



**Economic and Social
Council**

Distr.
GENERAL

ECE/CES/2009/24
27 April 2009

ENGLISH ONLY

ECONOMIC COMMISSION FOR EUROPE

STATISTICAL COMMISSION

CONFERENCE OF EUROPEAN STATISTICIANS

Fifty-seventh plenary session
Geneva, 8-10 June 2009
Item 3 of the provisional agenda

SEMINAR ON BALANCING PRINCIPLES OF PROFESSIONAL AUTONOMY AND
ACCOUNTABILITY WITH THE MANDATE TO PRODUCE POLICY RELEVANT DATA

SESSION II: BEYOND THE PRODUCTION OF OFFICIAL STATISTICS: CREATING
SYNERGIES, AVOIDING CONFLICT

**MODELLING, FORECASTING AND SCENARIO BUILDING WHEN PRODUCING
OFFICIAL STATISTICS – EXPERIENCE OF THE CENTRAL STATISTICAL
BUREAU OF LATVIA**

Note by the Central Statistical Bureau of Latvia

Summary

The Conference of European Statisticians selected in June 2008 (ECE/CES/74) the topic “Balancing principles of professional autonomy and accountability with the mandate to produce policy relevant data” for a seminar to be held at its 2009 plenary session. The Bureau, acting on behalf of the Conference, approved the outline for the seminar at its February 2009 meeting (ECE/CES/2009/2) and requested Latvia to prepare a note to provide basis for the discussion.

The note describes the experience of the Central Statistical Bureau of Latvia in taking up activities that traditionally are not regarded as part of activities of official statistics, such as labour market forecasting.

I. INTRODUCTION

1. This report is based on the experience of the Central Statistical Bureau of Latvia (CSB Latvia) in those activities that are not traditionally regarded as statistical activities in its basic functions. In theory and in practice, there are many approaches to organising national statistical institutions. In practice, most statistical institutions are organized according to either subjects or functions but usually according to the combination of the two. The production of official statistics is included as one of the main tasks of national statistical institutions in their regulatory documents. Having seen the regulatory documents of different national statistical institutions, the authors have not found a common definition of official statistics on a national level. Official statistics are treated differently according to the system of state governance and the level of independence of statistical offices from the government. Opinions differ as to what constitutes statistical and non-statistical activities. By studying how the official statistical systems are organised, we see that the same tasks in different systems may be treated either as statistical or as activities incompatible with official statistics.

2. In Latvia it has long been emphasized in government documents and data users' comments that it is necessary to develop labour market forecasts on a regular basis. Up to 2007, there was no definite government institution whose main functions would include the task of labour market forecasting. Only some research was done, fragmentary information was obtained and usability of models was evaluated.

3. We understand official statistics to mean all statistical information that, by the rules of the Cabinet of Ministers, is included in the approved annual State Programme of Statistical Information. Labour market forecasting was not a constituent part of this programme until 2008. CSB Latvia agreed to undertake this function, objectively evaluating its necessity in the country and the limited human and financial resources available, although in most cases this function is not regarded as a basic activity of the national statistical institution. Certainly, the risk of conflicting interests was evaluated first: on the one hand, the statistical institution will be taking a role as a basic data source in this process and, on the other hand, as a data user. CSB Latvia tried to mitigate this risk by sharing responsibility with the Ministry of Economics for the analysis and the presentation of results to the government and general public. The content of the results of this product differs from the regular official statistics because of a high level of numerical presumptions. It should be mentioned that, in a small country, the risk is higher. The high risk is also linked with the political use and analysis of this product, especially in the conditions of the current economic crisis.

