Editorial

1. The times they are a-changing

After four years as Editor-in-Chief, the time has come to hand over the responsibility for the Statistical Journal of the IAOS (SJIAOS). These years, 2019–2023, reflected a very stormy period for Official Statistics. The COVID-19 pandemic, the Ukraine war, the climate crises, and related crises in housing, migration, and employment, to name just a few, all have had a strong impact on society in general and consequently also on Official Statistics. The IT and Data revolution accelerated the changes in the production and dissemination of official statistics. Data Ecosystems, with data from everywhere and Artificial Intelligence (AI) with Machine Learning (ML) as an important tool, have pushed Official Statistics to rapidly re-think its position and reformulate its strategies. Comparing the main themes in some recent conferences in Official Statistics, with those in conferences held some five years ago, shows this rapid transition. The New Technologies and Techniques in Statistics (NTTS) Conference 2023, held in March in Brussels, and the IAOS-regional ISI 2023 Conference held in April in Livingstone in Zambia, were full of presentations on the impact of AI and the new Data Ecosystem. In 2018 the program of the IAOS Conference in Paris concentrated on Big Data, globalization, and sustainable development indicators; themes still relevant but overtaken in emphasis by the reflections on issues like the Data ecosystem and AI.

Technological developments have also an impact on scientific publishing, in general as well as in reporting in Official Statistics. The impact of Open Data, Fair publishing and AI as well as new ways of disseminating results will be the theme of the *Special Invited Paper Session (SIPS) of the SJIAOS)*[1] during the ISI WSC in Ottawa. The 16th discussion on the SJIAOS Discussion platform will have as theme the impact of developments in AI and the availability of data in the so-called Data Ecosystem.

Not only has the content of the SJIAOS changed, but the period 2019–2023 shows a substantial increase in authorship and readers. The visits/views (including downloads) of the SJIAOS section in the IOSPress content library have increased from 10.000 in 2018 to over 90.000 in 2022.[2] Beyond that, there are yearly over 30.000 visitors to the Journal's Official.Statistics website.[3] In 2018, 87% of all the contributions were authored by colleagues from the traditional contributing ECE/OECD countries (mainly Europe, North America, Australia and New Zealand). In 2022 the percentage of authors from other regions of the world has gone up to almost 30%. The Journal has become a real global journal.

The worldwide relevance of the IAOS is also confirmed by the most current 2023 IAOS-regional ISI Conference held from 4–6 April 2023, in Africa, in Livingstone, Zambia. SJIAOS Emphasis editor *Michael Yang* (NORC) reports that the successful conference brought together close to 400 statisticians from government statistics offices, universities, and world organizations who care about the value of Official Statistics to society. The theme of the conference was: ***Better Lives 2030: Mobilising the Power of Data for Africa and the World***, which was faithfully reflected in the pre-conference training courses and workshops, conference presentations, panel discussions, and plenary sessions. Most of the participants were from African countries, but all continents were represented. The high level of the conference is also supported by the fact that some 10 authors have been invited to submit their manuscripts to the SJIAOS. The rising importance of Official Statistics in regions in Africa was strongly proven by the focus on statistical leadership training, a topic prominently featured in many sessions of the conference as well as in one of the pre-conference training courses.

2. Special theme: Statistics on governance, peace and security (Praia Group)

So-called '*City groups*' are an important informal

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[1] Scheduled for the 20th of July 2023.

[2] The figures for the first half year of 2023 show a further increase of the number of views.

[3] The website www.official.statistics.com was created in August 2019.

working model for the United Nations Statistics Committee (UNSC). Over the years some 20 groups with representatives from national statistical agencies and international organizations have been established to discuss and address specific thematic challenges in de development and implementation of statistical methodologies. The groups are usually known in reference to the place, the city of their first meeting. Important results of international harmonization have been achieved for example via the *Canberra Group on Household Income Statistics*; *the Washington Group* resulted in standardized methodologies for measuring disability; *the Ulaanbaatar Group* focussed on Statistics for Economies Based on Natural Resources. This issue of the Statistical Journal has a special focus on the practical achievements of the *UN Praia City Group on Governance Statistics* are presented.

