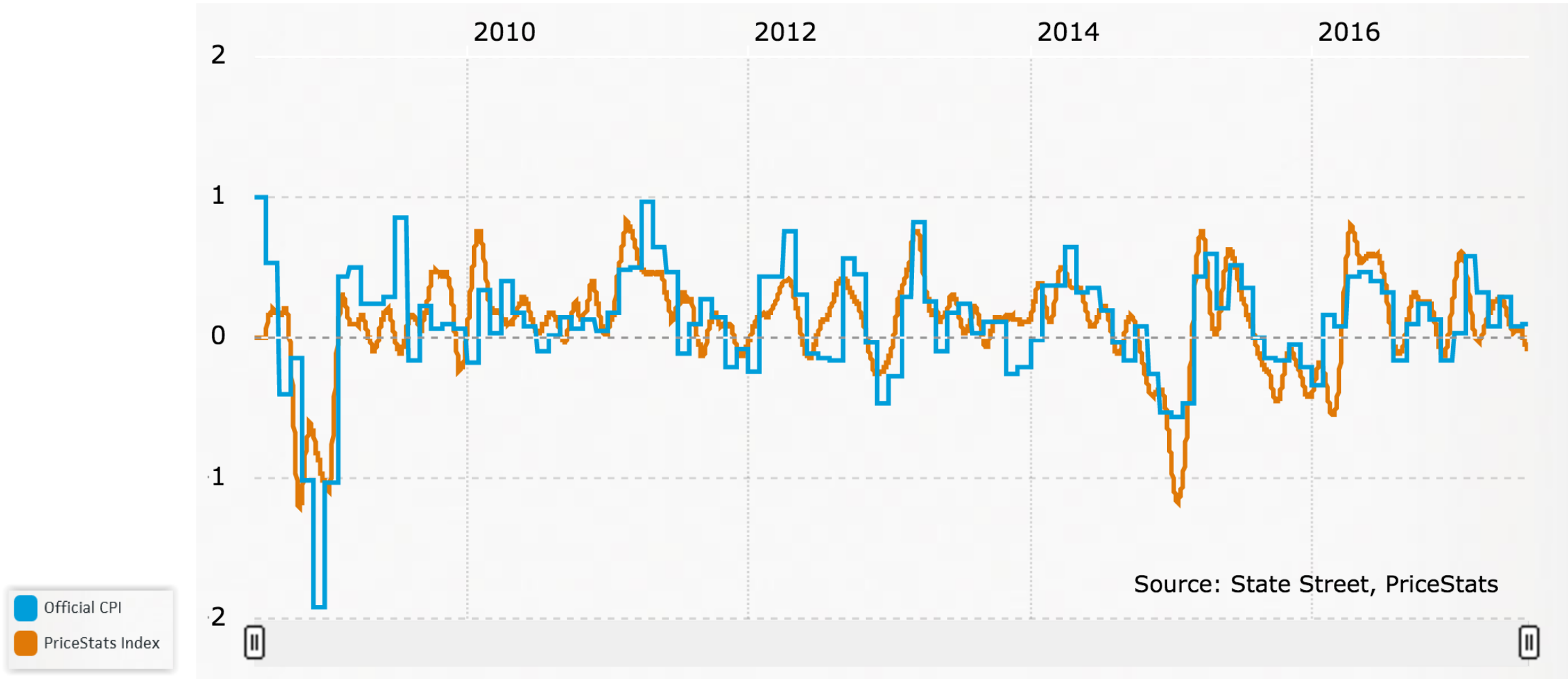
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