

Spectrum of Federal Statistics

STRATEGIES OF STATISTICAL AGENCIES IN MEETING FUTURE INFORMATION DEMANDS

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Dear Reader,

The seminar on "Strategies of national statistical offices to meet future information demands" was held as part of the bilateral co-operation programmes between the Federal Statistical Office of the Federal Republic of Germany and the national statistical offices of the People's Republic of China and the Republic of Korea, which have been going on since 1993 and 1997, respectively. Those programmes include the exchange of statistical publications, the mutual sending of experts for scientific and subject-related exchange of information and the attendance of delegations and study groups to examine the structures of the statistical organisations and activities in the partner countries. Also, regular mutual visits of the heads of office are held to exchange experience and opinions.

The common dialogue between the partner countries is also maintained within the scope of international conferences. Especially the Sessions of the International Statistical Institute (ISI) that are held at two-year intervals are used as a platform for the purpose. Discussions on statistical issues were thus held on the occasion of the ISI Sessions in Beijing 1995, Istanbul 1997, Helsinki 1999, Seoul 2001, Berlin 2003 and Sydney 2005.

A common exchange of experience with representatives of all three national statistical offices was not performed in the past. Therefore, on the initiative of the heads of the three partner institutions, a joint seminar was held for the first time, whose content was developed jointly under the direction of Destatis. The topic chosen for the seminar was the presentation and discussion of strategies of national statistical offices to meet future information demand from the viewpoint of producers and users of official statistics in the national and international context.

By holding that dialogue, the national statistical offices of the People's Republic of China, the Republic of Korea and the Federal Republic of Germany also meet a challenge resulting from globalisation – that is, the challenge to provide up-to-date and reliable statistical information based on international standards. In the context of continuing the bilateral co-operation, further joint statistical seminars of that kind are planned.

I would like to give my special thanks to the heads of the national statistical offices of the People's Republic of China and of the Republic of Korea as well as to the speakers from the two countries for having come to Germany. By delivering their extraordinarily creative and helpful papers, they made a major contribution to making the seminar a success. I also would like to thank all staff members who participated in preparing and organising the event.

Yours,



Johann Hahlen

President of the Federal Statistical Office

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Strategies of federal statistics to meet future information demands

I *It is the task of official statistics to provide high-quality information*

Globalisation and the growing pace of structural change result, on the one hand, in a continually increasing demand for information. On the other hand, modern information and communication technologies generate an inconceivably vast and ever-increasing supply of information which is readily available at any place. The consequence is that users are facing a constantly rising flood of information. What political and economic decision-makers and the general public often lack, however, is up-to-date and reliable information. It is the task of official statistics to provide information of the highest possible quality. In this context, quality means that the statistical data are relevant and easily accessible to users, that they are accurate, up-to-date and coherent, and that they can be compared over time and space. Official statisticians will have to meet considerable demands in several fields of action to preserve and increase the quality of statistical data.

II *Indicators and overall statistical systems are of increasing importance for official statistics*

To avoid producing "graveyards of data" and to provide the information that is relevant to the political, economic and scientific communities, official statisticians, whose work has traditionally been focussed on producing specialised statistics, will have to put more emphasis on indicators and overall statistical systems. Structural and short-term economic indicators are of high political significance already today. Overall statistical systems that provide information on household production, education, health, and on the welfare state's system of transfer payments do already exist or are being prepared.

III *Official statistics must portray the economy of the 21st century*

Globalisation, the tertiarisation of the economy, the increasing importance of human knowledge, and population ageing represent phenomena which have a shaping effect on the economic and social structures and must therefore be reflected by official statistics. This is why important further developments are under way in German business statistics. As an integral part of the activities at the international level (e.g. ISIC revision), a concept is being developed for a new system of economic statistics, which is intended to be more flexible and less burdensome than the former system. To achieve this goal, infra-annual business statistics will be confined to EU requirements, primary surveys will be replaced – wherever possible – by register evaluations and the use of administrative

*) Johann Hahlen, President of the Federal Statistical Office of Germany, Wiesbaden.

data, and sample surveys will be taken instead of surveys with cut-off thresholds. In those cases where direct inquiries are still required, it is planned to conduct internet-based surveys and to use data from business accounting.

IV *Reforming population statistics through a register-based census, the continuous microcensus and the ILO survey.*

A population census as a means to take stock of the society and economy has been overdue in Germany for many years. A register-based census has been planned for 2010 which will be far less burdensome and less expensive than a traditional population census. The concept and organisation of the microcensus, the largest household survey in Europe, were revised and reformed early this year so as to supply more relevant and up-to-date results. At the beginning of 2005, results on the activity status according to the concept of the International Labour Organisation (ILO) were published for the first time. These internationally comparable data on the labour market are an essential supplement to the former statistical reports on the labour market.

V *The EU-wide Code of Practice and the quality offensive launched by the Federal Statistical Office ensure the quality of statistical data*

A Code of Practice, which is applicable in the whole of Europe, has been drawn up to enhance the independence, integrity and accountability of the statistical institutes in the member states. The Federal Statistical Office has internally launched a statistical quality offensive with the aim of undertaking quality improvements not only sporadically in response to current needs but by using a systematic and targeted, nationwide and sustainable approach.

