

Proceedings of the Seventh International Conference on Establishment Statistics



Tuesday, June 18, 2024

Addressing Frame Issues

An Examination of the Coverage, Quality, and Accuracy of Dun and Bradstreet's Enhanced Building File abstract
Cynthia Good, Westat

Linking establishment data to the Business Register abstract
Jessica Wellwood, US Census Bureau

Advances in firmlevel network reconstruction and analysis

Finding Markets via Firm Embeddings: A machine learning approach to relevant markets abstract
Glenn Magerman, Universite Libre Bruxelles

Firm-level production networks: what do we (really) know? abstract final paper
András Borsos, Central Bank of Hungary; Frank Pijpers, Statistics Netherlands

Removing commodity cycles from a production network abstract
Edwin De Jonge, Statistics Netherlands

Climate Change: the challenge of measuring emission information for companies

Carbon footprint and direct emissions from a national accounts perspective abstract
Felipe Aviles

Estimating companies' GHG emissions using information from individual financial accounts abstract
Susanne Walter, Deutsche Bundesbank

Microdata base of sustainability indicators (ESG) developed at Banco de España using AI tools – recent updates and development abstract
Borja Fernández-Rosillo, BANCO DE ESPAÑA

Data Integration Applications in Government Agencies

A Unified Data Integration Approach to Small Area Estimation for Finite Population Sampling abstract
Partha Lahiri, University of Maryland-College Park

Harnessing the Power and Potential of a Changing Data Landscape for Housing Detection abstract
Andrea Johnson, U.S. Census Bureau

Perspectives from within BLS: Innovative applications and methods and open questions for data integration abstract
Erin Boon, U.S. Bureau of Labor Statistics

The Increasing Application of Integrated Data in the Production of Official Agricultural Statistics abstract
Linda Young, USDA NASS

Edit and Imputation for Economic Statistics: Modern Techniques and Tools

Enhancing Data Imputation: A Dive into R package VIM's Integration of xgboost and GPT Models abstract
Alexander Kowarik, Statistics Austria

Evaluation of Manual vs Automated Survey Editing and Imputation abstract final paper
Sean Rhodes, USDA

Split-Apply-Combine with Dynamic Grouping abstract
Edwin De Jonge, Statistics Netherlands

Towards a more automatic processing of data in establishment statistics abstract
Florian Dumpert, Federal Statistical Office of Germany

Giving Back

Giving back and inculcating a sense of contribution in the respondents abstract
Zhihan Chen

Giving back to community abstract

Trophy Endah Rahayu, BPS-Statistics Indonesia

Giving value back to survey respondents abstract final paper

Jelena Radic, Australian Bureau of Statistics

Global Innovations in Data Collection

A Picture is Worth a Thousand Definitions: Validating Company Data with Satellite Images and Street View abstract

Stefan Bender, Deutsche Bundesbank - Research Data and Service Center (RDSC)

Singapore's Journey In The Creation Of A Comprehensive Occupational Employment Database abstract

Zhihan Chen

The Digitalization Of The Tools To Collect Information On Households' Consumption Expenditure abstract

Federico Polidoro, Italian National Institute of Statistics/ World Bank

Using Scanner Data In Slovenia abstract

Klavdija Škerlak, Statistical Office, Republic of Slovenia

Introductory Overview Lecture: New Approaches in Sampling and Estimation

New Approaches in Sampling and Estimation abstract

Alina Matei, University of Neuchatel Switzerland; Paul Smith, University of Southampton-Highfield

Introductory Overview Lecture: The Wonders of Artificial Intelligence?