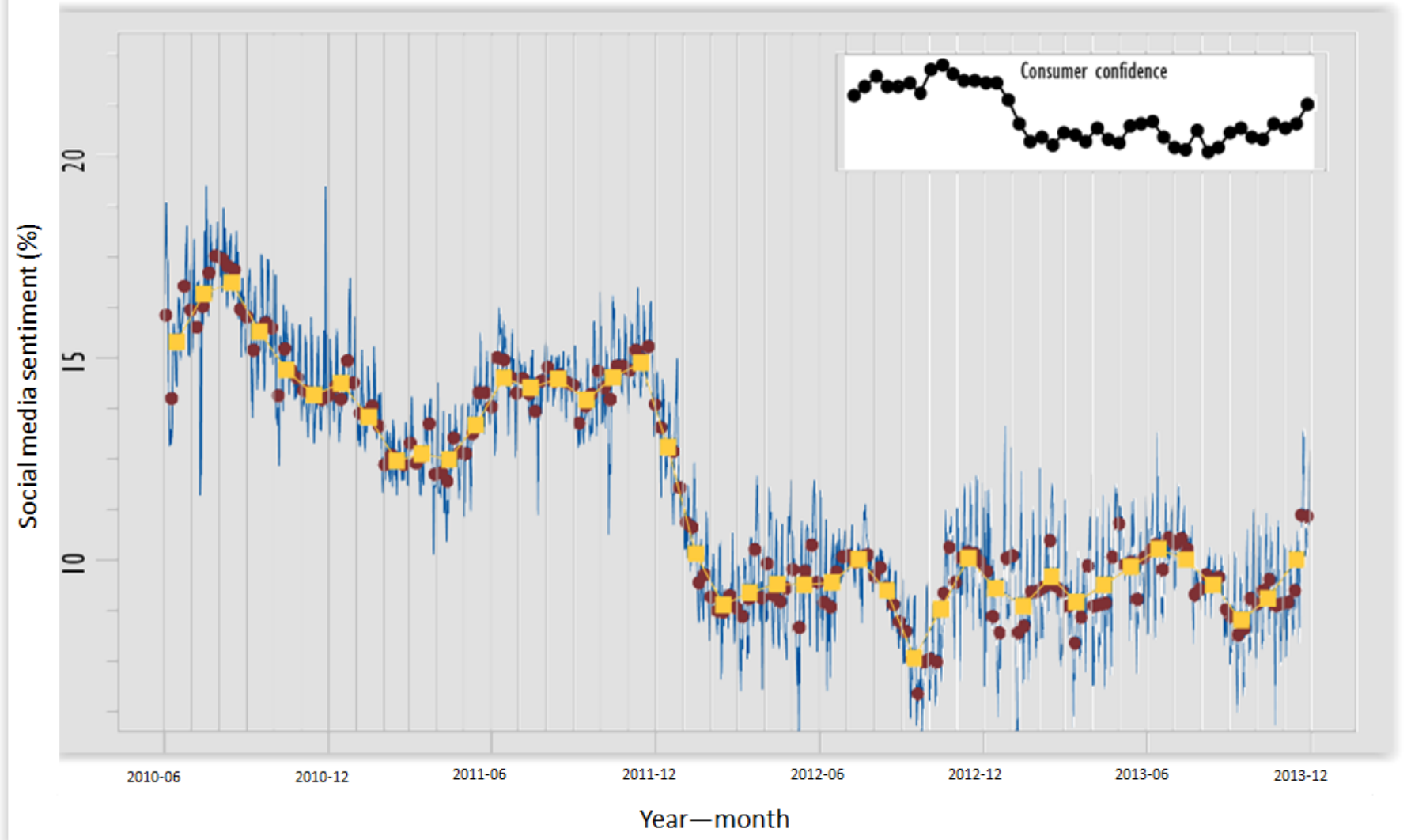
Why
SURVEY & DATA SCIENCE?