1 *The task of official statistics to provide high-quality information*

Research and development, innovation, education and information are acquiring increasing importance in modern national economies. Knowledge has become a production factor with profound effects on competitiveness and economic development. Globalisation and the growing pace of structural change result in a continually increasing demand for information. Modern information and communication technologies have greatly accelerated the transition to a knowledge-based society. An inconceivably vast and ever-increasing supply of information is readily available at any place. Especially the internet has experienced a rapid pace of development. Within the last 10 years, the number of websites grew from some 100,000 in 1995 to an estimated 10 billion in 2005. Nowadays, internet surfing is about 650 times faster for private users than in 1995. Costs, too, have dropped dramatically over the same period. While internet users had to pay about 5 Euro for one online hour in 1995, they pay the same flat-rate amount for one month of internet use today. Wireless LANs and modern radio standards, such as mainly UMTS, permit users to go at any time and any place online.

The consequence is that political and economic decision-makers, and also the general public, are facing a constantly rising flood of information. What they often lack, however, is up-to-date and reliable information. It is the task of official statistics to provide information of the highest possible quality. The quality of statistical data has different dimensions. Within the European Statistical System, quality criteria have been defined to describe these dimensions, which are also applied in German official statistics:

- Statistical results must be relevant. Statistical data provide relevant information only if they meet the users' needs (for instance, those of politics). For this reason, the range of information supplied by official statistics must be continually developed so that statistical results can also be supplied on complex issues or statistically unexplored topics (e.g. biotechnology, product-related services).
- Statistical results must be accurate, which means that the difference between a statistical value and the true value of the statistical population should be as small as possible. A considerable number of statistical results, for instance data used for calculating the German contributions to the EU, are only accepted by the users if the results are of the highest possible accuracy.
- Statistical results must be up-to-date because users, in general, want to receive timely the most information possible. Particular importance is attached to the timeliness of short-term economic statistics. In this area, users are even prepared to accept a slight loss of accuracy in favour of timeliness.
- Statistical results must be easily accessible and transparent. The dissemination of results is one of the central tasks of official statistics agencies. This task of providing information can only be accomplished if users in the economy, science and society have easy and rapid access to the data. Furthermore, if official statistics are to meet the demands for objectivity and a scientific approach, users need to be informed – upon request – about the underlying concepts and methods.
- Statistical results must be comparable over time and space. Quite often comparisons with data for previous periods or for other countries and regions are required to produce meaningful statistical results.
- Statistical results must be coherent in two regards. On the one hand, there should be no inconsistencies between statistical results from different surveys. On the other hand, statistical surveys should be closely connected with the development of scientific models.

As pointed out above, the quality criteria play a more or less important role depending on which statistics are concerned. In view of the limited resources for official statistics, it is not possible to fully satisfy all quality criteria for each set of statistics. Often there are conflicting objectives which must be balanced carefully while using any means to improve the efficiency of statistics production. Official statisticians will have to meet considerable demands in several fields of action to preserve and increase the quality of statistical data.

2 Indicators and overall statistical systems are of increasing importance for official statistics

To avoid producing "graveyards of data" and to provide the information that is relevant to the political, economic and scientific communities, official statisticians, whose work has traditionally been focussed on producing specialised statistics, will have to put more emphasis on indicators and overall statistical systems.

Structural and short-term economic indicators have high political significance at EU level. Ever since the monetary union was established, the provision of up-to-date economic figures has gained considerable importance. In 2002, the national statistical institutes agreed on a list of 19 "Principal European Economic Indicators" (PEEI). This list comprises indicators from the areas of prices, national accounts, the economy, labor market and foreign trade. Agreements were concluded on the periodicity and delivery times of the indicators which have to be put into practice by the end of this year. Besides providing timely the most data possible, the main goal is to improve the statistical coverage of services.

Apart from short-term economic data, structural indicators play an important role on the European scene. At present, there are 50 indicators to monitor the progress of implementing the Lisbon Strategy. The Lisbon Strategy was adopted by the heads of government and state in 2000 with the objective of making the European Union the most competitive economic area in the world. The mid-term review was held this year. The quality of the indicators has improved substantially over the past years. In addition, the Lisbon Strategy was an important incentive to the introduction of Community statistics on income and living conditions (EU-SILC) and to the creation of a European legal basis for statistics on education and lifelong learning.

At the national level, too, overall statistical systems have been set up and indicators have been developed. A recalculation of the satellite accounts on household production was one of the primary aims of the time use survey taken in 2001/02. Ten years after the first time use survey had been conducted by the Federal Statistical Office, the purpose of the survey was to research unpaid work in households and families. The value of such household work, which is mainly performed by women, grew from a minimum of EUR 690 billion in 1992 to EUR 820 billion in 2001. This kind of work accounted for 43 % of the gross domestic product in 1992 and for just fewer than 40 % in 2001. This means that the gross domestic product showed a stronger increase over the period observed than household production. Nevertheless, the value added of household production is of economic significance even if it is assessed on a conservative basis and measured at the lowest level: In 2001, the value added of household production roughly corresponded to the aggregate value added of the German industry (industry, excl. construction: EUR 472 billion) and distributive trade, hotels and restaurants, and transport (EUR 350 billion).