The UN Praia group on Governance statistics was created in March 2015 at the 46th meeting of the UNSC. The Praia Group was created to "*contribute to establishing international standards and methods for the compilation of statistics on the major dimensions of governance*". The Group developed a Handbook on Governance Statistics for National Statistical Offices, which covers the conceptualization, measurement methodology and dissemination of statistics on eight dimensions of governance, namely non-discrimination and equality, participation, openness, access to and quality of justice, responsiveness, absence of corruption, trust, and safety and security.

The 10 manuscripts[4] in this section are introduced via a guest editorial by the Director Generals of INSEE France, *Jean-Luc Tavernier*, and INE Cabo Verde Director General *Joao Cardoso*. The manuscripts all cover experiences with collecting and analyzing data on governance (ranging from violence to civic participation and from public governance to discrimination). A special word of thanks goes to SJIAOS Emphasis editor *Jean-Pierre Cling* (INSEE) for organizing this special section for the Journal.

3. A time to come and a time to go: Handing over the Editor in Chief role

After four years, with 17 issues of the journal, this

issue will be the last one under my responsibility as Editor-in-Chief. At the ISI World Statistics Conference in Ottawa, I will formally hand over the Editor-in-Chief responsibility to my successor Pietro Gennari.

During these four years, I have seen some 500 manuscripts from approximately 1750 very motivated colleagues, committed to contributing to innovation and development. Official Statistics is a branch that mirrors society in general. Developments in society are generally reflected in the developments in Official Statistics by focusing on policy-relevant societal challenges. To stay relevant also the technological and methodological developments have to be reflected in the specific techniques and methodologies used in preparing and disseminating statistics. 2019–2023 was a period that resulted in many innovative and relevant manuscripts for the SJIAOS. Topics like the pandemic and its impact, the Ukraine war, and the housing and climate crisis, just to name a few, and the fast development of the data ecosystem with an avalanche of new, private, and public, data sources as well as a vast amount of new techniques and methodologies, such as Machine Learning and Artificial Intelligence, have been at the base for many manuscripts submitted. More 'general' manuscripts on topics like quality and governance in Official Statistics, have in the light of these developments also found their way into the SJIAOS.

For the Editor-in-Chief of the journal to keep up with the main aim of the Journal' *to support the IAOS mission by publishing articles to promote the understanding and advancement of official statistics and to foster the development of effective and efficient official statistical services on a global basis.*' is in such turbulent period a real challenge. I retired from my last formal job in Official Statistics five years ago, and being no longer on a daily base occupied with this work leads inevitably to slowly losing ground on the newest developments. Therefore, I feel that after a four years term, it is a good moment to hand over the responsibility of Editor-in-Chief.

A main requirement for a journal like SJIAOS is an active and committed range of authors. The first group to thank, are the authors, for submitting a manuscript and patiently awaiting the recommendations and suggestions from the reviews. The Editor-in-Chief can only be done and relies 100%, on the excellent support of the team of emphasis editors and their big circle of reviewers. I gratefully thank them for their commitment, but I also apologize for the times that I had to chase and harass to deliver the reviews. I specifically thank my predecessor *Kirsten West* for her introducing me to the

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[4]These manuscripts are based on manuscripts that were earlier published in Stateco. They have been reworked and most of them translated from the French language into the English language. Stateco is a publication established by INSEE France in 1972. This series of publications aims to support capacity building in developing (French-speaking) countries.