Source: Roberto Rigobon

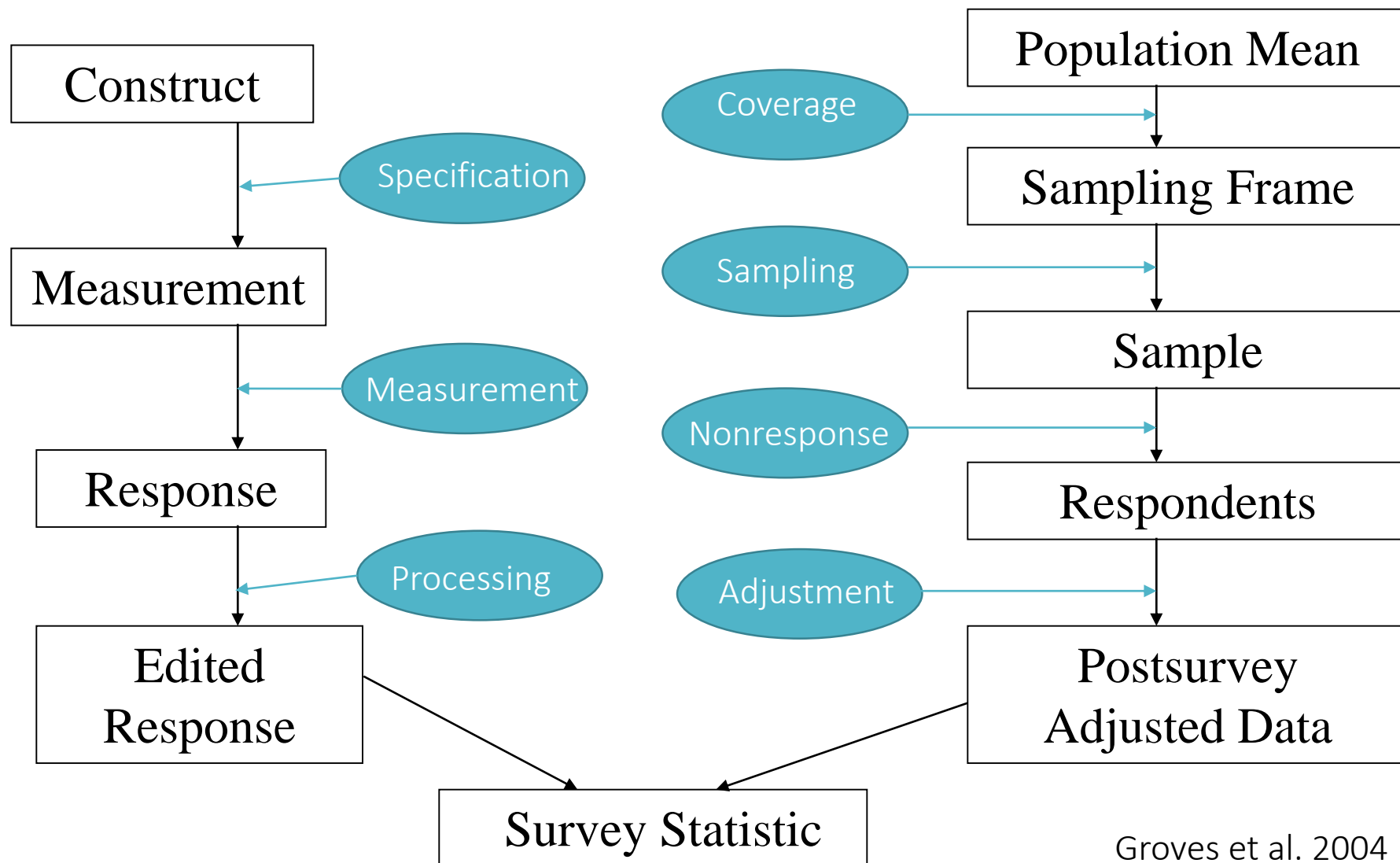
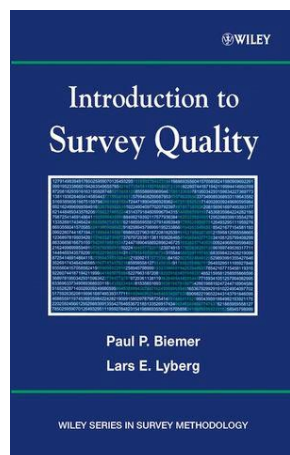
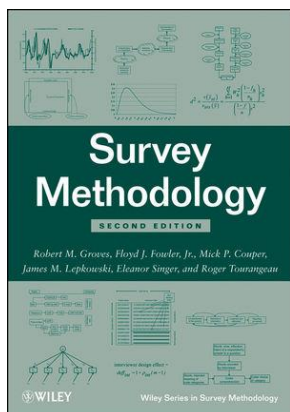


US Aggregated Inflation Series, Monthly Rate, PriceStats Index vs. Official CPI.
Accessed September 10, 2017 from the PriceStats website.

