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	„State Budget Execution Audit Performed with the Use of IT-Tools’	

THE USE OF IT IN THE STATE BUDGET EXECUTION AUDIT

Report on the Warsaw EUROSAI Pre-Congress Seminar „State Budget Execution Audit Performed with the Use of IT- Tools”

The EUROSAI Pre-Congress Seminar „ State Budget Execution Audit Performed with the Use of IT-Tools” was held in Warsaw on September 25-27, 2001. Representatives of thirty three European SAIs participated in the Seminar. It should be noted that the Seminar participants were senior experts in the field of application of IT tools for auditing, and that twenty delegations were headed by SAI Presidents or Vice-Presidents.

The decision of the EUROSAI Governing Board to devote the Seminar to the subject in question was prompted by great interest in the use of IT in auditing. At present, all audit institutions use computer systems for their day-to day work connected with preparing and conducting audits, as well as for analysing and processing audit data. The popularity of IT tools is growing and in the future the use of hardware and software adapted to the needs of auditing will undoubtedly be even more common. However, certain conditions need to be met if maximum benefit is to be drawn from the use of such tools. Many of these conditions were discussed at the Seminar. In preparing the Warsaw Seminar, the organisers built on experience gained during the first seminar organised by the EUROSAI Training Committee in February 2001, in Goławice near Warsaw. The results of the February Seminar were instrumental in developing the concept of the September seminar and in selecting the topics. The Seminar was prepared largely by Members of the Working Group, consisting of representatives of the SAIs of Germany, France, Norway, Poland, Portugal, Russia, Slovenia and the UK and strongly supported by the President of the EUROSAI. They met several times and stayed in touch to work out the details of the presentations, materials and the organisation of the event.

The subjects of the debate included in particular: accessibility of data, data analysis and data sampling for auditing, as well as existing experience, solutions and prospects for IT-supported state budget execution audit. During the four working sessions of the Seminar, nine presentations and nineteen national speeches were made and discussed by the participants. During each session, the speakers and debaters outlined specific solutions and limitations which they had come across. The presented speeches and the discussions that followed them offered an input to further development. The intensive exchange of experience in the use of IT in budget audit provides a sound basis for further improvement of tools which support auditors in their duties, and thus help them increase the efficiency and quality of their work.

At the same time, the participants of the Seminar repeatedly stressed that auditors should be encouraged to use IT tools in auditing state budget execution while bearing in mind that their use is but a means to an end and not an end in itself. Using IT tools is not just about technology and trying to keep up with all new solutions; it is primarily about skilful application of the developments in this field of knowledge in order to achieve clearly defined and specific audit objectives.

1. Data accessibility

The first working session focused on data accessibility. During this session, national presentations were made by representatives of Supreme Audit Institutions of Lithuania

Norway and Russia. National reports prepared by SAIs of Hungary, Italy, Malta and Portugal were included in the Seminar materials. The presentations and reports, as well as the panel discussion, have shown that many problems are yet to be solved regarding data accessibility by audit institutions. The approach to these issues varies from country to country. The experience of others not only allows one to make use of good solutions, but also to realise what problems need to be solved.

The following issues were addressed in the course of individual presentations and discussions that followed them:

- a) legal solutions concerning data accessibility;

Each SAI has a legal mandate allowing it to access data necessary for state budget execution audit. Solutions differ from one country to another (for example, the Act on the SAI of Lithuania includes a provision ensuring access to on-line data, while the lack of such a provision in Hungary is considered an important drawback).

- b) various approaches to achieving the same goals;

Data may be accessed by means of direct access to the data bases of the auditee or through a central data register or individual registers. The Dutch system is particularly advanced in terms of information technology. In two years' time, 25% of all operations concerning citizens will be performed basing on electronic systems. The Dutch SAI widely applies preventive measures consisting in regular auditing of regularity of procedures and tools used by budget institutions.

