

Collaboration of Statistical Office with Academia in Albania

The role of the National Statistical Institute

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Abstract

Official statistics are essential for the development of policies and for evidence-based decision-making, and national statistical offices (NSOs) play a vital role in collecting, analysing and disseminating of these statistics. The statistical office cannot perform this role alone; it is supported in its work by various collaborations. One of the most important collaborations in Albania is the one with the academic world. Numerous advantages can result from collaboration between the statistical office and academia, promoting symbiosis between the two different types of organizations. The benefits of NSO collaboration with academics are examined in this paper, including improved data quality, methodological development, capacity building, innovation, and information transfer. The study also analyses potential difficulties and offers suggestions for productive partnerships.

Keywords: **Statistical offices**, Academia, Capacity building, **collaboration**

1. Introduction

The Albanian National Statistical Office (INSTAT) aims to provide transparent, neutral and timely statistics that help the user to judge on the developments of the transformation processes within the country as an independent institution. Since 2018, the new law on official statistics defines INSTAT as an independent, professional institution and coordinator of official statistics under the Albanian Parliament, where this role is performed and strengthened by increasing trust on statistics and improving its image. The collaboration between INSTAT and other stakeholders is spread out. In this paper initiatives taken in terms of collaboration between INSTAT and academia as one of the strategic objectives for further development will be described. This collaboration has the potential to leverage the strengths and expertise of both parties, leading to several benefits. By incorporating academic insights in the statistical production process, statistical offices can improve the quality of data collection processes, ensuring that surveys are methodologically sound, statistically valid, and representative of the target population. On the other hand academia is at the forefront of research, and can bring into statistical production the latest advancements in statistical methods. This includes adopting new approaches for data collection, analysis, and modelling. Collaboration with academia provides valuable opportunities for capacity building through joint research projects, workshops, and training programs. The collaboration enhances the technical skills and knowledge of statistical office staff as well as of the students engaged through internships in the statistical office.

Moreover the statistical office possesses extensive knowledge and expertise in official statistics production accumulated over years of experience. Collaboration with academia offers an avenue for knowledge transfer, where statistical office share practical insights and contribute to academic research. This collaboration can involve jointly publishing research papers, participating in academic conferences, or providing data and insights to support academic studies. Teaching of official statistics as a separate master of science in official statistics has increased the cooperation with academia by raising the interest to the student and government workers to extend their knowledge's as well on the statistical curricula. It has brought a successful academically based programme in official statistics.

2. Collaboration with the academic world

Institute of Statistics in Albania and the Entire National Statistical System operate based on the Law on Official Statistics as well as the development strategy of the National Statistical System (NSS). Collaboration with academia is defined in the Law on Official Statistics as it is stated that two members of the Statistical Council shall be representatives of academic world. The council is an advisory body composed of experts in the field of statistics, which support INSTAT in ensuring that official statistics reflects the user needs for statistical information and promote the implementation of statistical principles and professional standards. The development strategy of the National Statistical System, on the other hand, presents a comprehensive and unified framework for the continuous assessment of the needs and priorities of users in the development of statistics and for strengthening the capacities needed to meet these needs in a more coordinated, synergistic and efficient manner. It also provides a framework for the engagement of statistical agencies and data contributors, for the utilization of (internal and external) resources and a basis for an effective and results-oriented strategic direction of NSS. The need for collaboration of official statistics with academia is reflected also in the Official Statistics Programme 2022-2026, which foresees 6 strategic objectives of the development of the National Statistical System. One of these strategic objectives concerns the Modernisation of statistical processes, methods, products and services to improve the quality, timely delivery and cost efficiency of official statistics, where one of its specific objectives is: Strengthening cooperation with the academic world to develop new methods, products and statistical services. Therefore, cooperation with the academic world is not accidental, but is specified in the development strategies as well as in the plans for their implementation. There are several instruments that contribute to the above:

2.1 The academic collaboration group and collaboration agreements

The NSO can benefit from the academic world's expertise regarding the latest developments on scientific methods for data collection and processing. Academics input can be used on the design of new surveys, sampling techniques and data or process quality assurance. Their insights can give another perspective of statistical production and help improving quality while ensuring that surveys are methodologically sound, statistically valid, and representative of the target population. This is why since 2019 INSTAT has established e academic collaboration group. This group is composed by representatives from public and private universities in Albania that give their contribution when discussing production of new statistics or usage of new methodologies. New approaches for data collection, analysis, and modelling are discussed on the preparation phase of new statistical products, **to** abreast of the latest advancements in statistical methods and incorporate them into statistical production chain. Regardless of the fact that this collaboration functions on the basis of mutual

acceptance of parties to cooperate, difficulties are encountered as a result of limited resources or different priorities. Limited infrastructure, staffing, and financial resources might make it difficult to collaborate effectively. It's possible that the statistical office and academia have competing goals and limits that make it difficult to devote enough funding for joint ventures. It can be difficult to strike a balance between the extent of collaboration and the resources at hand. Clear communication, shared understanding, and a common goal are essential for addressing these issues. To overcome these obstacles and guarantee successful collaboration between the INSTAT and academics, written agreements are done, to foster connections and improve cooperation. So far INSTAT has signed 7 collaboration agreements with different universities inside and outside of Albania. The formal agreement and regulations acts on coordination work between statistical office and universities are based on the content of comprehensive implementation of professional and professional activities suitable to the functions and tasks of each party; especially the coordination between theory and practice; between production and use of statistical information; dissemination and communication of statistical information.

The interest in collaborating with INSTAT under formal agreements is increased as well as the need for having access and rights to microdata and being informed on the latest developments in official statistics. In this framework, INSTAT organizes every year the open day of statistics to promote understanding of official statistics. It aims to bridge the gap between statistical experts and the general public while showcasing the practical applications and importance of statistics in various domains of society. Open lecturers are also organised to promote the work of the statistical office and offer guidance for students interested in pursuing a career in statistics, to inspire and encourage them to consider statistics as a viable and rewarding career path.

Other important modes of cooperation include the participation of academic staff in Council of Statistics, which supports INSTAT in its role to ensure that the Official Statistics Program is designed in accordance with the United Nations Basic Principles for Official Statistics. The Statistics Council consists of 11 members, who represent statistical agencies, users of official statistics, the academic world, civil society and private entrepreneurs, local self-government bodies and the media.

2.2 Student's Internships

Internships are offered on yearly basis to students of different universities, whose education is related to the field of statistics. From the increase demand over the years, as shown in Figure 1, is evident that is becoming more and more crucial for students to develop their statistics knowledge and expertise through these internships.

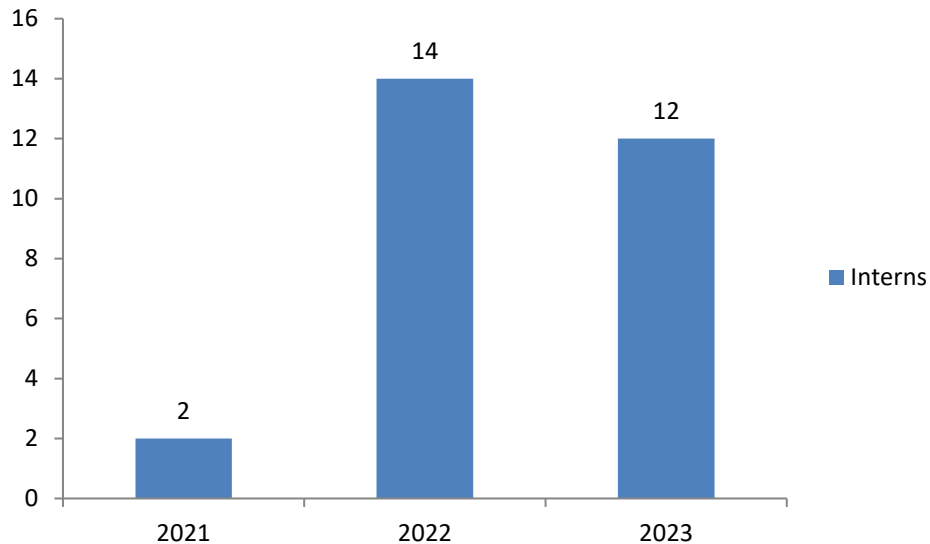


Figure 1: Number of interns by year

2021 has a lower value due to the Covid-19 restrictions and online lessons, while for 2023, the figure present the number of interns only for the first six months.

The next generation of statisticians, researchers in adjacent subjects, future leaders along these career paths, and successful partnerships can all be prepared with the aid of statistical knowledge. Interns may also be hired after they graduate as they have an advantage due to their programming and statistical knowledge gathered during internship. Challenges in this perspective mostly relate to limited number of internship positions available and skill development. The number of internship positions is restricted by INSTAT resources and capacity. Although internships give students the chance to advance their statistical knowledge and skills, it is challenging to guarantee a thorough skill development experience within a constrained timeframe.