An Introduction to Artificial Intelligence and Machine Learning for Official Statistics abstract

Eva Charlotte Berner; Jakob Engdahl, Statistics Sweden

Modern Methods and Quality

Development of a Practitioner's Tool for Establishment Survey Assessment abstract

Bryan Rhodes, RTI International

Experimental Statistics compiled by the Hellenic Statistical Authority abstract

Adamantia Georgostathi, Hellenic Statistical Authority

Modern establishment statistics with increased dependency on models: building guard-rails for the road ahead abstract

Steve Matthews, Statistics Canada

Revisions in concurrent seasonal adjustments of daily and weekly economic time series abstract final paper

Karsten Webel, Deutsche Bundesbank

Protecting Establishment Data with Formally Private Methods

Application to QCEW Dataset abstract

Daniell Toth, US Bureau of Labor Statistics

Formal Privacy for Establishment Data abstract

Daniel Kifer, Penn State University

Formally Private Heavy-Tailed Synthetic Data abstract

Aleksandra Slavkovic, Pennsylvania State University

Privacy and Utility of Formal Privacy Mechanisms and Post-Processing Algorithms for Establishment Data abstract

Kaitlyn Webb

Quality aspects of statistics based on combined sources

Automatic detection of NACE misclassifications with multiple sources abstract

Arnout Van Delden, Statistics Netherlands

Methodologies for integrating different sources in Official Statistics abstract

Pedro Campos, Statistics Portugal (ine)

Process and output quality evaluation measures for Istat Integrated System of Statistical Registers abstract

Diego Chianella, ISTAT

Respondent-Centered Establishment Survey Design Principles at Four National Statistical Institutes

Respondent-Centered Establishment Survey Design Principles at Four National Statistical Institutes abstract

Bente Hole, Statistics Norway; **Dag Gravem**, Statistics Norway; **Ger Snijkers**, Statistics Netherlands; **Leanne Houben**, Statistics Netherlands

Response Burden, Questionnaire Design, Mode Effects

Changes to the 2024 Economic Census questionnaire in Mexico to measure the impact of the Digital Economy following the COVID-19 pandemic. abstract

José Luis Mercado, Instituto Nacional de Estadística y Geografía

Effects of Questionnaire Length on Response Rate and Respondent Burden in the IAB Job Vacancy Survey: A Two-Group Experiment abstract

Andre Pirralha

Finding a Respondent at a Commercial Building using Email and Telephone abstract final paper

Sarah Grady, U.S. Energy Information Administration

Observing the Switch: A Comprehensive Analysis of Switching Modes Mid-Interview in an Establishment Survey abstract

Sophie Hensgen, Institute for Employment Research

Practicing What's Preached? Establishment Survey Practitioners Perceptions of Pretesting Methods vs. the Current Literature abstract

Benjamin Messer, U.S. Energy Information Administration

SPEED Session: Frame Creation, Inference and Everything in Between, Part 1

Applying Hard-to-Survey Approaches to Establishment Surveys abstract

Dave DesRoches, Westat

Clustering similar Local Authorities to support policy development and evaluation: why Glasgow and Gloucester are closer than you think abstract

Benedetta Iametti, Office for National Statistics

Cut-off, Cutoff, Quasi-Cutoff and Other Nonprobability Sampling with Inference abstract final paper

James Knaub, Retired

Drilling into our Assumptions: Improving US Oil Production Estimation abstract

William Colson, U.S. Energy Information Administration

Employing establishment gatekeepers as de facto survey managers to facilitate responses from group quarters residents abstract

Alfred Tuttle, US Census Bureau

Fast-Track Innovations in Estimation and Analytics for Large National Medical Provider and Expenditure Surveys abstract

Steven Cohen, RTI International

Prospects and obstacles in exploitation of Industry 4.0 and 5.0 technologies in official business statistics abstract final paper

Pasquale Papa, ISTAT - Italian National Statistical Institute

Robust Estimation for Nonignorable Missing Data abstract

Samidha SudhakarShetty, Pennsylvania State University

Using Advance Worksheets as a Respondent Survey Aid for Budget and Personnel Data abstract

Megan Waggy, RTI International

World Bank Enterprise Survey Experiment abstract

Juan Carlos Donoso

Use of multiple sources of data addressing design and estimation challenges in establishment statistics

