



## SAMPLE DELIVERABLE 27

### Fourth Mini-Project progress report

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## **WP 1: New indicators and models for inequality and poverty with attention to social exclusion, vulnerability and deprivation**

WP1 Partners have dedicated this project semester principally to these two activities: cumulation and pooling to improve sampling precision and re-sampling methods for variance estimation for multidimensional measures of poverty.

In particular, the activity of CRIDIRE - Siena University focused mainly on developing Task 1.3 of the project: *Pooled estimates of indicators*, i.e. the construction of poverty measures at local level from several waves and the comparison between different EU-SILC waves results with focus on the local longitudinal changes. Methodological aspects, in particular concerning cumulation over space and time from repeated multicountry surveys, have been provided taking illustrations from European social surveys and simple models have been developed to illustrate the effect on variance of pooling over correlated samples. The first empirical results have been obtained from the 2005-2006 cross-sectional and longitudinal EU-SILC samples for Poland, providing an improvement in sampling precision.

In order to illustrate this topic to all partners of the project, Professor Vijay Verma of Siena University has taken part in the SAMPLE meeting in Warsaw (24 March 2010). In the same meeting, for the Steering Committee, Professor Achille Lemmi, coordinator of WP1, has delegated Professor Monica Pratesi, coordinator of the project. Moreover, Professor Verma has taken part in the "2010 International Conference on Comparative EU Statistics on Income and Living Condition" (Warsaw, 25-26 March 2010) where he has showed two papers shared with Professor Gianni Betti: "Sampling and non-sampling errors in EU-SILC" and "Robustness of some EU-SILC based indicators at regional level".

On the other hand, the main activity of Polish Partners was connected with the second target of the semester. Original SAS programs for calculation of the following indicators were written: fuzzy measures of the incidence of relative poverty (monetary poverty - FMI) and deprivation (non-monetary poverty - FSI). Another SAS program was written for application of bootstrap methods of variance estimation for poverty indicators. Practical calculations were carried out using developed programs on Polish EU-SILC (2007) data. Results of estimation (indicators with their standard errors) were presented for Poland as a whole and for voivodships (NUTS2).

CES CSO participated in the organisation of the open scientific seminar during which the SAMPLE project objectives and the stage reached by the International Consortium in the project performance were presented.

Professor Janusz Witkowski, vice-president of CSO, opened the seminar, attended by about 50 participants. Poland was represented by people from the scientific circles, staff members of both the Central Statistical Office and Regional Statistical Offices as well as representatives of the Ministry of Labour and Social Policy, Chancellery of the Council of Ministers and Mazovian Centre of Social Policy. The chairman of the meeting was Professor Tomasz Panek from the Warsaw School of Economics.

The seminar was an integral part of the annual meeting of the Consortium. It was held on March 24 on the premises of the Central Statistical Office in Warsaw.

## **WP 2: Small area estimation of poverty and inequality indicators**

During the fourth project semester the partners of WP2 have been involved in the small area estimation first methodological and software developments. For this sake a lot of research has been done in the main topics that are being treated. In what follows we describe the achieved developments of the project objectives and the work performed during the semester. Within task 2.1, robust methods have been investigated. Special emphasis has been placed on M-quantile regression models and M-quantile geographically weighted regression models for small area estimation of domain means. An estimator of the small area cumulative distribution function (cdf) has also been investigated by using the Chambers-Dunstan estimator of the cdf and the linear M-quantile small area model. Regarding tasks 2.2 and 2.3, an interesting new approach to estimate poverty indicators that uses Empirical Best Predictors has been also introduced and applied to real data. Area level models that take into account for spatial and time correlation have been also proposed and the corresponding R software have been implemented. Concerning task 2.4, first investigations have been carried out regarding models that take into account for both spatial and time correlation. The work done in the fourth semester has produced two

deliverables (already finished): Deliverable D8 on “First small area estimation developments” and Deliverable D13 on “Software beta on small area estimation”. Both deliverables contain many, but not all, of the theoretical and software developments that are being done within WP2. In addition, the partners of WP2 have been working in new theoretical developments by including new statistical models together with their corresponding software, doing simulation studies and applying the implemented R software to real data sets. At this moment, all the activities of WP2 are being carried out without any remarkable delay.