2.3 Master in official statistics and data science

The official statistics has not been part of statistical programme in universities. Teaching of statistics has been as part of the specific **bachelor** and master in science that has statistics integrated in the curricula. The need for teaching in depth the official statistics and reducing the gap between theory and practice brought into attention the opening of the master in science in official statistics under the **Faculty of Economy, University of Tirana**. **INSTAT has a close cooperation with the Department of Statistics and Applied Informatics of this faculty, which has more than 35 academic members in informatics, mathematics, and statisticians with a wide range of research interests. The approval and accreditation of such curricula, with a focus on official statistics and data science, came as a result of a very fruitful collaboration between these two institutions, as well as in collaboration with the Central Bank of Albania, and also after discussions with different partners mostly from EMOS partners.** Teaching the official statistics is a challenge for both statistical agencies and non-statistical ones. The latest contemporary developments in technology and innovation require the increase of knowledge for the management of large databases, public or private, with new contemporary methods and methodologies. This brought attention to the fact that the learning of official statistics should be accompanied by the development of in-depth knowledge in the scientific analysis of phenomena and events through data, thus expanding the curricula and reflecting in it the designation of this master's degree as a scientific master's degree in official statistics and data

science. It should be noted that the most qualified part of INSTAT is part of the teaching staff in this master, making it an even more practical master, beyond the theoretical background offered by the university. This has led to the creation of a more consolidated network of academic staff with academic and professional experience in the field of statistics in general and data science in particular. The students gain knowledge as well in official statistical program and quality framework, in survey methodology, time series analyses, how to manage big data and how to tell stories about the numbers and communicate and visualize statistics in a standard form. Elective curricula with a focus on different statistical fields aimed at expanding students' knowledge in the production of statistics for specialized statistical fields, using the capabilities of today's digital technologies, making it as advantage for them to engage in specialized economic or social branches. Also, the master's degree in statistics is serving as a door to employ people prepared in the production of official statistics not only at statistical agencies, but also at government and public / private institutions where the need for more professional people is increased.

2.4 Remote Access Facility

One important user group for official statistics is researchers who very often need microdata and its metadata for their research. To improve the accessibility of data and come closer to the needs of researchers, a remote access facility SIMONA (Statistical Information Microdata Online Access) has been developed. This enable researchers to have access to microdata through an on-line system, while preserving security measures according to the law on Official Statistics and the legislation on protection of personal data. Since 2020 this remote facility has been used and helped to increase the user-friendliness of the statistics. The system ensure easier access to microdata while all types of microdata are kept on site and control is enforced of where, when, who and how data are used. A support function for SIMONA has been established which provide technical assistance for researchers in English and Albanian languages. The system has been lunched first during the pandemic due to the imposed restrictions. Over the years the usage of SIMONA has increased showing the increasing interest of researchers for available microdata. Regarding challenges faced for maintaining this facility we can mention that running it needs a dedicated help desk/support function. It is important to include such a function already from the beginning, as it needs time to get operational. Staffing of this function may be a challenge as the number of researchers and projects increases. Another challenge in terms of SIMONA is the software installed. So far, INSTAT is following its strategy to provide to researchers in SIMONA only open source software, which can be challenging for them, as sometime they need proprietary software to perform their analysis. Addressing these challenges requires on-going evaluation and adaptation of SIMONA. This includes assessing the capacity of the support function, exploring possibilities for expanding software options, and ensuring the continuous improvement of the system's usability.

2.5 INSTAT Magazine's

Another important initiative, in collaboration with academia is the work done on two dedicated magazines on statistics.

The RESEARCH, Journal of Statistics and socio-economic analysis, is the first open access journal, published by the INSTAT, since 2018 with the purpose of stimulating and disseminating the statistical methods and applied empirical research in the area of official statistics, economy and society. It is a scientific one following all the criteria a research magazine must fulfil. It has an editorial board as well as an advisory board. The advisory

board consists of distinguished lecturers and researchers from universities inside and outside Albania, who support the blind peer review process. This magazine is published once a year and has its ISSN and ISBN numbers.

INFOSTAT on the other hand is the first informative magazine published by INSTAT, since 2020 and available to all readers, which comes as a result of the growing demands to have short and simple language articles. INFOSTAT contains informative articles and is also published once a year. Its main aim is to address the full range of issues in official statistics by adopting a broad international recommendations and a variety of approaches, whether methodological, coherence, quality or IT oriented. Another aim of this magazine is to illustrate our collective ability to evolve and innovate with a view to responding to the needs of our time. There is no blind Peer Review process for the informative magazine, but each article is reviewed by the Editorial Board if it meets the criteria set out in the guide and discussed directly with the authors, as generally are staff from INSTAT or other national agencies producing official statistics.