Norwegian solutions regarding data access by the SAI also function well. Technical solutions for transferring data (obtained in electronic format) from individual government agencies to a system called TOMAS (Technical Transfer and Receiving System) have been developed here. According to the SAI of Norway, the success of TOMAS depends on the fulfilment of the following conditions:

- automatic transfer of data from the auditee to SAI's data access server; the auditees must have access to the external network and the size of the data files should not be excessive;
- auditors must have easy and uniform access to the necessary financial data of auditees;
- TOMAS increases the efficiency of the auditing process when the auditor is able to perform initial audit procedures (analysis and statistical sampling of the auditee's financial data) before actually visiting the auditee.

TOMAS provides the auditor with more reliable data, as automatic data access means that control over imported data is more effective;

- c) problems faced by auditors in their day-to-day practice;
- d) feasibility of introducing data access legislation that would not require amendments prompted by developments in the field of information technology;
- e) possibility of accessing data at any stage of the auditee's activities and not only upon completion of a certain cycle or period, e.g. a budgetary year, investment project, etc.;

- f) major problems are connected with the lack of standardized software solutions, which should guarantee more effective processing of individual financial statements and budget execution audit data;
- g) access to classified, sensitive data and the associated data security issues, as well as cooperation between such institutions as the Ministry of Finance, the State Treasury, the National Bank, etc.;
- h) free of charge access to data may be considered normal, when one assumes that all institutions obliged to provide such access are financed out of the State budget. However, providing access to data is also a form of service, sometimes quite expensive, and somebody must cover the costs. SAIs have adopted various solutions with regard to this issue.
- i) more and more often, the data are provided in electronic format; hence, training of auditors in IT is becoming an issue of key importance. There are differences between SAIs regarding the level of IT skills attained by their auditors.

Training strategies, training aids and well-prepared materials are necessary. It is also important that training courses be conducted by people with experience in auditing and not just by computer experts. Moreover, training courses on the use of IT tools should be attended by people with a good grasp of public finance issues. It is also important to plan such courses in advance.

- j) technical problems connected with IT infrastructure, data management, transfer and processing.

These are particularly important issues. Adequate systems should be designed, implemented and managed, and questions of cost-effectiveness should not be avoided. Standardized software is an opportunity for more effective processing of data from individual financial statements, and consequently, more effective budget execution auditing.

The discussion indicated that key issues which need to be addressed with regard to data accessibility, include:

- adequate legal framework;
- completeness, reliability and compatibility of data bases on which transactions are based;
- reaching consensus with the auditees regarding the means of data access and transfer;
- introducing adequate measures to ensure security and confidentiality of data to which access is given.

Some papers and a number of debaters noted that SAIs are facing new challenges, including “offices without papers”, electronic signatures, e-trade and e-banking.

Moreover, during the discussion, the idea of developing a so called „meta-data-base”, containing information on the availability, format and “whereabouts” of state budget data, was considered, and strongly supported by many debaters.

2. Data analysis and sampling

Representatives of SAIs from Denmark, Germany, Russia and Slovenia gave presentations during the working session devoted to data analysis and data sampling. According to the survey conducted among EUROSAI members prior to the Seminar and cited in Seminar presentations and discussions, 25% to 50% (and in some cases even 75%) of SAI staff members use notebook computers and other IT tools in their work. 2/3 of the replies to the pre-Seminar questionnaire indicated that auditors use or will soon start using special software for data analysis and sampling. Nonetheless, there are still many unresolved problems regarding application of IT for sampling.

The following problem areas were highlighted in presentations and discussions:

- there are no definite guidelines on how to treat errors made as early as at the sampling stage
- there is a need to define the permissible margin of error
- methods of consolidating results need to be developed
- when considering sampling methods to be used in an audit, one always has to consider whether those methods will permit the audit objectives to be achieved at a minimal cost
- there is a need to define errors and irregularities so as to avoid differing assessments of identical audit findings by different auditors.