A Preliminary Study of Blended Index Variance Estimation with Census Trade Data abstract
Daniel Yang, Bureau of Labor Statistics

Combining NAEP Years to Boost Sample Size and Potentially Reduce Nonresponse Bias for Private Schools abstract final paper

Thomas Krenzke, Westat

Errors in economic sector classifications of establishments: the use case of energy statistics abstract

Sander Scholtus, Statistics Netherlands

Sampling Early Care and Education Providers in the U.S. for The National Survey of Early Care and Education abstract

Kanru Xia, NORC at The University of Chicago

Using online data for business register enhancement

Business register enhancements from online data: an overview abstract

Arnout Van Delden, Statistics Netherlands

Enhancing Business Register: Integrating Traditional and Alternative Data Sources through Record Linkage Methods abstract

Ville Auno, Statistics Finland

Exploiting the Web Presence of Enterprises to Improve NACE Code Classification abstract

Johannes Gussenbauer, Statistics Austria

Welcome and Opening Keynote Address

Reflections on Business Data Collection abstract

Ger Snijkers, Statistics Netherlands

Wednesday, June 19, 2024

Automated Business Data Collection - Experiences in Portugal and the Netherlands

Automated Business Data Collection - Experiences in Portugal abstract final paper
Paulo Santos, Statistics Portugal

Automated Business Data Collection - Experiences in the Netherlands abstract final paper
Ger Snijkers, Statistics Netherlands

Data Integration Products

Estimating Propensities of Selection for Big Datasets via Data Integration abstract final paper
Lyndon Ang, Australian National University

Measuring the informal economy in Mexico through the Economic Census. abstract
José Luis Mercado, Instituto Nacional de Estadística y Geografía

Ratio-Synthetic and Imputation-Based Models using Integrated Survey and Alternative Data Sources for Retail Sales Estimates abstract
Darcy Morris, U.S. Census Bureau

Speaking the unspoken truth abstract
Gary Brown, Office for National Statistics

Innovations in U.S. BLS Administrative Establishment Statistics

A New Measure of Establishment Dynamism: Wage Dynamics abstract
Kevin Cooksey, US Bureau of Labor Statistics

Job Openings and Labor Turnover Survey – An Overview of Program Economic Data abstract
Paul Calhoun, U S Dept. of Labor

Measuring Labor Market Competition with the QCEW abstract
Trent Thompson, U.S. Bureau of Labor Statistics

QCEW Business Supplement (QBS) – Asking More for Less abstract final paper
Sharon Stang, US Bureau of Labor Statistics

Introductory Overview Lecture: Real-time analysis: theoretical and practical considerations?

Real-time analysis: theoretical and practical considerations? abstract
Pim Ouwehand, Statistics Netherlands; Craig McLaren, Office for National Statistics

Introductory Overview Lecture: Recent Advances in Small Area Estimation

Recent Advances in Small Area Estimation abstract
Partha Lahiri, University of Maryland-College Park; Malay Ghosh, University of Florida

Managing Response Burden

Financial market monitoring using social media data: Lessons from the Central Bank of Nigeria
abstract
Kumafan Dzaan, Central Bank of Nigeria

From In-Person to Mixed Mode: Trends and Characteristics of Respondents to the June Area Survey
abstract
Denise Abreu, USDA/NASS

Response Burden Adjustment in Coordinated Samples of Businesses abstract
Johannes Straubinger

Semi-annual Innovation Survey: the latest Brazilian experience in collecting data on innovation and new themes abstract
Flavio Peixoto, IBGE

Perceived response burden in business surveys: measurement, causes and consequences

Measuring actual and perceived burden – results of a pilot a Statistics Netherlands abstract
Deirdre Giesen, Statistics Netherlands

Measuring and understanding perceived response burden: an application to Italian establishment surveys abstract
Marco Bottone, Banca D'Italia