The work for both magazines is associated with different challenges. Maintaining the quality of published research papers is very important for the credibility and reputation of the journal. The rigorous peer-review process is challenging as we need to secure the availability and commitment of qualified reviewers. Financial, human, and technical resources availability is also a challenge, as the work for both magazines is on a voluntary basis, even by the advisory board.

Despite these challenges, the collaboration between INSTAT and academia in developing these magazines signifies a commitment to promoting the dissemination of research, fostering innovation, and meeting the diverse needs of readers. By addressing these challenges and leveraging the expertise and insights from academia, these initiatives have the potential to further contribute to the advancement of statistical methods, empirical research, and the accessibility of official statistics to a wider audience.

2.6 International Scientific Conferences

The close cooperation with the universities and the academic world on years has brought the interest of INSTAT staff to be an active part of the international scientific conferences organized by the universities with articles, posters, etc. The topics chosen for presentation in these conferences have been focused on the development of statistics over the years and the presentation of the newest statistical methods and methodologies and their implementation or impact in Albania society. This involvement demonstrates staff commitment to staying at the forefront of statistical advancements. Presenting research papers, posters, or delivering talks at these conferences allows INSTAT to share their experiences, findings, and best practices with a broader audience. What stands out in these conferences is that many of the presentations are supported by studies and statistical findings that have led to very interesting and important conclusions for decision makers, heads of institutions, local and central governments, who have to do by designing and implementing different strategies or new development programs, looking at many processes and phenomena from new perspectives.

3. Conclusions

The collaboration between the Institute of Statistics in Albania (INSTAT) and academia has been instrumental in advancing the field of statistics and enhancing the accessibility of official statistics. This collaboration is driven by the legal framework, development strategies, and the Official Statistics Programme, which emphasize the importance of engaging with the academic world.

The academic collaboration group and collaboration agreements have allowed INSTAT to benefit from the expertise of academia in areas such as survey design, sampling techniques, and quality assurance. Although limited resources and competing priorities can pose challenges, written agreements foster connections and improve cooperation between INSTAT and universities.

Internships provided to students in the field of statistics have proven to be valuable in nurturing the next generation of statisticians and researchers. While challenges such as limited internship positions and time constraints exist, these internships provide students with practical experience and enhance their statistical knowledge and skills.

The development of the remote access facility, SIMONA, has significantly improved the accessibility of microdata for researchers while ensuring data security and privacy. The establishment of a support function for SIMONA has been crucial in providing technical assistance to researchers. Challenges related to staffing the support function and software options have been identified, and on-going evaluation and adaptation of SIMONA are essential to address these challenges effectively.

The collaboration between INSTAT and academia is also evident in the publication of two magazines: RESEARCH and INFOSTAT. These magazines aim to disseminate statistical methods, applied empirical research, and informative articles to a wider audience. Maintaining the quality of published papers and securing resources are on-going challenges, but the commitment to fostering innovation and meeting the needs of readers remains strong.

Despite the challenges faced, the collaboration between INSTAT and academia demonstrates a shared commitment to advancing statistical knowledge, promoting research, and improving the accessibility of official statistics. By addressing these challenges and leveraging the expertise and insights from academia, this collaboration has the potential to drive further advancements in statistical methods, empirical research, and the dissemination of official statistics.

The establishment of the master's degree in official statistics addresses the need for comprehensive education in this field. This program equips students with the necessary knowledge and competencies to contribute to the production of official statistics, meet the demands of the evolving data landscape, understand the importance of quality frameworks, and pursue career opportunities in various sectors requiring statistical expertise.

The active involvement of academic university staff in consulting and advising to the statistical agency's activities ensures that the teaching programme will not become too theoretical or apart from the application requirements of the statistical agency. The participation of the academic staff in the monitoring and supporting the statistical offices makes the cooperation between them and the academy stronger and more sustainable.

The creation of the Albanian Statistical Society, based on the experiences of the IAOS, can promote the cooperation of the NSS with academia, increasing all parties' benefits.

The continuous need for further coordination of theory and practice for enhancing curricula in universities, by bridging the gap between theoretical knowledge and real-world applications, this coordination ensures that students are equipped with the necessary skills and competencies.

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