

Training needs in the NSS in view of the new European Master in Official Statistics – the Italian case

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1 Introduction

Quality of Official Statistics, both at national and EU level, relies in the NSIs' capabilities, as they play a paramount role as the major data producer for national and international users. But also other organizations, namely those part of the National statistical systems, are quite relevant in the process of data production and contribute significantly to official statistics.

All these organizations should be enabled to profit from training initiatives aiming at supporting modernization in official statistics, as it would be beneficial both for single organizations and for the system as a whole. A special attention has to be paid to their specific setting as, differently from the NSIs, those organizations are not specifically devoted to data production and often statistical information is just a "side-product" of administrative processes. In some cases, staff assigned to the statistical function was not hired especially for that job and specific competencies in statistics could result to be weak, often resulting from on-the-job training activities, or gained in a scattered way in response to punctual issues, or not regularly updated. Focusing on the Italian context, that would be the case for the staff working in many of the 3,400 organizations belonging to the NSS.

In such a context, restricting the potentialities of a new programme such as the European Master in Official Statistics (EMOS) to the National Statistical Institutes could turn out to be reductive: in addition to NSIs, also NSS organizations should be considered primary stakeholders of it. EMOS could substantially contribute to the improvement of the level and of the range of professional competencies in the field of official statistics, first of all providing young graduates to be hired in this specific segment of the labour market and, at a later stage, offering continuous training activities suitable for upgrading the NSS' staff skills.

2 The Italian National Statistical System

2.1 Main characteristics of the NSS' organizations

The Italian statistical system (SISTAN) was established by law in 1989, and since then SISTAN offices have been set up in most of public administrations, central and local, and in private institutions vested with public functions (e.g. those in charge of the provision of social protection and other welfare services).

It is a huge system: at the end of 2013 it counted 3.438 offices. Most of them (80%) operates in small municipalities (below 30 thousand inhabitants), but data production for official statistics mostly comes from central administrations and other national institutions, Chambers of commerce, Regions and Provinces.

Following the law, the SISTAN offices have to perform a multifaceted set of tasks, which requires a wide range of competencies: not only statistical activities, but also IT, administration and budget, performance measurement and control.

In 2011, ISTAT planned a web-survey to gather systematic information on self-reported professional competencies of the staff assigned to the SISTAN offices, in order to understand the mix of individual skills, professional experiences and knowledge owned and applied to perform their tasks.

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The first result of the survey is that the level of qualification for the managers of SISTAN offices is generally poor: only 53% of them has a university degree, a very low 2% declares a higher qualification such as a PhD. Only in national and regional administrations the degree is often in statistics or economics, while the SISTAN offices in smaller or local administrations are usually managed by officials holding a degree in law.

Only 62% of the managers declared a good or advanced knowledge of the Italian laws on official statistics, and the level fell to 28% when considering European regulations (see figure 1).

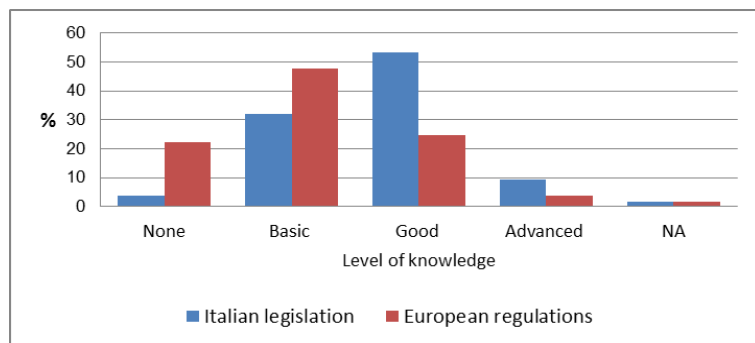


Figure 1: Level of knowledge about regulations on official statistics reported by the managers of SISTAN offices – 2011 (%)

Furthermore, it resulted that some technical competences about official statistics and also competencies related to communication with the final users were reported as “quite weak”. In fact, many self-reported technical competences were evaluated as “advanced” only by a minority of respondents (between 12% and 19%), dropping to 2% as for European standards for official statistics production (see figure 2).

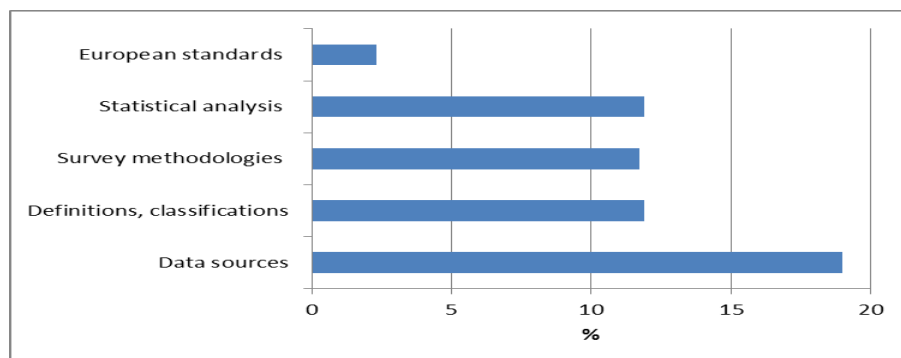


Figure 2: Competencies reported as “advanced” by the managers of SISTAN offices - 2011 (%)

An “advanced” knowledge of communication techniques and tools was reported by even a smaller percentage of respondents, less than 10% for data exchange software tools, less than 5% on methods to collect information on user needs.