In order to ensure correct and uniform interpretation of audit results based on a sample, the audit plan must contain guidance on possible types of irregularities in the audited activities. It is therefore necessary to clearly define possible irregularities and to reflect in the audit plan the planner's views on the significance of the various types of irregularities for the overall assessment of the audited activities. If there are no precise guidelines on how to classify various phenomena as irregular, auditors may differ in interpreting these phenomena and, in effect, arrive at different opinions on the functioning of the auditees. The issue of defining irregularities is of key importance when statistical sampling methods are used, because irregularities found in the sample are extrapolated to the entire audited population and hence serve as a basis for formulating audit opinions.

Various approaches, experiences, experiments and levels of sophistication in the application of IT tools for data analysis and sampling were discussed. It was noted that:

- there are many factors affecting the method and scope of application of IT tools for data analysis and sampling by SAIs; these factors include the legal environment of the SAI, its general approach to auditing, information requirements set by the parliament, character of the auditee and expectations of the public;
- there is a need to develop a framework for determining the significance of data and for data analysis; this is necessary to avoid improper use of data analysis and inefficient operation;
- it is necessary to keep up with the progress in the development of concepts and methods associated with the use of IT tools in data analysis and sampling, so as to ensure that audit results are meaningful and useful.

Many important issues connected with data sampling and analysis in auditing were raised in the presentation of the Court of Audit of Slovenia. The Court's experience is that quite often problems connected with audit planning, audit implementation and auditee assessment prove

to be the most difficult, whereas broadly defined issues of IT support seem to be easier to handle.

The presentation contained e.g. the following conclusions drawn from the use of sample-based audit and data analysis techniques in state budget execution audit:

- auditors must have in-depth knowledge and understanding of the data used in sampling and analysis
- correct and comprehensible definitions of errors must be developed to ensure correct sample-based audit results
- it is important to develop a logical and cohesive method of measuring the errors found so as to be able to perform correct extrapolations.

SAIs differ in the degree to which they utilise statistical methods, including statistical sampling. 2/3 of SAIs which replied to the pre-seminar questionnaire use special software for this purpose.

3. Experiments, solutions and prospects

The third session was devoted mainly to specific methodologies which the various SAIs have adopted in the application of IT tools in the auditing process. During the session, representatives of SAIs of Finland, the Netherlands and the United Kingdom gave presentations. They focused on general issues, models and types of solutions and general problems of utilisation of computer technology in budget execution auditing. Once again, it was stressed that IT tools are a means to an end rather than an end in itself. This means that audit objectives must always be very specific and clearly defined. Experiments with the use of CAATs and/or other IT tools, should take into account the need to develop and select proper tools. Technological and scientific progress affects the development of auditing methods. The question is how to effectively utilise new developments in order to achieve audit objectives in general and objectives of budget execution audit in particular.

The presentation of solutions adopted by the State Audit Office of Finland emphasised that in every team there is one person in charge of ACL, who spends about 30-50% of his/her time on technical assistance to other auditors. At the same time, it was stressed that this assistance is not about doing somebody else's work but only about helping to solve specific technical problems. Moreover, the audit manual developed by the SAO of Finland contains the principles and technical guidance on the use of IT tools at each stage of the auditing process.

The UK National Audit Office presented an interesting report. A thorough review of its audit methodology was undertaken with a view to identifying more effective methods of financial audit. The review included also a comparative study of new methods introduced in a number of private accounting firms and an analysis of all factors which may affect the way an audit is conducted. This process resulted in a new audit approach, referred to as "Audit 21". Some of the most important aspects of this approach include:

- understanding the business – gaining extensive knowledge of all the key issues related to the activities of the auditee;
- risk-based audit – making the auditor aware of key risk areas, i.e. areas in which faults in the records are particularly likely to occur, and focusing the auditor's efforts on those areas;

- reliance on management audit – it is necessary to rely on management audit wherever possible in order to limit to a minimum the amount of detailed technical work;
- adequate audit procedures - with regard to areas requiring detailed work on the part of the auditor, auditors are encouraged to select adequate audit procedures from the whole range of available options rather than to limit themselves to the sample-testing approach;
- focusing on „added value” - giving the auditees more advice.