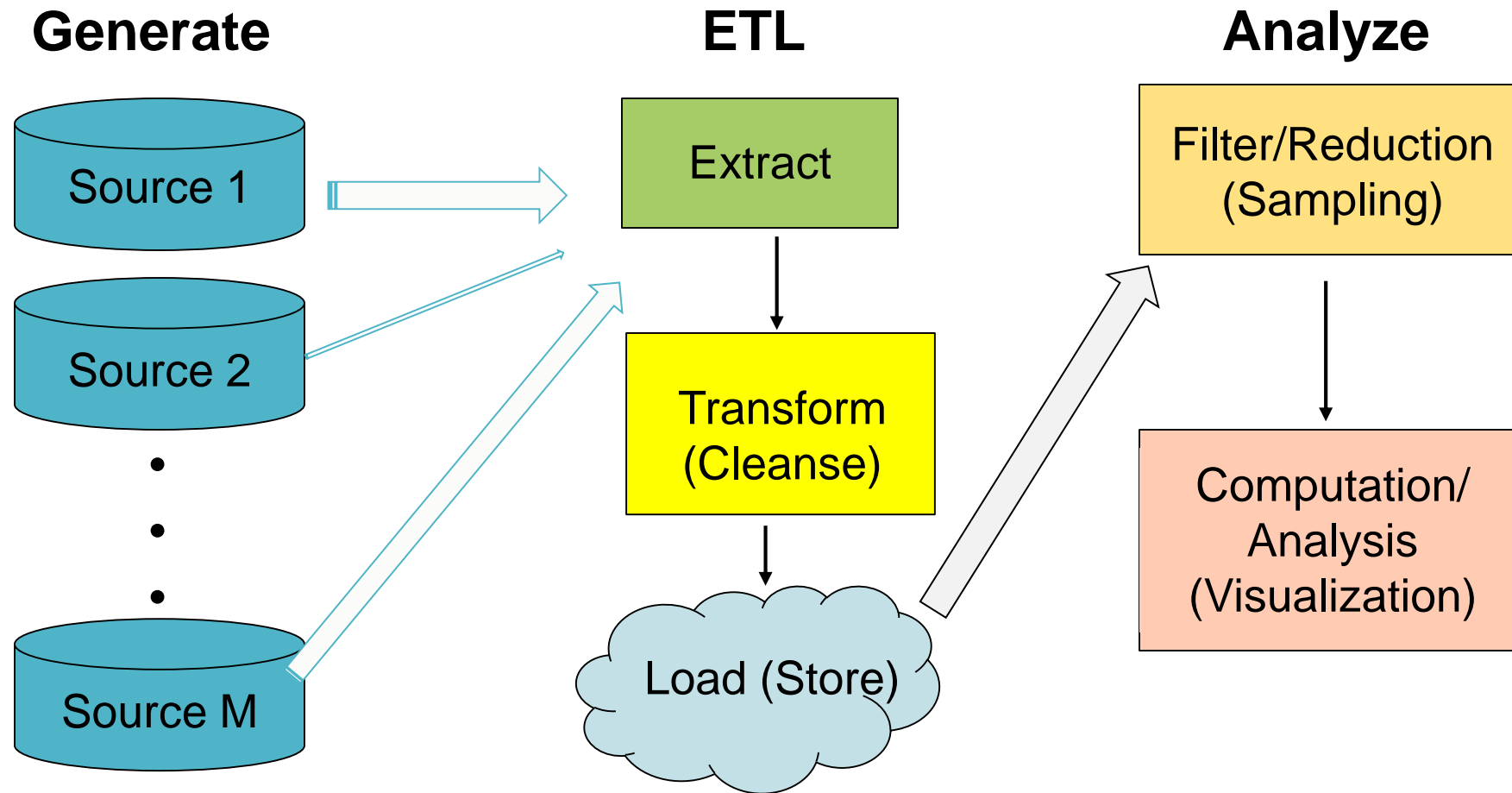


Social media sentiment (daily, weekly and monthly) in the Netherlands, 06.2010 – 11.2013. Consumer confidence for the same period is shown in the insert (Daas and Puts 2014).

Data Generating Process



Big Data Process Map





AAPOR Report on Big Data

AAPOR Big Data Task Force
February 12, 2015

Prepared for AAPOR Council by the Task Force, with Task Force members including:

Lilli Japac, Co-Chair, Statistics Sweden
Frauke Kreuter, Co-Chair, JPSM at the U. of Maryland, U. of Mannheim & IAB
Marcus Berg, Stockholm University
Paul Biemer, RTI International
Paul Decker, Mathematica Policy Research
Cliff Lampe, School of Information at the University of Michigan
Julia Lane, American Institutes for Research
Cathy O'Neil, Johnson Research Labs
Abe Usher, HumanGeo Group

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The National Academies of
SCIENCES · ENGINEERING · MEDICINE

REPORT

INNOVATIONS IN FEDERAL STATISTICS

Combining Data Sources While
Protecting Privacy



Chapman & Hall/CRC
Statistics in the Social and Behavioral Sciences Series

BIG DATA AND SOCIAL SCIENCE

A Practical Guide to Methods and Tools

Edited by
**Ian Foster, Rayid Ghani,
Ron S. Jarmin, Frauke Kreuter,
and Julia Lane**

 CRC Press
Taylor & Francis Group
A CHAPMAN & HALL BOOK



Program Structure

Data Output/Access

Learn how to communicate results and distribute and store your data

Data Analysis

Learn a variety of analysis methods suited for different data types

Data Curation/Storage

Learn how to curate and manage data

Data Generating Process

Understand how to collect data yourself, and how data are generated through administrative and other processes.