work at the beginning of these four years, but also for her role as coach/advisor and backstop for 'difficult' manuscripts. *Greta Cherry* helped me during the first half year with managing the manuscript tracking system. The reliable support of the IOS Press team, *Kim Willems, Saskia van Wijngaarden, Steffen de Jong and Maarten Fröhlich* and the typesetting crew are indispensable to producing and disseminating, in a printed and online format, every quarter a high-quality journal. IOS Press, thanks for your trust in me. I also thank the Advisory Board for the journal for their support and especially helpful advice in several more complex situations and in the design of the strategy for the journal. I acknowledge the Executive Committee of the IAOS and the successive presidents, *Mario Palma, John Pullinger and Misha Belkindas*. Thanks for your unlimited trust in me. The ISI permanent office with *Ada van Krimpen and Conchita Kleijweg and their excellent staff* have been very supportive of many administrative and organizational issues over these four years, ranging from sharing the booth at conferences to setting-up video meetings and webinars.

Finally, my warmest welcome goes to the incoming Editor-in-Chief, *Pietro Gennari*. I leave with the knowledge that SJIAOS is in competent hands. During the last six months, Pietro has been warming up by looking over my shoulders and he is ready to take over the flag. I wish him and the journal a lot of success.

4. The themes in this issue

This issue of the SJIAOS starts with an interview[5] with *George Sciadas*, retired from Statistics Canada, about his recently published book '*Number Savvy: From the Invention of Numbers to the Future of Data*'. George Sciadas is interviewed by *Walter Radermacher*.

Further, this issue contains 21 manuscripts covering four themes. The first and since June 2020 regular theme, is on the ***Impact and Innovation during the COVID-19 Crisis***. This time this section contains one manuscript with a focus on government measures during the Covid crisis and their statistical implications in national accounts especially on tax deferrals.

The second and central theme in this issue covers 10 manuscripts on '***Statistics on Governance, Peace and***

Security'. These manuscripts all stem from members of the so-called UN Praia city group. INSEE France together with the chair of the Praia Group Cabo Verde, has been very active and leading in the work of this by the United Nations Statistics Committee (UNSC) in 2015 established group, to "contribute to establishing international standards and methods for the compilation of statistics on the major dimensions of governance.[6]

The 10 manuscripts[7] in this section are introduced via a guest editorial by the Director Generals of INSEE, *Jean-Luc Tavernier*, and INE Cabo Verde Director General *Joao Cardoso*. The first manuscript '*General Introduction to the Special issue Governance Statistics and the UN Praia City Group*' describes the objectives and achievements of the Praia group, but also summarizes the content of the 9 research manuscripts in this section. These manuscripts all cover experiences with collecting and analyzing data on governance (ranging from violence to civic participation and from public governance to discrimination). 24 authors from countries located on three continents: Africa (Cameroon, Cabo Verde, Côte d'Ivoire, Madagascar and Mali), America (Brazil, Canada and Peru) and Europe (France and Norway) contribute to this section. A detailed description of the content of these manuscripts can be found also in this introductionary article. A special word of thanks goes to *Jean-Pierre Cling* (INSEE) for organizing this special section for the Journal.

The third section in this issue covers four manuscripts on the '***Governance of Official Statistics***'. Two manuscripts focus on the quality of official statistics in the context of the new data ecosystem and the combined use of survey, administrative and big data. One manuscript is on the use of Artificial Intelligence (AI) tools as a weapon to combat misuse in statistics and the final manuscript in this section reflects on the amounts of data needed to be able to create reliable global statistics.

The fourth theme, '***Data sources, methodologies and techniques***' has five manuscripts. These cover a variety of methodological issues: Data reconciliation and estimation, integration of remote sensing in sampling designs, a small area approach for measuring the perception of insecurity, web data apps in R, and au-

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[5]The Statistical Journal of the IAOS does not do book reviews. Instead, it is aimed at having in each issue one interview around the content of an important publication, information about an important event, or an interview with a leading person in the IAOS.

[6]http://undocs.org/E/CN.3/2015/17.

[7]These manuscripts are based on manuscripts that were earlier published in Stateco. They have been reworked and most of them translated from the French language into the English language. Stateco is a publication established by INSEE France in 1972. This series of publications aims to support capacity building in developing (French-speaking) countries.

tomatizing model selection for seasonal adjustments inspired by machine learning.