The presentation included a detailed description of the implementation of the new audit approach and of the necessary technology. Benefits resulting from the introduction of „Audit 21” were also specified. They include among others:

- greater conformity with auditing standards;
- better management of auditors;
- personnel assessment;
- greater efficiency.

The continuous development of IT will facilitate more effective and efficient operation in the future; however, it will also require important investments in hardware and software to be continued.

Major investments in human resources will be necessary, particularly in virtually continuous professional training at all management levels. These preconditions will be pivotal for the successful application of IT tools for budget execution audit.

IT tools are already used in comprehensive financial audit as well as in subject-focused audit. The development of these tools offers greater opportunities for broadening the scope of audit while conducting direct „grab” tests in a way which has not been possible with traditional audit methods, as IT tools make it possible to check great numbers of records, perhaps up to 100% of , e.g., financial transactions, whereas only a small fraction can be checked using traditional methods. Consequently, the reliability of audit findings is also increased. Moreover, in some cases, examination of the whole population is possible, so sampling is no longer necessary. In cases where sampling is necessary, samples are taken purposefully from high risk areas. With CAATs, it is possible to shorten the duration of the audit despite broadening its scope, as all operations (e.g. analyses, taking representative data samples) are performed relatively quickly once the appropriate formulas have been entered. In this way, IT tools make it possible to both broaden the scope of budget execution audit and to make it more in-depth.

Another example of application of IT tools refers to establishing measurable evaluation criteria. Data Envelop Analysis allows to assess why some auditees achieve better results than others. Hence, this tool can be used in efficiency and effectiveness analysis. It helps to determine best practice models and to assess whether or not the auditee:

- operates economically;
- is of adequate size;
- operates efficiently;
- operates effectively.

The experience of those SAIs which use integrated information systems to obtain information on state budget execution also aroused great interest. Such systems i.a. allow to:

- identify trends in budget expenditure and income;
- evaluate resource utilisation capabilities;

- determine the rate of debt repayment;
- compare the most characteristic variables of the budget (expenditures for social policy, education and culture, infrastructure, environmental protection, defence, etc.)

A set of such indicators underlies budget resources management assessments, formulated by the SAI in its annual report for the Parliament.

SAIs use software such as Excel, Access, SAP, SPSS or software for supporting the creation and management of circulation of documents. These IT tools are used for auditing or for recording the course and findings of an audit.

Audit management support systems are another related area. In most countries, the national budget execution audit needs to be conducted over a short period of time, as the Parliament wishes to receive the SAI's opinion on the execution of the budget almost immediately upon the closing of the budgetary year. The planning of numerous audits, coordination and supervision of audit work, transfer of data and audit findings to the one unit which manages the audit, as well as drafting the summary report, all require IT support. There are no universal information systems and individual SAIs develop their own software.

It should also be stressed that the use of IT tools by individual SAIs strongly depends on the focus of their audit work, audit procedures and addressees of their audit findings. This is why no single model exists and, what's more, such a model is not feasible.

All national contributions were translated into English and distributed as hard copies among the participants of the Seminar. Furthermore, thanks to the SAI of Portugal, all the seminar papers (presentations, speeches, national reports) will be published on CD and on the EUROSAI webpage. All training materials from the seminar in Goławice, held in February, 2001 are already available on this webpages.

The Plenary Session adopted conclusions which should be recognised as the output of the Pre-Congress Seminar and as such should be presented for discussion and adoption at the Congress (see attached document).

THE WARSAW EUROSAI PRE-CONGRESS SEMINAR
„State Budget Execution Audit Performed with the Use of IT-Tools”.
Findings and conclusions

The EUROSAI Pre-Congress Seminar “State Budget Execution Audit Performed with the Use of IT-Tools” was held in Warsaw on 25-27 September 2001. It was attended by representatives of 32 SAIs and the Chamber of Control and Accounts of Moscow. The four working session of the seminar dealt with the issues of access to data, data analysis and sampling, as well as with future experiments in the area of auditing the state budget execution with the use of IT tools. Altogether we had 9 presentations and 19 country papers that were discussed by the participants.

