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Topic I: Measures for the improvement of quality at the IT management level

STATISTICAL IT MANAGEMENT IN LIGHT OF ACCESSION TO THE EUROPEAN UNION

Supporting paper

Submitted by Czech Statistical Office[1]

1.   The position of the Czech Statistical Office (CZSO) as an administrative agency is laid down by the Competence Act No. 2/1969 adopted by the Czech National Council, as amended. The Czech Statistical Office as a central authority of the state statistical service is prepared to comply, as to methodology, with what is presently required from the EU Member States in the field of statistical information. The mission, assignments, organisation structure and rights and duties of the CZSO are defined by Act No. 89/1995 Coll., on the State Statistical Service, as amended.

2.   Similarly, as in all democratic, economically and socially developed countries, the activity of the State Statistical Service of the Czech Republic is based on several identical fundamental principles. Among other things, they particularly include transparency, objectivity, protection of confidentiality, independence and dissemination of information.

3.   The hitherto development of the State Statistical Service of the can be split into three basic stages:

-      transformation – changing methods and forms of work to reflect principal qualitative changes in the transition to a democratic society and market-oriented economy (1990 – 1997);

-      harmonisation – introducing methods, tools and procedures for them to be consistent with regulations and practice of the EU Statistical Service (1997 – 2002);

-      adaptation – learning new methods of work related to the accession of the Czech Republic to the EU (2003 – 2007).

4.   At present, the adaptation stage of official statistics is starting. In view of the fact that practically all disposable internal reserves have been exhausted in the preceding stage of the harmonisation process (1997-2002), the CZSO needs to enhance its administrative capacity to satisfy expanding requirements for

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[1] Prepared by Jan Matejcek (matejcek@gw.czso.cz).

the scope and quality of data supplied to the European Commission and the European Statistical System on the one hand, and domestic users, particularly the regions, on the other.

5.   The CZSO is ready to become a full-fledged member of the European Statistical System. The current form and further development of the System lay great demands upon the quality and efficiency of the execution of the Service. These aspects should be unfolded in the CZSO's activities – by the application of TQM in particular – with regard to both respondents and users of statistical products.

6.   In the macroeconomic area, the CZSO has to react to qualitative changes in the production of key indicators, such as quarterly and annual GDP. To comply with the plans of Eurostat and requirements of the most important international users (IMF, The World Bank, ECB, etc.), we have to switch in a short time from compiling quarterly GDP estimates, which are based on quarterly statistical surveys, to much faster flash estimations based on monthly figures and relevant time series used to produce macroeconomic indicators through sophisticated mathematical models. The considerably reduced delay before quarterly GDP releases based on flash estimations is expected to require continuous updates. It is also necessary to make arrangements for revisions of macroeconomic aggregates at uniform dates, binding for all the EU member states. In accordance with the foremost tasks of Eurostat, attention should be focused on statistics of government debt and government deficit.

7.   In the area of external trade statistics, the CZSO has to complete the preparation and start the system INTRASTAT, i.e. statistics of trade inside the EU, at the moment of the accession of the Czech Republic to the EU. These statistics will be produced in cooperation with the Ministry of Finance– Directorate General of Customs which is in charge of collecting these data for broader uses and providing them to the CZSO as an administrative source of data. In this way, the response burden on reporting units should not increased. At the same time, statistics of trade with third countries (outside the EU) will be transformed into EXTRASTAT. The linkage of INTRASTAT and EXTRASTAT data will result in a new form of statistics of external trade and intra-Community.

8.   In business statistics, it is necessary – in compliance with predominating practice in the EU – to find and use the techniques and technologies of surveying that will reduce the response burden on the group of the smallest enterprises. In particular, proportionate keys will have to be used for main indicators (number of employees, wage funds, sales) taken from censuses that are carried out once in several years, and short-term (monthly) surveys should be confined to medium-sized and large enterprises, using proportionate keys for grossing to the universe. Only relative figures (indices) without regional breakdowns should be published as results of short-term surveys, whereas demands for more detailed breakdowns by CZ-NACE activity and by region should be satisfied from annual structural surveys. Wherever possible, statistical surveys should be substituted by using administrative data sources and mathematical modelling. Production of data on small and medium-sized enterprises needs to be improved without making the response burden heavier. We should focus more on evaluating the population of enterprises from the point of view of creating equal opportunities for men and women, stability of life of enterprises, share of newly born enterprises in economic indicators of relevant CZ-NACE activity, structure of enterprises with respect to form of ownership. Capacity should be created and methodology prepared for new areas of statistics responding to new economic activities, for example e-business.