The issue ends with a regular update on the open discussions on the SJIAOS discussion platform www.officialstatistics.com and a brief look into the next issues of the Journal.

5. The manuscripts in this issue in more detail

5.1. Interview with George Sciadas

With a position at Statistics Canada with a relatively high degree of freedom *George Sciadas* has been able to gain a lot of experience and insights into the practices of the production and dissemination of official statistics. He has put these experiences and insights into his book **'Number Savvy: From the Invention of Numbers to the Future of Data'.**[8] *Walter Radermacher* interviews George Sciadas on this book, finding out more about the motives for drafting this book, its structure, and main messages. The interview makes clear that this is a tremendously useful book for those involved in training in statistical literacy.

5.2. The impact of COVID-19 on official statistics

In '*Governments measure during the COVID crisis and statistical implications in national accounts: The case of tax deferrals*', the authors from Istat (Italy) *Susanna Riccioni and Luisa Sciandra*, discuss how the Italian Statistical Institute (ISTAT) managed to quickly respond to the sudden increase in the need for public finance information in the aftermath of government interventions to contrast the consequences of COVID-19 crisis. In particular, the paper focuses on one of the first fiscal actions the Italian government enforced immediately following the outbreak which is deferrals of tax obligations. Fiscal deferrals were according to the OECD (2021) the main fiscal relief European countries have introduced in response to the Covid crisis. In the manuscript, the authors illustrate the approach of giving an appropriate trace of these actions in the framework of national accounts based on the combination of new data sources with already existing data and providing data during extraordinary periods remaining as compliant as possible with the conventional processes and codified rules.

5.3. Statistics on governance, peace and security

The central theme in this issue covers 10 manuscripts on '**Statistics on Governance, Peace and Security**'. These manuscripts all stem from members of the so-called Praia City Group on Governance Statistics. *Jean-Luc Tavernier* (INSEE France) and *Joao Cardoso* (INE. Cabo Verde) welcome in their '*Guest Editorial*' the readers for their interest in the theme, introduce the theme in general and thank the contributors. In the manuscript '*General Introduction to the Special issue Governance Statistics and the UN Praia City Group*' *Thomas Calvo, Jean-Pierre Cling, Mireille Razafindrakato, Francois Roubaud and Arouna Sogané*, describe the main objectives and achievements of the UN Praia City Group, and summarize in detail the content of the 9 research manuscripts as presented in this section. The 9 manuscripts cover experiences with collecting and analyzing data on governance, peace and security using the guidelines on methods and procedures for collecting data on the issues as developed by the Praia City Group in countries in Africa (Mali, Ivory Coast, Madagascar, Cameroon), America (Brazil, Peru) and Europe (France). Members of the group describe the advances and challenges such data collection implies particularly in the time of pandemics. The articles focus on the state of the art of statistics about transparency in Brazil, criminal violence in France and conflict more broadly. A set of articles in four African countries interrogate the relationship between perceptions and experiences and analyze their determinants. The issue ends with the works of international leaders in governance data collection, Mali and Peru. This special issue shows how statistical data on governance make a twofold contribution to achieving the principles of SDG 16 by providing reliable indicators For the editorial summaries, the reader is referred to this introduction.

5.4. Governance of official statistics

In the first contribution to this section on the '**Governance of Official Statistics**'. *Matthias Reister* in his paper '*Statistical quality assurance and the new data ecosystem and implications of the difference between data and statistics*' argues that the distinction between data and statistics offers insights for the discussions for the future of official statistics in the new data ecosystem. From the perspective of data stewardship, Matthias explains how the United Nations manual on quality assurance for official statistics responds to the

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[8]George Sciadas (2023); Number Savvy: From the Invention of Numbers to the Future of Data. CRC Press, ISBN: 9781032357218 (pbk), 9781003330806 (elk).

new data ecosystem and how existing quality assurance frameworks cannot be directly applied to data.