Measuring perceived burden in a U.S. establishment survey abstract
Douglas Williams, Bureau of Labor Statistics

Sample coordination for business statistics: lessons learned, challenges and developments

A new look at negative coordination of samples: targetted double control of burden in multiple surveys abstract
Alina Matei, University of Neuchatel Switzerland

Sample coordination at the Swiss Federal Statistical Office: strengths and weaknesses. abstract
Lionel Qualité, Office Fédéral De La Statistique

Sample coordination for Statistics Canada's economic surveys: past experiences and avenues for the future abstract
Jean-Francois Beaumont, Statistics Canada

Statistical Machine Learning Methodology for Establishment Data

Bayesian Tree Models for Survey Sample Data abstract
Scott Holan, University of Missouri/U.S. Census Bureau

Random Forest Models for Complex Survey Data abstract
Kelly McConville, Harvard University

Statistical Deep Learning for Dependent Establishment Data abstract
Paul Parker, University of California Santa Cruz

The Collection, Analysis and Use of Paradata in Establishment Surveys

Efforts to Monitor and Improve the Collection of Paradata in BLS Programs abstract
Joshua Langeland, Bureau of Labor Statistics

How paradata can help us identify differences in the response processes between self-administered and interviewer- administered interviews. abstract

Marieke Volkert, Institute for Employment Research (IAB)

Using audit trails to develop indicators for perceived response burden abstract
Deirdre Giesen, Statistics Netherlands

Unit level small area estimation for business surveys

Empirical evidence for which unit level models work best for small area estimation in business surveys abstract
Paul Smith, University of Southampton Highfield

Small area estimation of business parameters for skewed data abstract
lorenzo mori, University of Bologna

Transformation-based small area approaches in the case of business data abstract
Niklas Dörner, University of Bamberg

Use of Non-survey Data in Agricultural Statistics in the Modern Era

Automatic Imputation in an Agricultural Area Frame Survey abstract
Arthur Rosales, USDA National Agricultural Statistics Service

Integrating Datastreams for Timely Crop Information and Statistics in the European Union abstract
Marijn van der Velde

Use of satellite imagery to verify agricultural or forestry activity in rural areas during the 2022 Agricultural Census abstract
Susana Pérez Cadena, INEGI

Using Non-Survey Data in Official Statistics: How Far Can We Go?

Using Non-Survey Data in Official Statistics: How Far Can We Go? abstract

Owen Abbott, Office for National Statistics; **Michael Steiner**, International Fund for Agricultural Development (IFAD); **Stefan Bender**, Deutsche Bundesbank - Research Data and Service Center (RDSC); **Kristian Taskinen**, Statistics Finland - Tilastokeskus

Wednesday Keynote Address

Inference on Population Distribution From a Nonprobability Sample or by Integration with a Probability Sample abstract

Daniel Pfeffermann, Hebrew University of Jerusalem, Israel & University of Southampton, UK

Well, That Was Unexpected! Adventures in Conducting Establishment Surveys

All Expenses, Excluding the Office Sink: Designing Business Survey Instructions abstract final paper
Jelena Radic, Australian Bureau of Statistics

Challenges in Collecting SOGI and Disability Questions from Farm and Ranch Operations using Computer Assisted Telephone Interviewing abstract final paper

Kathy Ott, USDA/National Agricultural Statistics Service

From statistics to relatable info. The journey to transform data to easy-to-understand messages!
abstract

Daniel Tze Wei Sim, Ministry of Manpower

Quick! Pivot! When Research Findings Lead to a New Research Plan but Time is Tight (An Example from the U.S. Census Bureau) abstract

Kristin Stettler, US Census Bureau

Starting up a New Survey of Government Facilities: Challenges and Lessons Learned abstract

Ronda Britt, National Science Foundation (SBE/SRS)

Thursday, June 20, 2024

Advances in Small Area Estimation with Applications to Agricultural Establishments