In this period the DSMAE Coordination Team organized and/or attended one WP2 meeting in Cyprus (partners involved: UMH and UC3M).

### **WP 3: Integration of EU-SILC data with administrative data**

The main objective of WP3 is to exploit administrative and third sectors’ locally data available to calculate indicators to monitor social exclusion and poverty and, moreover, useful to define effective local social policies.

In last months (1 September 2009 – 31 March 2010) partners of WP3 have been involved in these main activities.

Concerning the administrative data, we acquired Jobcentre database that contains data related to people registered as unemployed and to the start and cessation of jobs provided by companies. We also had many contacts with Revenue Agency to obtain the database with identificatives codes. We hope to receive it before the end of May 2010. In these months we received a permanent denial by INPS too. They explained us that to permit the access to their database they should have been be a formal partner in Sample Project from the beginning. However they will give us aggregated data at municipal level.

Concerning third sectors we have achieved important results: we acquired Mirod database that contains data from Caritas’ counselling centres and we agreed with the three Caritas of Pisa province the text of a protocol for the construction of the Observation system to monitor poverty, vulnerability and social exclusion (Task 3.4). At the end of february we completed the questionnaire for stakeholders survey (Task 3.4 and Task 1.4) and we begun the survey. At this moment we received 165 questionnaires.

Finally, in these months, we completed the list of regional social and economic indicators to monitor poverty, vulnerability and social exclusion and we collected the first data.

### **WP 4: Standardisation and application development - Software for living conditions estimates (SR)**

The main goal of WP4 is to develop a software application, whose objectives are:

- give a real-world application of SAMPLE results;
- support policy-making and implementation at the local level;
- contribute to the public awareness by creating information-rich, easy to use, easy-to-understand graphics (unveiling the meaning of data without hiding their complexity);
- share knowledge and improve local capabilities.

The long-term outcome of WP4 is to improve the understanding of the social exclusion processes at a local level by all people working in the field of social policy making.

This web application (portal) will be the entry point for social inclusion activities in the Province of Pisa. It has three main parts, or modules: the SAMPLE data management and reporting core, a set of social networking tools plus a documentation and news section.

During the fourth semester of our work as development team of WP4 we focussed mainly on:

- 1) A comparison between the existing opensource frameworks to build upon our collaborative application.
- 2) Testing the R engine and R-Php application for reuse on this project
- 3) Analysing the point of view the potential users of the application (requirement analysis)

For #1, we thoroughly tested three of the leading opensource social networking softwares written for the widely available LAMP stack (Linux OS, Apache webserver, MySql database server and Php language):

- a) Elgg
- b) Drupal CMS + community modules
- c) Xoops CMS + Yogurt extension

Our platform of choice was Elgg framework, which comes with advanced user management and administration, social networking features, cross-site tagging, a powerful ACL, internationalisation support, and more interesting features. It has a solid framework to build within, and we choose to develop a special plugin module for integration with R-php.

As for #2, we confirmed our choice to start from University of Palermo's R-php project to create an interface to easily manage the R routines made available by WP1 and WP2. Next, we will move to the first tests with the sample routines.

As for #3 we are collaborating at the survey carried upon local stakeholders by PP-UROPS (see WP1 and WP3). Approx. 700 people involved by various stages in poverty and social exclusion have been asked their opinion about the creation of an Observation System to monitor poverty, vulnerability and social exclusion. Concerning WP4, we have proposed a set of question about the name of the web site, to assess the stakeholders' point of view about the best tools to promote the exchange of information on the topic. The survey is not closed yet, but some of the respondents agreed to spend some time to test the platform while still in beta. The web application structure and content will be tailored after these precious suggestions.

## **WP 5: Management**

From the 1<sup>st</sup> September to the 5<sup>th</sup> November 2009 the DSMAE Coordination Team has been busy with the preparation of the **Periodic report**. The main tasks carried out were:

- i) collecting, organizing, editing the material for the report;
- ii) language revisioning of all documents;
- iii) checking the **Financial Statements**;
- iv) preparing the management report of the project.