9.   In the area of social statistics and demography, the CZSO needs to change the technologies of some surveys so that they correspond with prevailing practice in the EU and satisfy the demands of users, under higher effectiveness of spent resources. This mainly applies to a change in statistics of household incomes and household consumption (the way of household sampling, work with respondents aimed at enhancing reliability of primary data, review of the periodicity of surveys and the scope of data collected at individual intervals). More often should be used *ad hoc* modules responding to topical issues in the social area. The field of remuneration should be described in a more vivid manner and should not be limited to the indicator of average wage. Fitting methods need to be prepared to observe new or qualitative different processes in people's lives, such as information society and related change from man's education and training for occupation that is limited in time to lifelong learning, mobility of labour force within

geopolitical zones (the European Union), global migration, monitoring of equal opportunities for men and women, living conditions of national and other minorities, etc.

10.   Taken once in ten years, population and housing census is an important and by far the most expensive project of the CZSO. Although the processing of all basic outputs from Census 2001 has not yet been completed, it is necessary to start already the preparation of the next one. The census around the year 2010 should combine the use of registers and self-enumeration supported by a reduced number of enumerators. The basic population register should serve as the most important source of initial data on the one hand, and on the other the census should in turn markedly help raise the quality of the register. A similar two-fold role should be played by the basic register of territorial units and real estate extended by the tier of dwellings. The pace of founding and the quality of new registers and other administrative data sources – characterising social, educational, health, housing and property circumstances and economic activity of the Czech population – will influence our possibility of employing these registers and data sources in the census.

11.   More emphasis should be put on the statistical monitoring of environmental aspects of life of society, and explanatory power of environmental statistics should be strengthened in compliance with the comprehensive nature of the environment and its effects on the life of society in global context. Keeping with international trends, statistical tools should be applied to monitor and evaluate sustainable development. In this framework, environmental satellite accounts should be implemented.

12.   The Czech Statistical Office lays stress on data structured not only by economic activity (CZ-NACE), but also by region – particularly data from surveys at yearly or longer intervals. Of the highest priority are regionally structured data required by legislation of the EU and data indispensable for the preparation of projects and the assessment of their implementation with regard to structural funds and specialised projects, such as ISPA, SAPARD, REGIO, RURAL, URBAN, etc. The production of non-standard regionally structured data needs especially the use of the zoning method based on aggregation of data from databases collected down to the level of municipality or part of municipality. In doing so, maximum attention must be given to system data confidentiality protection. To satisfy specific demands for detailed regionally structured data, we need to seek specific forms of cooperation, predominantly with appropriate authorities of central government and local authorities, mainly in form of methodological assistance to surveys they organise, execute and finance. Statistical surveys that serve only very limited number of users should be transferred to government departments, regional authorities or other organisations, with the CZSO providing methodological assistance. The CZSO could carry out these surveys exclusively for money, provided it can be used to cover expenses provably related to the production of required information.

13.   The CZSO is in the process of creating and maintaining a system of statistical registers used by both the entire state statistical service and other authorities of central government; public part of these registers is available to all other users. The Business Register is an example, which represents today the only complete register of businesses in the Czech Republic embracing approx. two million units reported by nearly seven thousand points of registration of several government departments. The Register of Enumeration Districts as a tool and result of Census 2001 is now the most comprehensive register of territorial units and residential buildings. Among satellite registers, the Farm Register is of particular importance at the time of joining the EU.