Exact MCMC-free Bayesian Inference for a Class of Bayesian Latent Gaussian Process Models abstract

Jonathan Bradley, Florida State University

Spatio-temporal Small Area Analysis of Agro Carbon Footprint in the Po Valley abstract

Riccardo Pajno, Università degli Studi di Milano-Bicocca

The shift the linear predictor by random principal components in the multivariate unit-level model for small area estimation abstract final paper

Laura Marcis, University of Cassino

Communicating with Respondents

Dependent Interviewing in Establishment Surveys abstract final paper

Kenneth Pick, U.S. Department of Energy

Questionnaire development in an international establishment survey - evidence from four waves of the ESENER survey abstract

Xabier Irastorza

Why should I take a survey? Assessing the Effect of a Novel Communication Framework on Joining a Business Survey Panel in Email Experiments. abstract

Jason Kosakow, Federal Reserve Bank of Richmond

Data Collection of Agricultural Statistics in Times of Crises

Data collection challenges during times of change Census of Agriculture 2022 in Mexico abstract

Susana Pérez Cadena, INEGI

Detecting and mapping war-induced damage to agricultural fields in Ukraine using satellite data abstract

Sergii Skakun, University of Maryland, College Park, MD

Resilience of an Area Survey Program in the Face of Change abstract

Tara Murphy, USDA National Agricultural Statistics Service

Data lifecycle in creating research datasets with multiple sources of data

Feasibility of Developing a Census of Physicians and Physician Practices from Multiple Disparate Data Sources abstract final paper

Scott Campbell, NORC at The University of Chicago

Measuring the linkage accuracy when linking many files to a spine abstract

Steve Matthews, Statistics Canada

Opportunities and Challenges in Integrating Diverse Data to Produce Agricultural Estimates abstract
Linda Young, USDA NASS

Slowly Scaling Privacy Loss for Influential Records Using Per-record Differential Privacy abstract
Brian Finley, US Census Bureau

Dissemination / Confidentiality

Addressing demands for supply chain data: a perspective from the U.S. Census Bureau abstract
Carla Medalia, US Census Bureau

Analysis of a new privacy-preserving methodology for the BLS' Quarterly Census of Employment and Wages abstract final paper
David Talan, Bureau of Labor Statistics

The Annual Business Survey (ABS) and the Development of a Synthetic Data Public Use File abstract
Audrey Kindlon, National Science Foundation

How to address quality issues and produce official statistics from a large administrative data source: Experiences from the U.S. Uniform Crime Reporting Program

Addressing Data Quality During the Estimation Process: Incorporating Uncertainty into the NIBRS Estimation System abstract
Dan Liao

Ensuring Data Quality from the Front Lines: Aggregating Crimes Reported to the Police to Produce Official Statistics abstract
Cynthia Barnett-Ryan, DOJ/FBI

How Taking a 10,000 Foot View of Data Quality Can Identify Individual-level Issues abstract
Marcus Berzofsky, RTI International

Introductory Overview Lecture: Data Visualization

Visualising Statistics Clearly abstract
Edwin De Jonge, Statistics Netherlands; Francis Donnarumma, Office for National Statistics (ONS)

Introductory Overview Lecture: Modern methods with big data to compile price statistics: Applying Machine Learning with multilateral price indices on web scraped and scanner data

Modern methods with big data to compile price statistics: Applying Machine Learning with multilateral price indices on web scraped and scanner data abstract
Jens Mehrhoff, Deutsche Bundesbank; Serge Goussev, Statistics Canada

Keynote Address and Closing Ceremony

A Multi-Faceted Perspective on Establishment Statistics: From Innovation to Accepted Science to Innovation (Again) abstract
Katherine Thompson, US Census Bureau

Large Cases Units in Europe; developments and expectations by Denmark, Ireland, the Netherlands and Sweden

Experiences of the Consortium 2018-2024 abstract
Dries Butink, Statistics Netherlands