Kate Wilkinson held a very appreciated keynote speech in the special event on *Misuse, Governance, Trust and Ethics: Enhancing Official Statistics' Capacity to address these issues* as organized the day before the IAOS Conference *Worthy Information for Challenging Times*, in Krakow (April, 2022). This keynote address focussed on the problem posed by false information, the common goals of fact-checkers and statistical regulators, the development of Artificial Intelligence (AI) tools and their impact. As a follow-up of this speech, *Kate Omega Wilkinson* (South Africa) together with *Emily Barrington* (UK) show in their manuscript '*AI Tools: A Powerful New Weapon to Combat the Misuse of Statistics*' how AI tools can help monitor vast volumes of media, identify important statements in public debate and inform users when statements they know to be wrong are repeated again.

The new data ecosystem facilitates the creation of new, more timely and/or more detailed statistics, combining data sources With an intended statistical output in mind and various potentially useful data sources, there is a need to assess the ability of each source to contribute to the intended statistic. *Yvonne A.P.M. Gootzen, Piet J.H. Daas, and Arnout van Delden* (all Statistics Netherlands) in their article '*Quality Framework for combining survey, administrative and big data for Official Statistics*' propose a quality framework that includes dimensions applicable to a survey, administrative and big data to support the assessment of the potential of each source to contribute to the intended statistic. The framework is applied to a case study of mobility data and a case study of virus particle detection in sewage data.

Daniel Mahler, Ulmar Serajuddin and Hiroko Maeda (all World Bank, USA) deal in their contribution '*When Is There Enough Data to Create a Global Statistic?*' with the paradox that the lower the data coverage threshold for disseminating global statistics is, the more can be made available, but the lower accuracy these data will have. In their manuscript, they aim to quantify this availability-accuracy trade-off by running more than 10 million simulations on the World Development Indicators. The authors argue that based on the results of these simulations it should be recommended not to aim for global statistics when there is data available for less than half of the world's population.

5.5. Data sources, methodologies and techniques

In this issue, this theme covers five rather varied manuscripts. In '*Data reconciliation and estima-*

tion in an agricultural survey' *Habtamu Benecha*[*], *Denise Abreu, Rachael Jennings and Linda J. Young* (all USDA/NASS), discuss record linkage and estimation approaches used to determine the number of farms and land in farms in Puerto Rico before and after Hurricane Maria based on the two surveys and the Census of Agriculture. The Puerto Rico Census of Agriculture (Census) is the leading source of statistics about the island's agricultural production. At the time of Hurricane Maria, the 2017 survey had already been conducted in preparation for the planned Census that year. In 2018, the survey was repeated using the same sample. Linking and analyzing the 2017 and 2018 survey data provide insights into the impacts of Hurricane Maria on the island's agriculture. Furthermore, the 2018 survey gives an opportunity to evaluate the 2018 Census results. Although the same sample was used in 2017 and 2018, automated record linkage methods are not suitable to link records from the two surveys.

The research as reported in this manuscript '*Integration of remote sensing data into national statistical office sampling designs for agriculture*' by *Luis Ambrosio Luis Iglesias, Carmen Marín* (all Spain), and *Nicolas Deffense* (Belgium) focus on using statistical models to link ground and remote sensing data such that the resulting estimators are design-consistent. However, to do this successfully requires enough geographic information about the boundaries of agricultural parcels to develop a simple sample of areas. Many countries use for this complex samples based on non-georeferenced list frames of households or farms and reduce to point data the georeferenced information required for linking ground and remote sensing data. However, data on crop acreage observed at a point are necessarily categorical because a point is dimensionless. For the integration of categorical ground data within complex list samples using remote sensing data the authors use multinomial logit models. Special attention was paid to evaluating the cost efficiency of remote sensing data.