4. An important condition is also to ensure the responsibility of a statistical institution for the quality of results, since different data from other organizations and research institutions are involved and used in the production of such statistics. Neither the European Union Code of Practice¹ nor the United Nations Fundamental Principles of Official Statistics, adopted by the

¹ European Statistics Code of Practice for the National and Community Statistical Authorities, adopted by the Statistical Programme Committee on 24 February 2005 and promulgated in the Commission Recommendation of 25 May 2005 in the Independence, Integrity and Accountability of the National and Community Statistical Authorities; http://epp.eurostat.ec.europa.eu/pls/portal/docs/PAGE/PGP_DS_QUALITY/TAB471413/VERSIONE_INGLESE_WEB.PDF

United Nations Economic Commission for Europe (UNECE) in 1992², are binding for a part of these statistics. Such a situation may result in an additional discussion on the content of the results and the possibilities for their use.

5. These aspects and the influence of the possible risks were evaluated before these functions were taken over. Analysis of the situation showed that it was possible to ensure the credibility of the products by informing data users about the quality aspects and the possible deviations in concrete data.

6. As a result, the CSB Latvia established within its structure an independent Department of Statistical Scientific Research. The main direction of activity of this Department is labour market forecasting and conducting the business tendency survey that was taken over from the now defunct Latvian Statistical Research Institute. CSB Latvia achieved the status of a scientific institution, registered as such in a special state register.

II. LABOUR MARKET FORECASTING - FUNCTION OF LATVIAN OFFICIAL STATISTICS

7. Labour market forecasting in Latvia is still at the development stage. The first step towards development of the forecasting system in Latvia was “Research of a long-term forecasting system of the labour market demand and analysis of the improvement options” undertaken by the University of Latvia, in collaboration with the research partner Ltd “Institute of Development Projects”. This research was carried out within the project “Researches of the Ministry of Welfare” of the National program “Labour Market Researches” of the European Union structural funds. The main goal of this research was to provide statistical data for the determination of labour force demand and supply and to create and develop analytic and forecasting methodology for the labour market forecasting in Latvia. The research was comparatively complex because it was necessary to find the best solutions to invent a completely new institutional framework, to develop new IT solutions, collect data and ascertain main users of the results of projections and finally to choose the most appropriate forecasting tools for the current economic situation in Latvia. As a result, two labour market forecasting tools were developed – one for short- and medium-term forecasting and the other for medium- and long-term forecasting. When the research was finished, all the results were committed to the Ministry of Economics, whose representatives also participated in the process of research as experts or observers in order to improve the acceptable results.

8. Now CSB Latvia, under the supervision of the Ministry of Economics, is responsible for the medium- and long-term labour market forecasting in Latvia.

9. However, considering the current global economic situation, it is increasingly necessary to make rapid and accordant decisions in order to react to the new tendencies in the labour market. Thus, forecasts are necessary not just for the medium- and long-term, but also for a short-term period.

² Resolution C(47) of the Economic Commission for Europe; <http://www.unece.org/stats/archive/docs.fp.e.htm>

10. In Latvia, the main responsible institution for the short-term labour market projections is the State Employment Agency. Their projections are based on an online questionnaire of employers and further analyses of the research results and statistics on existing vacancies in the labour market of Latvia. The main goal of these projections is to determine the demand for the employees of certain occupation and qualification for the next twelve months, to ascertain vacancies and analyse the current situation in the labour market. Although the State Employment Agency is developing short-term projections, these projections will not overlap with short-term forecasts made by CSB Latvia due to different goals and different research methodology.

11. CSB Latvia undertook a short inquiry with the aim of obtaining information on how these activities are organised in other European countries. On the basis of the received answers (from 13 countries), the authors were able to gain knowledge of practises, used data sources, organizational processes and the methods applied. In most countries, special research institutions are responsible for labour market forecasting. Only in Sweden, as in Latvia, is the Central Statistical Bureau occupied with labour market forecasting. The essential difference is that labour market forecasting in Sweden has ancient traditions, whereas in Latvia it is only in the development stage.

12. The basis of the current short- and medium-term forecasting model used by CSB Latvia was adopted from the Swedish Public Employment Service. The adopted module for the economic situation in Latvia was supplemented with a medium-term forecasting module, which was changed afterwards by deleting the long-term forecasting module. In common with the medium- and long-term forecasting model, all forecasts are provided by 15 economic sectors (by NACE classification) and aggregated into 35 occupational groups.