LCUs in Ireland and the Netherlands, Part 1 abstract
Cyrille Pluijmen, Statistics Netherlands

LCUs in Ireland and the Netherlands, Part 2 abstract
Ruth O Shaughnessy, Central Statistics Office

LCUs in Scandinavia: Denmark and Sweden. abstract
Jon Mortensen, Statistics Denmark

Modern Sample Design

Analytic sensitivity analysis for multipurpose allocation abstract
Felix Willems, University of Trier

Bayesian optimal sample design for establishment surveys with heteroscedasticity abstract
Michael Elliott, University of Michigan

Exponential smoothing for parameter estimation in sample allocation abstract
Helen Verey, Office for National Statistics

Optimal allocation under anticipated nonresponse abstract
Jonathan Mendelson, Bureau of Labor Statistics

Sampling Strategy for Multipurpose Establishment Surveys abstract final paper
Yang Cheng, National Agricultural Statistics Service

Navigating Through Generative AI: From Unknown Unknowns to Known Unknowns

Navigating Through Generative AI: From Unknown Unknowns to Known Unknowns abstract
Jakob Engdahl, Statistics Sweden; Eva Charlotte Berner; Felicitas Sommer, Technical University of Munich; Jeff Danforth, International Monetary Fund

Operational Considerations for Establishment Survey Nonresponse Follow-up

A Summary of Nonresponse Operational Considerations and Reduction Techniques for Establishment Surveys in the U.S. Federal Statistical System abstract final paper
Kenneth Pick, U.S. Department of Energy

Collection and Use of Email Addresses in Establishment Surveys: Results from Two Contact Strategy Experiments abstract
Joshua Langeland, Bureau of Labor Statistics

Nonresponse Follow-up Questionnaires: Will they answer more if we ask them less? abstract final paper
Kathy Ott, USDA/National Agricultural Statistics Service

Reducing Nonresponse in Establishment Surveys: Some Best Practices from the Literature abstract final paper
Benjamin Messer, U.S. Energy Information Administration

Riding the wave of non-survey data

The Australian Bureau of Statistics' journey in utilising bank transaction data in the production of official statistics abstract final paper
Jacqui Vitas, Australian Bureau of Statistics

The Use of Non-Survey Data to Establish Economic Statistics (case of Tourism Statistics and International Merchandise Trade Statistics) abstract final paper
Realita Eschachasthi, BPS - Statistics Indonesia

Use of Administrative Data and New Data Sources in Industry Statistics abstract final paper
Neo Soo Khee, Singapore Department of Statistics

Stat Methods: Modelling

A New Multilevel Analysis for Unknown Level 1 and Level 2 Variances Aiming at Prediction abstract final paper
Kohei Horinouchi, Waseda University

Imputing Missing Values Under Missing at Random for Estimating National Ferry Boarding Totals abstract
Young-Jun Kweon, US Department of Transportation

Real-time estimates: data sources and methods of analysis abstract
Aleša Lotrič Dolinar, University of Ljubljana, School of Economics and Business

Water consumption in offices: applications of statistical models and machine learning abstract
Elisa Henning, Universidade Do Estado De Santa Catarina

Statistical Learning Techniques for Analyzing Complex Survey Data

Statistical Inference in the Presence of Imputed Values through Regression Trees and Random Forests abstract

David Haziza, University of Ottawa

The Use of Random Forests in Small Area Estimation abstract

Jean-Francois Beaumont, Statistics Canada

Walking on Broken Glass? Business surveys based on non-traditional data frames

Assessing the Impact of Government Restrictions on Consumer and Business Activity during the Pandemic abstract

Robert Petrunia, Lakehead University

Indirect Sampling of Merchant Acceptance of Cash abstract

Heng Chen

Lessons from a retailer survey on the cost of payments abstract

Fabio Knuemann, Deutsche Bundesbank

Recruiting firms for business survey panels using a B2B data provider abstract

Grace Guynn, Federal Reserve Bank of Atlanta