In recent years, three health-related accounting systems have been established: health expenditure accounts, disease-related cost accounts and health personnel accounts. These three accounting systems are closely interwoven and based on international standards. Building a methodological bridge to national accounts is the most recent chal-

lenge in this field of work. The underlying goal is to ascertain in particular the value added of health care and to pinpoint the significance of health care for the gross domestic product. To be able to calculate productivity ratios, it is necessary to establish links to the health personnel accounts and to incorporate deflation procedures for determining the trend of the value added of health care in real terms. First results are to be published in the summer of next year.

In autumn 2004, the Federal Government published its first progress report on the national sustainability strategy, which discussed, among others, the development over time of the 21 sustainability indicators. The Federal Statistical Office's Environmental-Economic Accounting (EEA) can provide support to the system of sustainability reports in two ways. Firstly, EEA supplies important basic data for the indicators. Specified quantity targets can be compared to the previous development. Consequently, EEA results on the indicators show whether sustainable development is being achieved. Secondly, EEA permits integrated analyses of the interrelations between the economy and the environment which also take into account the relations between the indicators.

The general goal is to portray social, economic and ecological relations and developments by means of meaningful indicators. Hence, the purpose of indicators is to reduce the complex reality to its major structures and trends and to provide information about them. The construction of indicators must balance the sometimes conflicting demands of statistical measurability, scientific coherence and political relevance. For this reason, the process of developing statistical indicators should ideally involve representatives from politics, science and statistics who in turn should promote public debate. Usually, the construction of indicators is not a linear process but an iterative sequence of decisions, which are taken to achieve satisfactory partial solutions and aims. National accounts are the best known and most successful example. Based on a multitude of specialised statistical micro data, national accounts present a theory-based, consistent and empirical overall picture of the economic cycle which supplies macro indicators like growth, income and employment, etc.

3 Official statistics must portray the economy of the 21st century

Globalisation, the tertiarisation of the economy, the increasing importance of human knowledge, and population ageing represent phenomena which have a shaping effect on the economic and social structures and must therefore be reflected by official statistics. This is why important further developments are under way in German business statistics. As part of the master plan for a reform of German official statistics, the statistical offices have launched a project for reforming business statistics. This reform is aimed at reducing the burden on respondents, increasing efficiency through cost-saving measures at the statistical offices, and at enhancing the flexibility of the statistical system so as to continue providing an adequate statistical description of the constantly changing economy. A parallel objective is to maintain, if not increase the quality of the data supplied. The following key elements of a reform of business statistics have been identified:

- transition from the traditional system of business statistics, in which large-scale censuses provide the basis for (total and representative) sectoral surveys, to a combination of methods including register evaluations, sample surveys and the use of administrative data;
- system for enterprises and establishments in all sectors;
- subject-related survey modules on cross-sectoral issues to complement the results of standard surveys (biotechnology, information technology, nanotechnology, product-related services);
- sample surveys with specific sampling fractions for individual size classes instead of surveys with cut-off thresholds;
- "micro-macro-link", i.e. extracting data for official statistics from business accounting (payroll accounting, cost accounting) without switches between different media or terminologies.

All the work done so far has shown that the business register plays a very important role in the process of reform. Hence, every effort must be made to improve the quality of this basic instrument of business statistics. In this context, the introduction of nationally unique business identity codes and of electronic registers of trade is of central importance. The introduction of nationally unique business identity codes must be accelerated and statisticians should take an active part in this. Although the information stored in the trade registers has so far not been used in the business register, it could contribute considerably to increasing the business register's quality and timeliness because the trade registers contain authentic data on enterprises (name, location, legal form, etc.). The planned introduction of electronic trade registers in all Länder will meet one of the key requirements for this. Official statisticians should not only have online access to the trade registers to review individual cases but also be allowed to extract the data automatically. Due to the current political discussion about reducing bureaucracy, there is support for these proposals of official statisticians.

Test evaluations have been made using the individual data derived from various business statistics to examine proposals for the reform of individual statistical sectors (manufacturing, construction, trade and services) with respect to their feasibility and their effects on both the enterprises surveyed and the users of statistics. The results of these test evaluations will first be assessed by the statistical offices and then be discussed with the major users of business statistics at a user workshop in December this year. Thanks to the support given by the Federation of German Industries, this workshop will be held at the House of German Business in Berlin.

In those cases where direct inquiries are still required, it is planned to conduct internet surveys and to use data from business accounting. A common data reception point (eSTATISTIK.core) for direct deliveries of data from business accounting was activated at this year's CeBIT computer fair. Over the next months, the facility will be tested in practice on the quarterly and yearly earnings statistics. The five software suppliers involved in the preparations have agreed to complete the necessary statistics modules and to put them into operation at selected reporting enterprises during 2005. As regards the monthly report on local units in mining and manufacturing, the monthly and yearly sur-

veys in distributive trade, and the cost structure survey in manufacturing and construction, the relevant organisational units have started to solve the statistical and technical issues relating to the introduction of eSTATISTIK.core.