More recently, ISTAT gathered new information on the professional background of SISTAN offices managers: not only the educational qualifications, but also the so-called “dynamic competences” (Pablo A. L. et al., 2007) gained through the professional experience. Most of them come from other offices in the administration, only 6% from another SISTAN office. Only 11% of them had some kind of specific training, and again the weakest situation is found for the offices located in small administrations, with poor inter-organizational cooperation practice and a large prevalence of administrative tasks.

Finally, managers evaluate competences of their office’s staff satisfactory in 76% of the cases, but it is “fully appropriate” only for 16% of respondents. A strong heterogeneity emerges looking at the institutional settings in which these offices operate, confirming a more satisfactory situation in central (national) organizations (see table 1).

Table 1: Self-reported level of technical competencies for the staff of SISTAN offices by type of institution – 2013 (%)

Type of institution	Level of competence			
	Fully appropriate	Fairly appropriate	Less than appropriate	Unsatisfactory
Ministries and Prime minister office	50,0	43,8	6,3	0,0
Other central administrations	31,3	62,5	6,3	0,0
Prefectures (local offices of the Ministry of Interior)	19,2	53,5	26,3	1,0
Regions and autonomous Provinces	28,6	47,6	23,8	0,0
Provinces	25,3	57,0	13,9	3,8
Municipalities (more than 30 thousand inhabitants)	17,2	55,6	24,1	3,1
Other municipalities (less than 30 thousand inhabitants)	14,4	61,1	22,3	2,1
Chambers of commerce	19,4	67,0	12,6	1,0
Other local administrations	16,3	69,4	14,3	0,0
Other public or private organizations	50,0	50,0	0,0	0,0
Total	15,7	60,5	21,8	2,1

2.2 Evidence from the survey on SISTAN training needs

Building on the information collected with the previous surveys, in 2013 Istat launched a new web-survey in order to better define the training needs of SISTAN organizations. The questionnaire presented a list of training courses in the field of statistics, organized in 4 categories (sample surveys, use of administrative data, data analysis and cross-cutting competencies) and 3 levels (introductory, intermediate and advanced)¹.

The invitation to take part in the survey was sent to about 1,200 organizations, selecting the most significant in terms of production and use of official statistics and asking to the heads of the statistical offices and to training managers to choose courses they considered relevant for their organization, adding an estimate of the number of potential participants/year.

About 300 filled questionnaires were received and analyzed, providing a picture of training activities that are most interesting for SISTAN organizations, showing areas where competencies are considered weaker or lacking, with some indications about the expected volume of participation².

The highest response rates are found for Regions and sub-regional organizations, including large cities (37%) followed by national organizations (36%), whereas smaller municipalities (less than 100 thousand residents) and other local institutions answered to the survey in a very low proportion (16%). That finding confirms that in this kind of organizations the statistical function is weak, and often the specific attention paid to is inadequate.

Among the 4 categories of courses, broadly corresponding to the main typologies of statistical activities, plus a group including some cross-cutting topics in principle applicable to different domains, the category “Data analysis” was the most appreciated, with 38% of potential demand (see tab.2). It includes statistical methodologies and tools to better understand and use official statistics. On the whole, the categories “Sample surveys”, “Use of administrative data” and “Cross-cutting topics” had equal relevance, each group gathering about 20% of potential users. A notable exception were the national

¹ “Introductory courses” are defined as those for which no specific competencies in the statistical/mathematical field are necessary; “Intermediate” refers to courses requiring knowledge of mathematics and statistics basic concepts; “Advanced courses” require sound competencies in descriptive and inferential statistics.

² We thank Mrs Stefania Brandetti (Istat) for the elaborations.

organizations, significantly more interested in courses of the second group (32%) about methods to draw statistics from their databases, potentially very rich in information but usually set up mainly for administrative uses.

Table 2: Potential demand of training by type of organization and course category (%)

Type of organization	Course Category				Total
	Sample Surveys	Use of administrative data	Data Analysis	Cross-cutting	
National organizations	19,5	31,9	30,6	18,0	100,0
Regions and sub-regional organizations	19,1	17,2	42,1	21,5	100,0
Other local institutions	22,2	18,5	36,7	22,7	100,0
All	20,3	20,7	37,8	21,2	100,0

Considering the level of complexity, the highest interest was for the introductory level (which includes also the cross-cutting topics) with 54% of potential participants, showing a strong need for the improvement of statistical literacy in the system, starting from the basics. Overall, courses in the “advanced” group collected 26% of the demand. This category includes topics such as geostatistics, cutting-edge methods to integrate/complete administrative databases, web tools for surveys.