13. At the moment, the model is not used for forecasting. This is due mainly to an insufficient longitude of time series, which causes an essential forecasting mistake. However, with every passing year the forecasts will become more precise and valid. In the current model input data are provided as data series starting from the year 1997, which means that the data series are too short for forecasting. Taking into account the current situation and invested time and assignment into the development of the short-term labour market forecasting model, CSB Latvia plans to develop a completely new model for short-term labour market forecasting in Latvia, preserving the new model as an alternative version of the one already developed.

14. However, the main task of CSB Latvia, the Labour Market Analysis section of the Department of Statistical Scientific Research, is to develop and maintain the medium- and long-term labour market forecasting system in Latvia.

15. The first task was to study the existing materials taken over from the researchers of the University of Latvia in order to improve the medium- and long-term forecasting model, to install the necessary program for the work with a dynamic optimization model, to identify and prevent mistakes, and to analyze the effect of different parameters to the model in order to determine its sensitivity.

16. Medium- and long-term labour market forecasting models consist of three mutually coherent modules: a module of society (demography, migration and education), a module of economics (changes of productivity, development of economic sectors) and a module of labour

market (labour force demand and supply and labour force cost). The demand side of the labour force is determined by the development of economic sectors and changes of productivity growth. The labour force supply side is determined by the demographic projections for 7 age groups and possible changes in the number of economically active population. The dynamic optimization model is envisaged for the verification of different growth scenarios – scenario of dynamic growth, scenario of moderate growth and scenario of weak growth. Forecasts are provided for a medium-term period - 5 years - and future labour market projections for a long-term period - 15 years. To make forecasts, it is necessary to envisage the main reasons for labour force supply and demand mismatch. The demographic situation, development of economic sectors, labour force migration tendencies, system of education, time of labour market reaction to changes and many other factors have to be taken into consideration while working with labour market forecasts.

17. The results and forecasts provided by the dynamic optimization model for 15 economic sectors (by NACE classification) are aggregated into 35 occupational groups. Aggregation of occupational groups was undertaken together with the Ministry of Education and Science, which is the main user of forecasting results in order to develop the education policy. All occupations are classified taking the relevant field of education into account and according to professional qualification and duration of studies. The share of occupations within the occupational groups can be changed according to the current situation and taking into account the changes in the structure of occupations. In 35 aggregate occupations are included all occupations at a 4-digit level from the Classification of Occupations of the Republic of Latvia. Initially, all occupations were aggregated in 120 occupational groups, later in 37 occupational groups and now all the data are analyzed in 35 occupational groups or even in a more aggregated version, for example, in 18 occupational groups. However these groups and aggregation principles are not in accordance with those used in other countries, which means that data are not easily comparable within the European context.

18. The next steps in the development of medium- and long-term labour market forecasting models are towards the extension of different modules by recasting their parameters. An important aspect is inclusion of regional dimension and relevant data in order to provide forecasts about the labour market demand and supply in a regional context. The economic situation varies in the different regions of Latvia, especially in the eastern part of Latvia where the unemployment rate is much higher than in the other regions and particularly in the capital. Another important aspect is the evaluation of the migration impact on the whole economy and particularly on the labour market. The main problem here is insufficient data on emigration.

III. COORDINATION OF USABLE DATA SOURCES

19. One of very important aspects for the development of the forecasting system is supply of valid input data. When analyzing data sources of the labour market forecasting system, it should be noted that statistical institutions are the main data source in countries that provide data from the Labour Force Surveys and/or Population Censuses, national accounts and different registers. According to the chosen forecasting methods to obtain data in each country, other data collection methods applied in official statistics are also used – such as surveys of employers and sample surveys of enterprises.

20. CSB Latvia is the main data source for most of the necessary data that are used at the various stages of forecasting. Less-used but no less important data sources are the National State Employment Agency and the Ministry of Education and Science. However, in future it would be more rational to use data from one main data source in order to escape deviation of forecasting results due to different samplings and different methodology. In the initial stage, researchers from the University of Latvia used data from the surveys of employers and employees which were carried out especially to support the forecasting model. Separate research is not needed to provide the necessary data, because it is too expensive and data are not of the required quality. Considering that in Latvia, the CSB is in charge of medium- and long-term labour market forecasting, there are proper bases for the supply of almost all necessary data for the forecasting model.