4 Reforming population statistics through a register-based census, the continuous micro census and the ILO survey

At national and international levels, the purpose of a population census is to take stock of the economy and society at more or less regular intervals. Population censuses supply basic information on the population, employment and housing situation in a detailed regional breakdown. Population census results provide the basis for political planning and serve as selection criteria and as extrapolation basis for statistics. A population census has long been overdue in Germany. The last population census in the former territory of the Federal Republic of Germany was taken 18 years ago, while in the new Länder it was held 24 years ago.

Especially for reasons of cost-saving and of gaining general acceptance, the next population census is to be taken as a register-based census, using the data of the population registers and of the Federal Employment Agency. A written survey will only be held to collect data relating to buildings and dwellings from the owners. Since official statisticians are breaking new ground with this concept, it was necessary to examine the quality of the included registers and of the linking techniques. The data obtained from these various sources were first tested for plausibility, then combined to form statistical households and finally brought together in a data record. The census test has shown that it is possible to conduct a register-based census in Germany on the basis of the statistical methods examined. But it also revealed that primary statistical methods will still be required in addition to the use of register data in order to correct the registers and to cover further population census variables.

Since the last population census sparked protest across Germany and encountered fierce resistance from many population groups, it is however quite difficult in Germany to bring about a decision to conduct a population census. In the autumn of 2004, the Interior Ministers of the Federation and the Länder took the principal decision that the next census should be held on the basis of registers. The statistical offices were instructed to continue, and attach priority to, the methodological preparations for a register-based census. But if Germany is to participate in the EU-wide census round scheduled for 2010/2011, an interim law on the construction of a register of building addresses will have to be adopted by 2007. Furthermore, the quality of the population registers will have to be improved. Perhaps politicians are starting to realise that a population census is urgently required. At any rate, Mr. Platzeck, the Minister President of Brandenburg, made a public call for a population census early in June 2005. Mr. Platzeck sees a dual function in a population census. On the one hand, it supplies reliable statistics; on the other, the information campaign for a population census could help to enlighten the public about demographic changes.

The micro census is the largest household survey in Europe and provides information for the whole of Germany on the economic and social situation of the population, ranging

from family circumstances and housing conditions to employment and education. With a sampling fraction of 1 percent for its standard programme, the micro census supplies adequately reliable results in a detailed subject-related and regional breakdown. As a representative multi-purpose sample survey, the micro census offers the possibility of combining its results in a variety of ways and thus is able to meet even complex information needs. The micro census helps to avoid taking a large number of highly specialised sample surveys. This means that the burden on respondents and costs can be reduced.

In Germany, the European Labor Force Survey is taken as an integral part of the micro census. According to an EU regulation, Germany has to conduct the Labor Force Survey as from 2005 as a continuous survey with reference weeks that are spread evenly across the year. The survey concept of the micro census has been adapted to these requirements. In former years, the micro census was taken once a year for a single reference week. Starting in 2005, the micro census will be spread evenly across all calendar weeks of the year so that annual and quarterly results can be provided.

Consequently, the micro census will provide more accurate, relevant and up-to-date results from 2005 onwards. This will increase the informative value of those variables that are subject to strong seasonal or short-term economic variations. First tests have shown that the data quality has also been improved because the respondents can provide more reliable data. Due to the continuous form of the survey, there is only a time lag of a few days between the survey week and the reference week. The nationwide use of laptops in the survey improves the timeliness of the data and the accuracy of the results because plausibility checks have been integrated into the electronic questionnaire. First results become available not 11 months but only 3 months after the end of the reference period. After a few teething troubles with the first processing of quarterly data, results for the first quarter of this year will presumably be published at the end of July.

New challenges have also arisen for Labor market statistics because of the growing international interrelations. Official statisticians have developed a "two-phase model" with the aim of providing internationally comparable monthly Labor market statistics and of substantially supplementing the Labor market reports of the German Federal Employment Agency. During the current first phase, a survey of the activity status of the German population is conducted exclusively by telephone to obtain unemployment figures. During the second phase, which is scheduled to start in the second half of 2006, the relevant data are to be extracted from monthly rapid evaluations of the continuous micro census.

In April 2003, a pilot project was launched to gain information on the activity status according to the concept of the International Labor Organisation (ILO) by means of a monthly telephone survey. The primary aim of this pilot survey was to examine the feasibility of an exclusively telephone-based monthly survey with voluntary response with respect to collecting data on the activity status of the working-age population. In particular, it was necessary to find out whether telephone interviews would allow providing results as early as 14 days after the end of the reference period. Statisticians gained a lot of methodological and organisational-technical experience from this survey which was taken under Article 7 of the Federal Statistics Law and covered 10,000 respon-

dents. Based on this positive experience and covering some 30,000 respondents, the monthly ILO statistics were then continued in the second half of 2004 in accordance with the ordinance on statistical surveys of the population's activity status.