The periodic report was delivered to the P.O. by e-mail on the 5<sup>th</sup> November 2009. After the approval of the Report and Financial Statements, the SAMPLE administrative support employee provided to collect and send to the Project Officer all the original Form C. The Coordinator was informed about the **Interim payment** from the Financial Officer on the 19th January 2010; after some exchanges about it with the F.O. the Coordinator informed the Consortium on the 2<sup>nd</sup> February 2010 and sent a resuming table of the **bank transfers** to be done and of the global financial situation of the project. This document was sent on the 2<sup>nd</sup> February to the P.O. too.

The Coordinator provided to transfer the Interim Payment to three partners, which already had spent the pre-financing sum (UMH, UC3M, CRIDIRE). The complete information was prepared and sent to the Consortium before the **Warsaw Project Meeting** (24 March 2010). Monica Pratesi, the Project

Coordinator, attended to the **Warsaw Project Meeting**. Therefore, the DSMAE Coordination Team defined with Management Support Team (PP-PC) the Agenda of the Steering Committee in Warsaw (24/03/2010): in particular, the Coordinator informed the S.C. about the necessity for a reallocation of the budget for Management and Dissemination among partners. The Coordinator prepared the documentation about the budget reallocation and a proposal to calculate the partners contributions.

During this period, the Coordinator delivered the following **Deliverables**: D8 (05/11/2009), D7a (20/11/2009), D9 (11/01/2010), D3 (17/02/2010), D26 (24/12/09). On 17 March 2010 a new, updated, **Deliverables List** was proposed, sent and immediately approved by the P.O.

Management Support Team (PP-PC) provided to send to the Coordinator its own contribution to the periodic report and to the mini progress report; the internal quarterly reports and the integrations to the Deliverable n. 3.

For the S.C, MGT Support Team (PP-PC) organized the agenda of the day, on the base of contents identified in collaboration with coordinator team and provide to define some documents useful for discussion, event agenda, and dissemination items and above all reallocation of dissemination budget in order to define the common line of communication sent to all partners at the beginning of March with the description of product of dissemination. He took contacts with CES-GUS for logistic organization of the meeting.

In this period the DSMAE Coordination Team organized and/or attended the following **WP's meetings**: three WP3-4 meetings in Pisa (partners involved: PP-UROPS and SR); one WP5-6 meeting in Pisa with the WP leader PP-PC.

## **WP 6: Information, dissemination of results**

The Coordinator carried out the following tasks for the SAMPLE dissemination activities:

- a) updating and improvement of the project's *web-site*: the DSMAE ICT technician (Giuseppe Maccioni) modified, with the help of the DSMAE Coordinator Team, the deliverable web-site area from private to public and uploaded the relevant files; he discussed with the MGT Support Team (PP-PC) several details about the website publishing (in particular, the publication of the event calendar and the possibility of changing codes according to the project needs); finally, he took care of the installation and configuration on the web-server of the software (limesurvey) needed for the stakeholder survey, requested by Simurg.
- b) *the calendar of events*: in December 2009, Monica Pratesi asked the Consortium to confirm the project meeting in Warsaw around the NET-SILC Conference held on 25-26 March and a supplementary meeting (perhaps as WP's workshops) in Siena for September 2010, jointly with the "Forum on Inequality" organized by the Faculty of Economics "Richard Goodwin" of Siena.

The MGT Support Team (PP-PC) in this period provide the implementing of web site in particular he took care the following main activities:

- a) Uploading of all SAMPLE events in the calendar format;
- b) Updating of Work Package technical fiche of partners;
- c) He transferred the remaining part of old web site in the new one with the aid of the graphic that realized the new website;
- d) He modified the calendar informatics' module to reset the normal visualisation on public area;
- e) He uploaded the news section with the input arrived from partners; he work on editing, linkage at contents and external documents.
- f) He uploaded and wrote the text for new link ad to the section "Useful links"
- g) He took care to change the title sequence of event calendar and articles section.

MGT Support Team (PP-PC) organized one meeting with Webmaster of Coordinator Team in order to define the specific issues of web site to change and modify.

MGT Support Team (PP-PC) organized, with the collaboration of Polish partner of the Sample seminar in Warsaw and of the Steering Committee also took place in Warsaw the 24<sup>th</sup> March 2010.