The use of IT tools is not only the question of technology and keeping up with all new developments, but, most of all, the skilful use of achievements in that area for attainment of clearly identified specific audit objectives. They should add new value to the audit process and also address the need to keep abreast of developments and the selection of appropriate tools.

During the Pre-Congress Seminar in Warsaw (in September 2001), the Supreme Audit Institutions associated in the EUROSAI decided, based on the outcome of the Seminar, to adopt the following findings and conclusions:

With regard to data accessing

1. Every country has a legal mandate enabling access to data needed for auditing the execution of state budget. However, the ways and types of access may vary. When SAIs encounter obstacles, they should take the appropriate measures that their mandate provides for, to ensure full access to data for the fulfilment of their mission.
2. Cost-free access to data can be regarded as a normal arrangement, assuming that every affected institution is financed from the state budget. However, data access is at the same time a kind of service, sometimes costly, and the costs have to be paid by someone. There are different solutions in the SAIs.
3. More and more frequently, the data in question are provided in the electronic (digital) format. Accordingly, the IT-training of auditors becomes a fundamental question. SAIs have reached different levels as to the auditors’ IT-skills. Training strategies, means and well-developed materials are needed.
4. Standardised software provides for a more efficient processing of data of individual financial returns and, therefore, for a more efficient audit of the state budget execution.
5. Technical problems relating to the IT-infrastructure and the management, transmission and processing of data are of particular importance. The solutions need to be designed, implemented, and also managed, and the cost and efficiency problems can not be avoided.
6. As far as data accessing is concerned, the key issues to be resolved are:
 - a) Adequate legal framework;

- b) Completeness, reliability and coherence of targeted databases on which operations are performed;
- c) Finding consensus with auditees on appropriate means of data access and transfer;
- d) Introducing adequate measures to ensure safety and confidentiality of accessed data.

With regard to data analysis and sampling

1. SAIs represented at the Seminar recognized the functioning of different approaches, experiences, experiments and degrees of advancement in the use of IT tools for data analysis and sampling.
2. There are many factors which influence the nature and extent of use of IT tools for data analysis and sampling by SAIs, including the legal environment and the auditing philosophy adopted by a given SAI, the information requirements of the Parliament as well as the needs of the auditee and the general public.
3. The need for a framework for ensuring the validity of data and data analysis was confirmed. It is essential in order to avoid the inappropriate use of data analysis and inefficient actions.
4. The development of IT tools for analysis and sampling must go hand in hand with the development of concepts and methodology to allow for the audit results to be relevant and useful.

With regard to experiments, solutions and prospects

1. It is critically important to create the appropriate environment for the efficient and effective use of the IT tools available. This implies finding suitable solutions with regard to data accessing, adoption of relevant technologies, and recruitment and training of auditors.
2. As regards the adoption of appropriate technologies, the issues to be resolved can be summarized as follows:
 - a) Obtaining a clear understanding of the structure of computerised databases to be examined;
 - b) Determining the nature of desired verifications;
 - c) Selecting the best solution bearing in mind the foregoing issues;
 - d) Selecting the best solution between packaged programmes and purpose-written programmes;
 - e) Consideration should be given to what extent the CAATs should be used by computer specialists or general auditors.

3. In terms of recruitment and training of auditors, the solution should provide for the following:
 - a) Complexity of the IT environment;
 - b) Range and complexity of computer audit tasks to be undertaken;
 - c) Computer literacy of the existing staff;
 - d) Need to provide necessary training over a reasonable timescale;
 - e) Advisability of recruiting external computer experts and/or the possibility of outsourcing computer audit tasks.

The ongoing evolution of the information technology will enhance future possibilities of taking more effective and efficient actions, but it will also require the continuation of important investments in hardware and software.

Considerable levels of investment in people will be necessary, in particular the relevant continuous professional training, together with the top-down commitment of the management. These conditions will be pivotal to the successful use of IT tools in the audit of state budget execution.