At the beginning of this year, the first results were published and attracted considerable interest from the general public. Although unemployment figures have since been available for Germany according to two highly different concepts, the expected "competition between the figures", namely between data on registered unemployed and on ILO unemployed, could be avoided. In April 2005, unemployment according to the ILO concept accounted for about 4.3 million and thus was 640,000 lower than the 5.0 million of registered unemployed according to the German Social Code definition. The telephone survey recorded 1.4 million persons as being unemployed who said they were not registered as unemployed. They were seeking employment without being registered at an employment agency or a municipal institution because, for example, they were not entitled to financial benefits or were only looking for marginal part-time employment. In contrast to this, 2.1 million respondents who were registered as unemployed did not count as unemployed under the ILO concept. This could be due to the fact that they had not taken any active steps to seek work during the four weeks preceding the survey or were employed on a marginal part-time basis while seeking a job.

5 The EU-wide "Code of Practice" and the quality offensive launched by the Federal Statistical Office ensure the quality of statistical data

One month ago, on 7 June 2005, the Council of Economic and Finance Ministers of the European Union welcomed a Code of Practice, which had been adopted by the Statistical Programme Committee on 24 February 2005 to enhance the independence, integrity and accountability of the national statistical institutes in the member states. In this Code of Practice, government and statistical authorities in the European Union commit themselves to adhering to principles concerning the institutional environment, statistical processes and statistical output. The goal of the Code of Practice is to supply relevant and reliable data.

My colleagues at this office and I welcome the code and are prepared to deal with the ensuing challenges. The credibility of statistical data can only be ensured and maintained if the national statistical institutes – and Eurostat – do their work in a way that is professionally objective, neutral and independent. The relevant framework conditions must be ensured at European level and in each of the 25 EU member states.

In spring 1999, the Federal Statistical Office internally launched a statistical quality offensive with the aim of undertaking quality improvements not only sporadically in response to current needs but by using a systematic and targeted, nationwide and sustainable approach. The quality offensive focuses on the quality of our products, customer orientation, staff orientation and cost effectiveness. These four classic quality aims have been supplemented and specified through additional aims which arise from the duties and framework conditions of federal statistics. The significance of how the Federal Statistical Office is perceived by outsiders is highlighted by the aim to improve

the external perception of the Office. Reducing the burden on respondents as much as possible has risen in importance due to the current political discussions. The goal of being a competent and reliable partner at national and international levels accommodates the fact that the Federal Statistical Office can only carry out its duties as part of both the national and the European statistical systems.

The quality of official statistics is not an invention of the 21st century. In Germany, we have been able for many decades to refer to the Federal Statistics Law (BStatG) as a guarantor of objective, impartial and scientifically independent statistical reporting. These three principles are embodied in Article 1 of the Federal Statistics Law, which reveals the high priority attached to them. It is the task of the official statistics agencies to apply these principles in everyday practice. As providers of information, they are dependent upon trust. Official statistics require the trust of users and respondents. Respondents will only provide information truthfully and willingly if they can trust that their data are protected. Official statistics agencies will only be able to meet their task of ensuring basic information services for the economy and society if users can trust in the quality of the data.

Data dissemination: New challenges of official statistics

I Data Dissemination as an Important Component of Official Statistics

Data dissemination is an important component of the work of official statistics. Statistical information is produced for use only. The more widely used the statistical information is, the better role is played by the statistical system.

With the progress of the society, the ways of data dissemination have been developing from direct personal contacts to paper communications by mails, books and newspapers, to cable communications by telephone, facsimile and broadcasting, and to dimensional communications with traditional media and modern electronic media of networks and CD-ROM. The data dissemination is having increasing amounts of information, increasing reach-out and increasing transparency.

China's practice in data dissemination has experienced a process of gradual opening. China released a few indicators in its Statistical Communiqués in the 1950s and published a booklet of China in Ten Years in 1959 while other statistical information was not released. In the 1960s, China did not release statistics except for some unrelated indicators dispersed in different articles. In the late 1970s, the Statistical Communiqués were resumed. Since the 1980s, apart from the regular publication of Statistical Yearbook, statistical information have been disseminated with the newspapers and web sites of the National Bureau of Statistics of China (NBS). Press conference has become an important channel for data dissemination by official statistical offices. China's participation in the IMF-proposed GDDS in 2002 and the development of dissemination calendar show that China's data dissemination has oriented towards transparency and standardization.

II New Challenges in the New Era for Official Statistics and Data dissemination

The first feature is the development of the information technology. Digitalization, networking and other kinds of modern information technology have maintained a closer relationship among nations and among individual people. The second is the regional cooperation and economic globalization for common development. Economic and trade relations among nations, international capital flow, internationalized business of transnational companies and international distribution of industrial activities have resulted in a closer economic relationship between one nation with another. The third is the individualized needs. Greater importance than ever before has been attached to the user's needs and particularly the needs of individual users. The fourth is the dynamic development of the society with rapid updating of knowledge and technology.