Research Question

Learn how to formulate your research goal and which data are best suited to achieve it.

Source: Usher in Japiec et al 2015

Data Output/Access

min.
6 ECTS

Ethics
1 credit/2 ECTS

Data
Confidentiality and
Statistical
Disclosure Control
2 credits/4 ECTS

Visualization
2 credits/4 ECTS

Data Analysis

min.
10 ECTS

Generalized Linear
Models
2 credits/3 ECTS

Analysis of
Complex Data I-III
1 credits/2 ECTS
each

Propensity
Score/Statistical
Matching
2 credits/4 ECTS

Machine Learning
I-III
1 credit/2 ECTS
each

Data Curation/ Storage

min.
6 ECTS

Database
Management I-III
1 credits/2 ECTS
each

Data Munging I-III
1 credit/2 ECTS
each

Data Generating Process

min.
10 ECTS

Data Collection
Courses
1 credits/2 ECTS
each

Record Linkage
1 credit/2 ECTS

Practical Tools for
Sampling and
Weighting
3 credits/6 ECTS

Applied Sampling
I-III
1 credits/2 ECTS
each

Experimental
Design
2 credits/4 ECTS

Research Question

min.
6 ECTS

Fundamentals of
Survey and Data
Science
3 credits/6 ECTS

Total: 75 ECTS
Master Thesis: 15 ECTS

Master Thesis

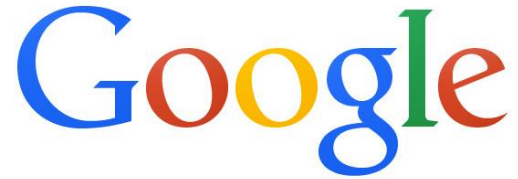
Flexible & engaging online learning environment

- Access the online English taught program being anywhere in the world
- Engage with video materials at your own pace
 - *program runs min. 15 months to max. 4,5 years, followed by 6 months Master Thesis*
- Take part in small group online meetings with faculty and peers
- Attend on-site networking meetings & meet fellow students from five continents

International Faculty from Partner Universities



International Faculty from the Industry



Institute for Employment
Research

The Research Institute of the
Federal Employment Agency



IPSDS Structure

Onsite (Connect@IPSDS)