14.   Within the conception of state information policy, the Government of the Czech Republic have made a decision to build basic registers of public administration, i.e. the basic population register, basic business register, and basic register of territorial identification and real estate. Solutions being rather isolated, legislative preparation protracted, and financial resources from the state budget unavailable – all this affected the whole process so far. All statistical registers are linked to the above-mentioned basic registers by means of standard identifiers (birth certificate number, identification number). Efforts made by some government departments to cast doubt on these identifiers (which have been in use for many years) and substitute them turn out highly counterproductive. According to experience gathered in other countries,

it is advisable to extend the register of territorial identification and real estate down to the level of unambiguously identified dwellings. The international professional public are rather inconsistent about whether the register of economic activities of population should become another basic register or whether it should provide only a link between the population register and the Business Register. All the other registers, no matter what institution operates them, should be satellite registers, but definitely linkable again.

15.   Development of statistics based on registers is highly desirable, particularly for censuses of all kinds and as sampling frames. Experience gathered hitherto by a number of advanced countries is absolutely positive. Censuses based on a system of mutually interlinked registers are proved to be permanently up-to-date and have better quality. Moreover, the costs of taking such censuses are considerably lower. Actually all statistics are built on sample surveys whose quality is directly proportional with the quality of registers used to generate the samples. We cannot conceal, however, that the building of such extensive registers is very costly too. In this context, the necessity of close cooperation between all interested governmental departments is more than obvious.

16.   Czech legislation makes the CZSO, as a central agency free from political interference, responsible for the processing of all types of elections held in the Czech Republic. The created system of releasing results on an immediate and continuous basis over the Internet was commended by international observers as exemplary transparent, and will be further used and improved. A referendum will be held for the first time in 2003 before accession of the Czech Republic to the EU, and the first election for European Parliament is expected to take place a year later. The system should in future also allow direct elections of the President and mayors. It is anticipated that, in cooperation with the other EU member states, various methods of electronic elections will be phased in to boost the turnout.

17.   To protect the interests and rights of natural and legal persons, the CZSO is building a system of data confidentiality protection, and a system of data and applications security is designed to eliminate unnecessary expenditures from the state budget.

18.   Apart from the classical methods of data confidentiality protection in form of pledge of secrecy signed by each staff member of the state statistical service, methodological rules for individual data detection and related techniques of making data anonymous and data editing are being integrated into informatics processes in a standardized way. The internationally recommended software product Argus needs to be consistently introduced in this area.

19.   Making backups on complementary storage media is a classical method of data and application software security. A more sophisticated approach, currently being prepared in cooperation between several government departments, will rest on so-called secure data centres having a high degree of security.

20.   On the dividing line between data confidentiality protection and data security is the control of access to data. Systems of physical protection of buildings are classical examples in this area; over last few years they were enlarged by the security of electronic data networks through so-called firewalls and the use of passwords. In the near future, the CZSO intends to introduce professional chip cards, which will combine the possibility of controlling access to the building and its parts, authentication in local and public networks, and signature and coding of e-mails and e-documents.

21.   There are own LAN and remote network operating at the Czech Statistical Office for several years, connecting all its workplaces and locations and allowing comfortable e-communication of all staff members and the sharing of data funds. However, the CZSO is about to reconstruct its communication infrastructure, which will result in the integration of the CZSO into GovNet. The purpose of GovNet, as an inside network shared by central government, is to provide economic and protected interconnection both within public administration of the Czech Republic and, through network Testa II, also with the EU. This will significantly facilitate data transfers to and from EU institutions in general, and Eurostat in particular.

Before that, the CZSO needs to consequently accept international standards like Stadium, Statel, Ediflow, Gesmes, XML, and other.

22. When saturating ICT needs, the Czech Statistical Office managed to reach the capacity of central systems adequate to tasks performed by the CZSO (large state statistical surveys, registers, elections). The structure reposes on approx. 15 servers of platform RISC-UNIX and 30 servers Intel. The system has been made robust through the cluster connection of servers, memory backups from disk fields on DLT and CD-ROM, and through UPS and a motor generator. We succeeded in unifying the equipment of all staff with PCs and connecting them into a relatively powerful network. Implementation is in progress of non-traditional technologies, such as data scanning, the Internet on both the input and output sides, and mobile equipment in individual applications. However, it will be very difficult to keep up this fairly good situation in the future due to constraints on the state budget of the Czech Republic and still rapid development in the area of ICT.

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