*) LI Deshui, former Commissioner of the National Bureau of Statistics of China, Beijing.

There are a number of new challenges for the data dissemination. The first is the new requirement for timely statistical information. The second is the wider reach-out of the official statistics. The statistical information should reach the public of its own country as well as the public of other countries. The third is the data requirement for domestic statistics of the country as well as statistics produced for other countries. The fourth is the new requirement for the transparent statistical information as well as methodology. However, the public have large data needs while having little knowledge of statistics.

New opportunities for official statistical system also exist. The first is that the rapid development of modern technology and IT in particular has provided technical facilities for better data collection, processing and dissemination. The second is that the rapid progress of globalization requires as well as facilitates the exchanges of experience among official statistical systems of different countries.

III Increased Cooperation for Challenges

It is expected for the official statistical systems to deal with the challenges with joint efforts by making full use of the advantages of IT development and globalization.

Cooperation of official statistical systems: The first is to strengthen the studies of statistical organization and methodology. The second is to improve the system of statistical indicators which should be in harmony with each other. The third is to encourage the exchanges of statistical information among different countries. The fourth is to promote the cooperation in informatics and develop globalized instruments for data collection, processing and dissemination of official statistics among different countries.

China's measures to deal with future data dissemination. The first is to develop China's official statistical system into a modern system which functions effectively and scientifically. The second is to improve the current data collection and national accounts system taking into China's particular conditions and international practice as well. The third is to build up a contingent of professionals who have sufficient knowledge of statistics, good professionalism and creativity. The fourth is to make full use of the modern information technology for the production and dissemination of statistical information. The fifth is to increase the transparency of official statistics and popularize statistical knowledge among the public. The sixth is to make the data dissemination on a timely and fair basis.

Dear Mr. Hahlen from the Federal Statistical Office of Germany, Dear Mr. OH from the Korea National Statistical Office, dear guests, ladies and gentlemen,

I am very glad to say that the symposium on "Strategies of National Statistical Agencies in meeting Future Information Demands" jointly initiated by China, South Korea and Germany is taking place smoothly. The symposium provides the chief statisticians of the three countries as well as numerous experts with a platform for exchanging views and discussing future challenges.

The process of economic globalisation is accelerating. In all countries, the economy and the society are in a process of dramatic changes. This holds unique chances and challenges for official statistics to face up to. Being an important part of official statistics, the dissemination of statistics is equally confronted with that phase of new chances and challenges. What are we to do? What can we do? Those are the questions we must respond to seriously.

1 Data dissemination is an important component of official statistics

Concept, collection, processing, and dissemination – these are the four main links in the operation chain of a statistical survey. The first three links are the basis and data dissemination and utilisation are the goal of a statistical survey. A statistical survey will function all the better, the more its data are needed. The dissemination of statistics is so important, because it represents the basic condition of utilising these data and enabling the statistical office to interact with the society. Data dissemination enables the statistical office to make the processed data available to the public at large, on the one hand, and to obtain feedback information for the identification of data requirements, on the other hand. Thus, it is possible to discover immaturities and problems and to reform and improve the system of official statistics.

In the wake of social development and technological advance, the dissemination of official statistics keeps renewing its form: from oral transmission via hand-written and printed communications to the transfer by telephone, fax and radio and to the point of combining classical media and multidimensional networks, digital technology and CD-ROMs in today's world. Forms of data transmission are becoming more diversified, with enriched contents, a broader range of themes and higher transparency.

As to the dissemination of statistics, China underwent an evolutionary process from taciturnity towards gradual opening. In the fifties of the last century, publications consisted but of "statistical communiqués" with only a few indicators, thus, they published a statistical encyclopaedia "The Magnificent Ten Years" in 1959, while refraining entirely from any other publication. What prevailed in 1958 was the inclination to hype one's own performance, so statistics were not truthfully disseminated, and the image of official statistics was severely damaged. After 1960, the journal "Statistical Communiqués", which was issued by the NBS, ceased to be published. Statistical data were then published in the form of isolated essays or articles. During the Cultural Revolution, fields such as politics, economics, society and science grew stronger, while statistics were paralysed, the dissemination of data and the publication of information being in a

state of resignation. Since 1978, when the politics of opening China were adopted, Chinese statistics have gradually recovered and further evolved, with data dissemination normalising step by step. In 1979, after 19 years, the NBS started again issuing "Statistical Communiqués". Since the eighties, newspapers and journals have been issued and a statistics website has been installed, in addition to the regular issues of the "Statistical Yearbook of China" and "Excerpts from Chinese Statistics". Data are being publicised regularly, press conferences are playing an important role in disseminating statistical data. In 2002, China acceded to the GDDS initiative launched by the IMF and built a system of announcements for publicised data, so that data dissemination is again moving ahead.

2 The new challenges of official statistics and data dissemination in a new era

In its thousand-year-old history, the society has experienced the culture of farming, industrial life and modern civilisation. Every era has a distinguishing mark of its own, which, in its turn, makes specific demands on official statistics, on the dissemination of statistics, thus providing the material basis of data dissemination. We will be able to rise to these challenges only if we correctly recognise the characteristic features of time and keep them under moderate control.