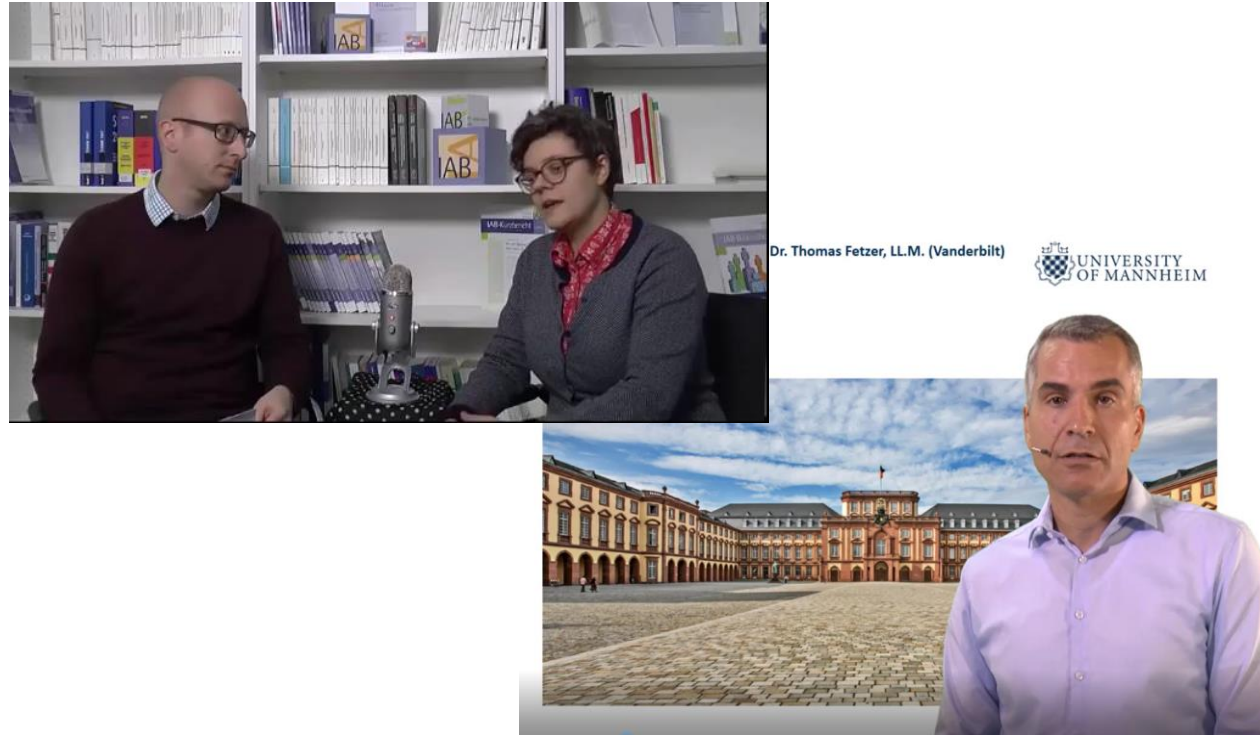


Online



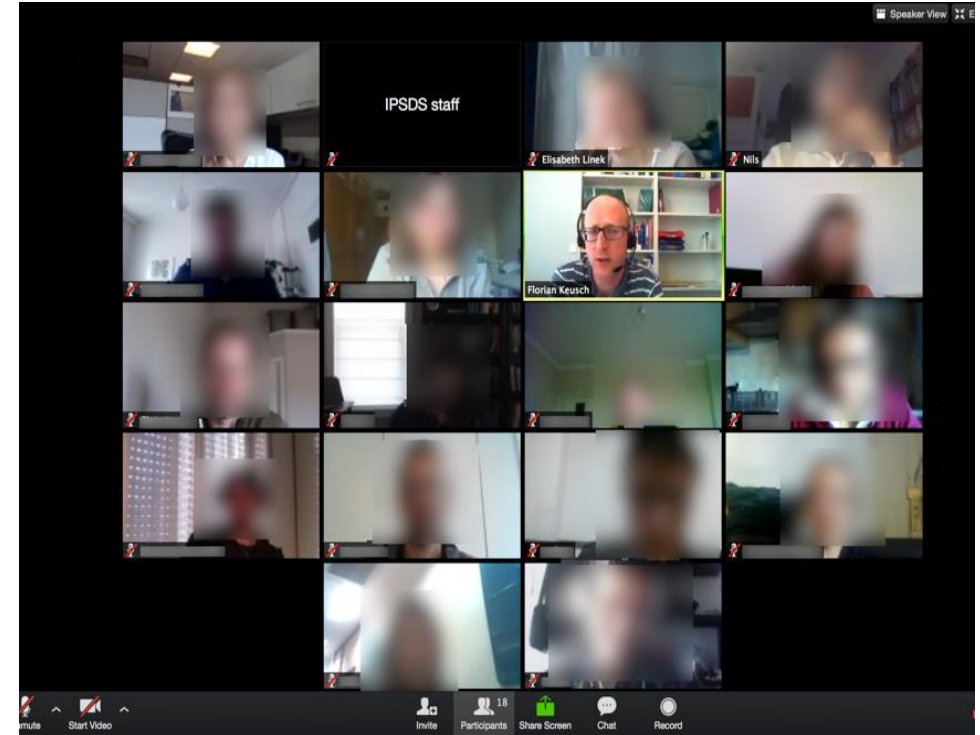
Format

Asynchronous



- Pre-recorded lectures (split into small video units)
- Required readings and (bi)weekly assignments
- Discussion forums