In '*Perception of insecurity in municipalities of Mexico. A Small Area Estimation approach*', *Mario Santillana, José Antonio Gallegos, Alma Itzel Garcia, Elizabeth Diaz, Daniel Gutiérrez, Nancy Leticia Gonzalez* (all Mexico) use two methods of small area estimation techniques: the Empirical Best Linear Unbiased Predictor (EBLUP) and the Spatial Empirical Best Linear Unbiased Predictor (SEBLUP), for estimating the percentage of the population aged 18 years and over with perception of insecurity during March and April 2021 for each municipality of Mexico The National Survey of Victimization and Perception of Public Safety 2021

(ENVIPE 2021, for its acronym in Spanish) is the base survey from which the variable object of estimation is obtained; the auxiliary variables that allow establishing the considered models are obtained from other information sources, such as the population and housing census and administrative records. The results are adjusted to satisfy the benchmarking property and are contrasted with direct estimates given by the same survey, EN-VIPE 2021, with adequate coefficients of variation for municipalities with a sufficient sample.

The use of web services and software allows users to interact with the results of official statistics and enhances communication, dissemination, literacy and overall quality of official statistics. This paper by *Stratos Moschidis*, Athanasios C. Thanopoulos and Christina Karamichalakou* (all Statistics Greece), '*Developing and hosting web data apps in R programming for official statistics*' is related to the objectives and context of reaching a wider audience through engaging users and explains how a National Statistical Office member without specialized knowledge of frontend-backend programming techniques can create such web services in R programming environment through "Shiny" library. The authors present an experimental version of such an application for the quarterly results of the new statistical product of the Hellenic Statistical Authority (ELSTAT) on Greek business demography.

Finally in '*Automatizing model selection in an annual review of seasonal adjustment: A machine learning-inspired approach*' *Yingfu Xie* (Statistics Sweden) brings to attention the problem of model selection with conflicting criteria in general and in annual reviews of seasonal adjustment in particular. The author aims to fill the gap in the description of the model selection problem in the literature, as he argues that revisions caused by model changes are very undesirable in such reviews. In the manuscript, the author shows how an automated approach for selecting the best suitable model chosen could work equally.

I wish you pleasant readings of these interesting articles

6. SJIAOS discussion platform

In August 2019 the Statistical Journal of the IAOS launched an online platform for discussion on topics of significant relevance for official statistics (www.officialstatistics.com) as part of the SJIAOS website.

The discussion platform invites interested readers to contribute to important discussions at a time of their choosing. With each release of an issue of the Statistical Journal, a new discussion topic is launched via a leading article or based on a section in the Journal. Each discussion runs for about a year and is closed with a concluding commentary by the article author(s).

Launch of the 16th discussion:

The 16th SJIAOS discussion: **the impact of AI and the availability of data in the so-called Data ecosystem on the development of official statistics** invites readers to react with their opinion on how far and in what direction the governance of official statistics will change thanks to these developments. The readers are invited to sketch how in their opinion the (national) statical offices in 2030 are functioning. The contributors are free to choose an emphasis for the production and dissemination but are equally invited to reflect on the governance structures in official statistics in 2030.

The discussion will be opened around mid-June on the SJIAOS discussion platform (www.officialstatistics.com).

7. Some words about the next issues

7.1. The next issue: September 2023, Volume 39 (3)

For the September 2023 issue (Vol39 (3)) some 20 manuscripts on varied topics are in preparation, stemming from papers presented at the 2022 European Quality on Statistics Conference (Vilnius), the 2022 IAOS Conference (Krakow), and the CESS 2022 conference (Rome). Some 15 authors from the 2023 NTTS conference in Brussels and about 10 from the 2023 IAOS Conference in Zambia have recently been invited to submit a manuscript. Pietro Gennari, the incoming Editor-in-Chief has already a series of commitments for submissions from other soon (ICAS IX, the WDF) as well as on longer-term upcoming conferences. Beyond this, there is a steady flow of non-solicited submissions.

Of course there are always slots for other manuscripts; authors are kindly invited to submit their manuscripts via the submission channel: https://officialstatistics.com.

<div style="text-align: right;">

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