There are four main characteristic features in our era. The first one is the evolution of the information technology. The information era, which is characterised by digital technology, computer and network, shortens the distance between countries and people. Communication can easily take place in spite of large distances. "Global village" is the metaphoric and precise description of this era. The second characteristic feature is regional cooperation on the assumption of common developments and globalisation of the economy. Trade, the flow of capital and business activities of multinational concerns as well as international industrialisation tightly tie the countries to each other economically and make them mutually dependent one from another. The third characteristic feature is the tendency towards individualisation. The idea of "man being the centre of everything" is increasingly gaining ground. The extent to which one makes allowance for customers' needs and, above all, customers' individual wishes is bigger than ever before. The fourth characteristic feature is the rapid change the society is undergoing. Knowledge and technology are subject to rapid obsolescence, the rhythm of life is getting brisk.

The characteristic features of our era, which are mentioned above, give rise to new challenges to data dissemination in official statistics as well. The first aspect of official statistics, which has to face up to the new requirements, is timeliness. The brisk rhythm, the individualisation and the manifold nature of public life require data dissemination in official statistics to adapt to this trend by quickly supplying those data that meet the needs of all levels of the population, on the one hand, and that fully and objectively reflect the society's economic activities and the progress of human civilisation, on the other hand. The second aspect is the expectation that official statistics reach more users and, as far as possible, in a comprehensive way. In view of existing information technologies and globalisation, users are no longer found exclusively within a given coun-

try's borders, but they are spread all over the world. Official statistics in all countries are no longer oriented towards the needs of just one country's own citizens, but they are accessible to users from other countries, too. The third aspect is a change in users' needs to more diversity. The direction, form and speed of that change cannot be squeezed into a fixed set of rules. What users wish is that data were delivered in due time not only from their own country, but also from other countries and that the most important data were made available from all over the world. What they want to know is not the mere result alone, but more details about the statistical system and the method used. On the other hand, users' demands on statistical products exceed their knowledge about them. They are more concerned with the quality of statistical products than with their increased efficiency.

Of course, we must also admit that the new era of data dissemination not only confronts official statistics with new challenges, but that it offers new chances, too. Firstly, modern technology and, above all, information technology is developing rapidly, thus providing the technological requisites of data collection, transfer, processing, analysis and dissemination of official statistics. Statistical tools are in a process of modernisation, which means easier communication, consolidated methods, smoother processing, and wider information. Secondly, owing to the acceleration of economic globalisation the exchange between the countries' statistical offices and their mutual learning from each other are both necessary and practice-related. Globalisation requires not only a strengthening of exchange and cooperation for jointly watching economic developments on a worldwide scale and for obtaining the basic data needed to forestall and avoid a worldwide economic crisis and to ensure a sustainable global development. At the same time, globalisation and the technological progress of the information era make it possible to establish uncomplicated and rapid exchange activities between the offices.

3 Facing up to the challenges jointly

We must take note of the new era's characteristic features, define the needs for official statistics, use the chances of the new era and benefit from the advantages of information technologies and globalisation, intensify cooperation and exchange, and face up to the challenges jointly. That is the correct course to be followed by official statistics in the future.

The new era provides a broad range of cooperation areas and opportunities.

It is necessary to explore the statistical system, standards and methods and to build a system for regular exchange activities and for the study of statistical systems and methods. Only so will we be able to learn from each other and achieve a high level of standardisation and comparability in the system and the methodology of official statistics between countries.

It is necessary to build a system of indicators. We must improve the general availability of indicators and the coordination of the indicator system. Coordination relates to the compilation and the contents of indicators, data sources, data collection methods, survey variables and computations. The system of indicators is to be built step by step on a scientific basis and it should be comparable with international standards.

The international exchange of data is to be intensified. We will benefit from the cooperation activities between countries insofar as they help us improve the timeliness and transparency of statistical data dissemination, so the data will gradually reach the standards of international usefulness.

International cooperation in the information technology area is to be strengthened, so that it will be possible to establish a global platform for the exchange of information with the purpose of collecting, processing and disseminating statistical data. Confucius once said: "A craftsman who wishes to practise his craft well must first sharpen his tools". Building the information technology is one of the sharpest tools in modern statistics. We must provide the tools needed for the international dissemination of statistics, by strengthening international cooperation aimed at building the information technology of official statistics and, thus, accelerating the establishment of platforms for the exchange of official statistics on a worldwide scale.