In particular he provided to identify and develop the line of communication of the Sample seminar, with the definition of contents, according to Prof. Pratesi and other partners involved, to identify the speakers external from project, as the Cuspi president and a representative of European Commission, DG Research. Besides, he provided to give to Polish partners all steps to organize event, a Gantt file with the detailed activities, the list of subjects to invite, the press release *ex ante*, the news to publish, the list of web site to contact in order to disseminate the sample event. He also provided to the graphic documents as invitation and poster of the event, the graphic and contents choice.

MGT Support Team (PP-PC) provided to contact some international reviews in order to define the common line of communication and evaluate, if review that contacted the Coordinator, could respond at SAMPLE exigency of dissemination.

MGT Support Team (PP-PC) provided to define with WP 1 Leader, Prof. Lemmi, to identify some details to the organization of "Forum on Inequality" organized by the Faculty of Economics "Richard Goodwin" of Siena. In particular he provided to take information and prepare the documents to the request of European year for combating poverty and social exclusion logo, to have the sponsorship of the event from European Commission.

He also evaluated, the proposal the coordinator received from Eurostat and other coordinator's project in order to define some specification of SAMPLE final event; he also provided to do an estimation costs for the local final event in Pisa.

MGT Support Team (PP-PC) also inserted the SAMPLE event of Warsaw as focus for of Europe Direct Centre of Pisa activity, managed from the same staff and office, for the March event; he provided to insert the event in a radiophone programme (Antenna Europa) on European theme promoted by Europe Direct Centre of Florence and Pisa. In particular he gave the summary and the context of project to the Antenna Radio Network of Florence, that manage the programme, and define with the speakers the questions to pose to coordinator, Prof. M. Pratesi and Head of Office of European Police Office, Mr. Paolo Prosperini.

### **Participation of Partner at conferences and meetings:**

In this period the SAMPLE research team attended and/or participated with papers to the following events of dissemination of the SAMPLE research activity and results:

1) Prof. Monica Pratesi (DSMAE) presented the paper *Estimation of poverty indicators at the small area level in Italy*, co-author Caterina Giusti and Stefano Marchetti, concerning WP 2, in SIS2009 Conference Statistical Methods for the analysis of large data-sets, Pescara (Italy), 25 September 2009;

2) Prof. Monica Pratesi (DSMAE) presented the paper *Resistance to outliers of M-quantile and robust random effect small area estimation models*, co-authors Nicola Salvati, Nikolaos Tzavidis and Caterina Giusti, concerning WP 2, in ERCIM09 Conference organized by the European Research Consortium for Informatics and Mathematics, Conference session organized by Domingo Morales (UMH) and Isabel Molina (UC3M), Cyprus, 29-31 October 2009;

3) Monica Pratesi, Nicola Salvati, Caterina Giusti (DSMAE) are co-authors of the papers *Resistance to outliers of M-quantile and robust random effect small area estimation models*, presented by Nikolaos Tzavidis (CCSR), in Conference on Indicators and Survey Methodology 2010, Vienna (Austria), 24-26 February 2010;

4) CES GUS participated in the organisation of the open scientific seminar during which the SAMPLE project objectives and the stage reached by the International Consortium in the project performance were presented. By Professor Janusz Witkowski, vice-president of CSO, opened the seminar, attended by about 50 participants. Poland was represented by people from the scientific circles, staff members of both the Central Statistical Office and Regional Statistical Offices as well as representatives of the Ministry of Labour and Social Policy, Chancellery of the Council of Ministers and Mazovian Centre of Social Policy. The chairman of the meeting was Professor Tomasz Panek from the Warsaw School of Economics (WSE). The seminar was an integral part of the annual meeting of the Consortium. It was held on March 24 on the premises of the Central Statistical Office in Warsaw.

5) Province of Pisa-UROPS presented SAMPLE project to the *National Presidency of CUSPI* (Coordination of the Offices of Statistic of the Italian Provinces), Bologna, 13 January 2010;

6) Agnieszka Zięba (WSE) presented a paper entitled “*Comparing three methods of standard error estimation for poverty measures*” during the 6th Conference “*Survey Sampling in Economic and Social Research*” , 21 September 2009 Katowice, Poland;

7) Isabel Molina (UC3M) Presented a research advances and discussion with other people working on related topics in occasion of *2nd International Workshop of the ERCIM Working Group on Computing & Statistics* (ERCIM 2009) from 29 October 2009 to 31 October 2009 Limassol, Cyprus.