21. However, there exist several ways to improve the databases. A good example of data collection is Estonia. As in Latvia, where the main data source for labour market forecasting is CSB Latvia, in Estonia these functions are performed by the Estonian Statistical Office. Apart from the Estonian Statistical Office, data from the Estonian Tax and Customs Board are used. It is a large information source because it provides data for the whole population of taxpayers. These data are used to determine the possible inter-sectoral movement. In Latvia the necessary information about employees could be obtained from the State Revenue Service by inclusion of the code of the employee's occupation in the Report on state social insurance compulsory contributions from employees' income and the personal income tax for the reference month. A four-digit code that corresponds to the level of specific groups according to the Latvian Classification of Occupations would be sufficient for qualitative analysis and forecasts. As this would require peripheral financial aid, this idea is still being discussed.

22. Another important aspect for the development of the labour market forecasting system is cooperation with all the concerned institutions and active participation in initiatives that are promoted at European level. CSB Latvia, in collaboration with the Ministry of Economics, prepares an annual report that contains information about the current situation in the labour market and medium-term labour force supply and demand forecasts. This report is processed and affirmed by the Ministry of Economics and further committed to the Cabinet of Ministers of Latvia. Finally, the report is available on the Internet to the whole society. The main actors involved in the labour market forecasting system both as users of forecasts and information providers are the Ministry of Economics, the Ministry of Education and Science, the Ministry of Welfare, the State Employment Agency, the Free Trade Union Confederation of Latvia, the Employers' Confederation of Latvia (the biggest organization representing the interests of employers) and universities.

23. The Ministry of Economics is the main responsible institution for the labour market forecasting in Latvia. It provides projections on the growth of the economy of Latvia – projections of the gross domestic product and employment for different sectors. Based on these projections, CSB Latvia develops medium- and long-term labour market forecasts. All the above-mentioned institutions and other ministries are represented in the Labour Market Consultative council, which is responsible for the common coordination of labour market forecasting in Latvia and whose main task is to evaluate the labour market growth scenarios, forecasts and research, actual labour market problems and development of the labour market system. Thus, all concerned institutions are involved in the decision making process.

24. Following the experience of other countries which are involved in the labour market forecasting process, it is necessary to emphasize that medium- and long-term forecasts should not be evaluated as a matter of fact and presumed as a precise future outlook. They should rather be understood as a medium of future labour market tendencies. As different countries use different approaches for labour market forecasting, it is a big challenge to access the unit forecasting system in Europe in order to compare the results. Thus, it is important to cooperate with other countries and to follow the same principles in data collection and aggregation of occupations and sectors.

IV. CONCLUSIONS

25. The authors evaluated the case where the central national statistical institution is involved in a non-statistical activity as a positive example for cooperation with producers of statistical data, data disseminators and different groups of data users.

26. The following can be mentioned as positive aspects of combining statistical and non-statistical activities:

- (a) A possibility to obtain the necessary statistical and methodological information;
- (b) Availability of expertise by statistical specialists;
- (c) Flexible cooperation in planning the development of information maintenance;
- (d) Regular professional consultations by statistical experts;
- (e) A possibility to become acquainted with good practices of the European Statistical System (ESS) cooperation partners.

27. The main restrictions to be addressed by CSB Latvia are as follows:

- (a) Lack of special knowledge and experience in modelling;
- (b) Insufficient investment for conducting special surveys;
- (c) Insufficient theoretical knowledge in national accounts statistics;
- (d) Data limitations;
- (e) Limited cooperation possibilities with other institutions whose information could be useful in forecasting calculations.

28. Successful performance of this function and avoidance of the above-mentioned conflicts will prove that a statistical institution is a good cooperation partner in solving problems of national importance.

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