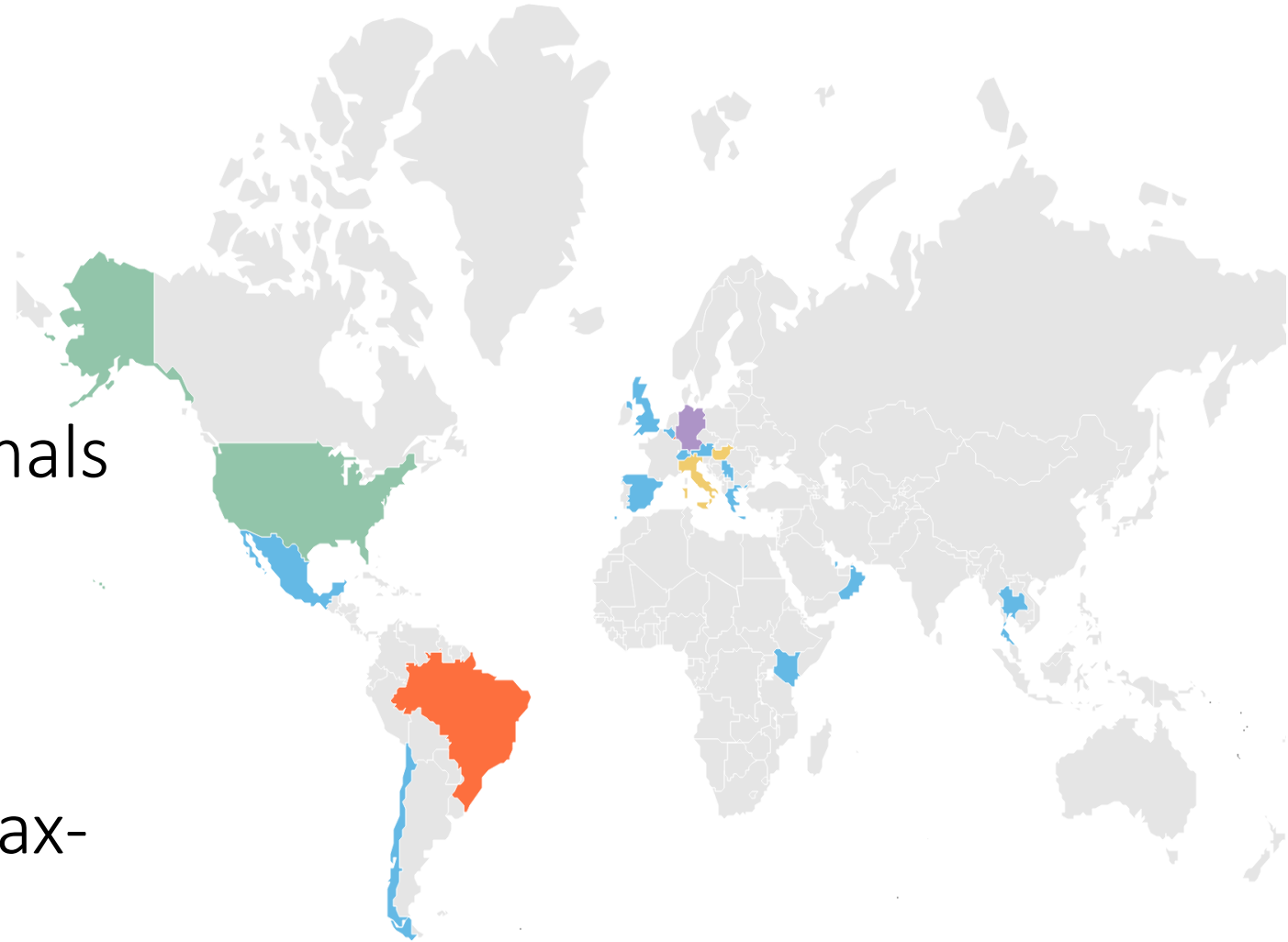
Synchronous



- Small virtual classrooms
- Weekly 50-minute discussions led by the instructor

IPSDS 3 (Test) Cohorts

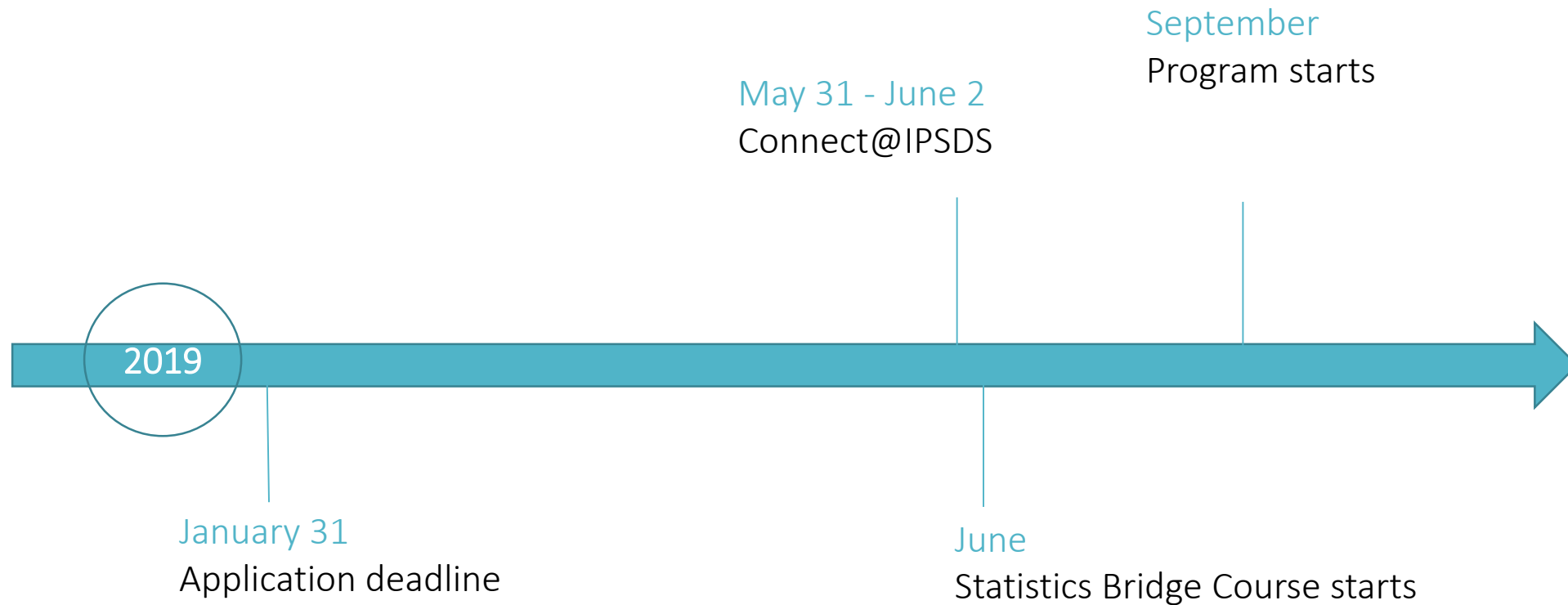
- 47 Participants
(27 f + 20 m)
- 100% are working professionals
- 19 countries of residence
- Age: median=31 (min-22; max-61)





Admissions 2019

Timeline



Prerequisites & Admissions

Who should apply?

IPSDS is designed for professionals working with data collection and data analysis.

Admission Requirements

- Academic degree (min. Bachelor's degree)
- At least 12 ECTS in mathematical/applied statistics
- At least one year of work experience in a position working with data
- English proficiency

Fees

19 courses offered for free in 2019-2020

8 paid courses (750 EUR per 1 credit/2 ECTS)



YOUR Questions

Thank you for your attention!

Contact us:

ipsds@uni-mannheim.de

survey-data-science.net



Appendix

Free courses offering 2019/2020

- Analysis of Complex Survey Data, 2 cr./4 ECTS
- Big Data and Machine Learning, 1 cr./2 ECTS
- Computer-Based Content Analysis I, 1 cr./2 ECTS
- Computer-Based Content Analysis II, 1 cr./2 ECTS
- Data Collection Methods, 3 cr./6 ECTS