Again, national organizations stand out (see fig. 3) with a demand of advanced courses well above the average (33% vs 26%), whereas local government and other local institutions expressed a less sophisticated demand of training (about 57% indicated introductory courses) confirming that in this kind of organizations competencies related to the statistical function should be substantially reinforced.

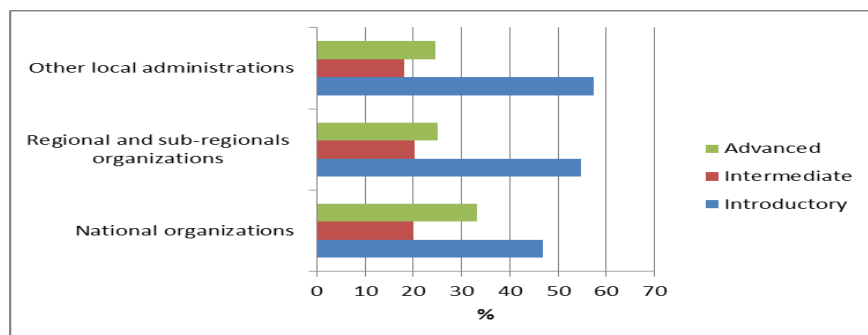


Figure 3. Potential demand of training by organization and level (%)

Even though the category “Cross-cutting topics” as a whole is not the most frequent choice of respondents, summing up to about one fifth of the potential demand, some of those courses are at the top of the ranking of training needs. This is the case for the courses “Open data” (for users and producers of open data), “Communicating results” (how to communicate with different audiences and effectively interact with the media) and “Data confidentiality” (problems and solutions to tabulate and disseminate data) which are in the top five. Another course very strictly connected with official statistics, “Measuring and improving quality in data production”, collected quite a high number of potential participants. These courses refer to competencies quite rarely included in academic curricula, nevertheless certainly useful for the future managers and researchers of the NSS.

Another topic that could usefully be included in the EMOS program, as it is closely related to the concepts both of “European” and “Official statistics” – namely “National and international statistical systems” (about the NSS, the ESS, the code of practice and other information on the organization of official statistics) - was above the average of potential training demand, confirming the weakness of competencies in this field, as already pointed out in the previous paragraph.

3 What role for EMOS?

As one of the main objectives for EMOS is to be a new training opportunity to fill a lack in specific professional competencies, namely those more useful in the production and for the use of official statistics, it can play a relevant role not only for ISTAT but also, more widely, for the National Statistical System at large.

Two main issues should be taken into account. First of all, the choice of the topics that are going to be the qualifying part of the EMOS curriculum, looking for a satisfactory balance between theoretical basis and practical applications, general knowledge and specific competencies, well established methodologies and innovative research. The choice is made more difficult by a tendency to be conservative that could affect both the potential employers (in this case the SISTAN organizations, sometimes crippled by the day-by-day routine) and the EMOS universities, exposed to different kind of constraints, making it awkward to introduce significant changes. The actual training needs expressed by the NSS could give some useful suggestions about it.

A second crucial point is to ensure that EMOS is a success in terms of capability to attract students and to improve their possibilities to access the labour market. It is crucial that EMOS is recognized by the all the NSS organizations as valuable for their activities, so that they support it initially - providing trainers, internships and dissertations opportunities - and afterwards, when deciding their hiring policies.

In fact, the future EMOS reputation will be largely linked to the actual possibilities on the part of the NSS to hire a significant number of graduates in the years to come. Looking at the short term, competitions opportunities for new posts in Public Administrations in Italy are few and heavily limited by constraints due to budget cuts. However, thinking positive, EMOS graduates could be ready for the moment when the present unfavorable situation will be overcome, and it will be possible to start thinking not only in terms of savings, but also in terms of investment strategies to reinforce the NSS.

Finally, the further developments foreseen for EMOS (Zwick, 2013), i.e. the implementation of continuous training initiatives, could be definitely interesting to the NSS, as a substantial support to upgrade and update skills not only of the staff involved in data production, but also of those using and analyzing data. The surveys' results show clearly that several organizations are aware of the need of training in the specific field of statistics – either official statistics and statistics at large - and on this basis it should be possible to introduce a new training opportunity, avoiding to overlap with existing programs such as ESTP, and providing it is targeted to specific needs.

To sum up, investing in human resources in the National statistical systems is crucial and EMOS could be a means to that end. New professional competencies and a substantial upgrade of the existing ones, through ad hoc university programmes and through continuous training, could enhance significantly the quality and quantity of available information, making the whole system more productive and improving the reputation of official statistics.

References

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