- Experimental Design for Surveys, 2 cr./4 ECTS
- Fundamentals of Survey and Data Science, 3 credits/6 ECTS
- Generalized Linear Models, 2 cr./4 ECTS
- Inference from Complex Surveys, 2 cr./4 ECTS
- Introduction to Data Visualization, 1 cr./2 ECTS
- Introduction to Python and SQL, 1 cr./2 ECTS
- Introduction to Real World Data Management, 2 cr./4 ECTS
- Introduction to Small Area Estimation, 2 cr./4 ECTS
- Practical Tools for Sampling & Weighting , 2 cr./4 ECTS
- Privacy Law, 1 cr./2 ECTS
- Project Consulting, 6 cr./12 ECTS
- Questionnaire Design, 2 cr./4 ECTS
- Review of Statistical Concepts (bridge course)
- Web Survey Methodology, 2 cr./4 ECTS

Paid courses offering 2019/2020

750 EUR per 1 credit/2 ECTS

- Applied Sampling (Sampling I), 2 credits/4 ECTS
- Data Confidentiality and Statistical Disclosure Control, 2 credits/4 ECTS
- Introduction to Record Linkage with Big Data Application, 1 credit/2 ECTS
- Item Nonresponse and Imputation, 1 credit/2 ECTS
- Measurement Error Models, 1 credit/2 ECTS
- Multiple Imputation - Why and How, 1 credit/2 ECTS
- Usability Testing for Survey Research, 1 credit/2 ECTS
- Web Scraping and API, 1 credit/2 ECTS