The socialist market economy with Chinese characteristics has been a great success ever since 1978. With China entering the World Trade Organization, the Chinese government kept its promise to make international arrangements and to fulfil its membership obligations. China has made a large contribution to the world's economy. The fact has shown again: the world's economy needs China and China needs the world. China's economy is amalgamated with the world's economy and it is an important link in the globalisation chain of the world's economy. The international community must become better acquainted with China as well. China's accession to the GDDS is aimed to satisfy this need. However, a comparison with other industrialised states and with the "Special Data Dissemination Standard" (SDDS) initiative of the IMF reveals large discrepancies in China's official statistics, making it all the more necessary to intensify the exchange with international institutions in statistics, including Germany and South Korea. By so doing we can adopt positive experience in statistics and data dissemination from foreign countries to press ahead with the reform of the statistical system in China, to improve the quality and the level of statistical work and to speed up the integration of Chinese statistics with the international community. To reach these goals we must build up scientific, reliable and highly effective statistical systems, data collection systems and computational systems, which take into account the specific characteristics of China and which are internationally comparable at the same time. What is to be built up as well is a team of competent statisticians with good professional ethics and creativity and a sophisticated system of control and supervision. We must use modern information technologies, implement networking and realise high efficiency all over the country and on all levels to lay a solid basis for data dissemination. And we also need to enhance data dissemination, strengthen public awareness of statistical systems and methods, advance knowledge about statistics and increase the transparency of official statistics. Our next goal is an increase in the timeliness and objectivity of data dissemination.

Ladies and gentlemen:

The era we live in is one of rapid change, knowledge explosion and globalisation. Official statistics have yet a long way to go to satisfy users' data needs. Let us intensify our cooperation, enhance the exchange, learn from each other and jointly do our best to accelerate the advance of official statistics so that the world economy and the social evolution of the 21st century can be described and explained as objectively as possible and official statistics can make their contribution to international understanding and the further development of human civilisation.

Thank you very much!

Tasks of and approaches to statistical data collection: Korea National Statistical Office examples

The circumstances for data collections in Korea have gone from bad to worse for the last few decades. Deterioration of responding conditions, increase of responding errors, duplication of data collection by similar surveys and an insufficient sharing system of the collected data and the lower use of administrative data due to various constraints are the main problems in collecting statistical data.

The KNSO has endeavored to solve the problems by improving accessibility to the respondents, lessening the burdens of respondents, minimizing the responding errors and developing prompt data corrections and input systems in the process at the field work stage.

For future challenges, in projection with this, the KNSO will revise the systems that restrict the use of administrative data and manage them systematically, construct the Data Pool (DB for raw data collected from all statistical agencies), develop survey methodologies by Information and Communication Technologies and develop imputation methods for non-response with high suitability.

1 Introduction

In data collection, accuracy has an enormous influence of the quality of statistics. Furthermore, the cost of data collection accounts for the major share of total production costs. To produce high-quality statistics in an effective way, problems of data collection should therefore be diagnosed exactly and the right measures be taken.

In my opinion, this is a goal of interest to both a country like China with its huge area and high number of the population and for a highly developed country like Germany, where data collection conditions are becoming increasingly unfavourable.

I am going to present the situation at the Korea National Statistical Office (KNSO) in the following order:

- present state of data collection at the KNSO,
- current problems related with the data collection process,
- efforts made so far to solve the problems,
- priorities of the improvement efforts,
- conclusion.

It is my aim to share the ideas of how these problems may be solved with the representatives of the countries present. And I hope that the discussion will encourage the development of innovative ideas.

^{*)} OH Kab Won, former Commissioner of the Korea National Statistical Office, Daejeon.

2 The present state of statistics production and data procurement at the KNSO

The statistical system of Korea is decentralised. This means that ministries and private institutions compile the statistics they need.

The KNSO produces major basic national statistics. Being the main central institution entrusted with the compilation of statistics, it also co-ordinates the statistics of the other institutions which are responsible for statistics production, too.

A total of 478 sets of statistics are compiled in Korea. Only 53 of them are produced by the KNSO itself, whose share in the overall production of statistics thus amounts to 11 %. This figure seems somewhat small, but the statistics in question are of major importance for government planning both at national level and at the level of local self-government.

Of these 53 sets of statistics, 42 are compiled by means of surveys and account for the largest share, the remaining 10 sets are estimates, and only one is a report.

Table: State of statistics compilation by types and institutions

Breakdown	Number of institutions producing statistics	Sets of statistics by production methods			
		total number	enquiries	reports	estimations
Total number	134	478	245	177	56
Government institutions	61	342	154	144	44
KNSO	(1)	(53)	(42)	(1)	(10)
Private institutions appointed	73	136	91	33	12

Statistical surveys begin with a visit of the data collectors (interviewers) to the households or local units which are to provide information. As a rule, the questionnaire is filled in during a face-to-face interview.

Exceptions to this rule are difficult questions which the respondent cannot answer immediately, and cases in which individual privacy has to be protected.

These are supplemented by surveys where the questionnaires have to be completed by the respondents themselves. If required, there may be enquiries by mail, phone, and fax.

Computer-related statistical data, e.g. eCommerce business statistics and online shopping statistics, are collected via the internet.

Due to the presently increasing use and improved performance of computers and the internet, the share of online surveys is on the rise. In 2004, equipment with computers in Korea amounted to 77.8 %, and internet access to 72.2 %.

For a large statistical survey such as the population census, additional staff is employed during the data collection period. The specialised personnel of the KNSO and the self-governing authorities assume supervisory functions.

The statistics of industrial activity and most statistical enquiries are carried out by the statistics experts of the regional statistical offices themselves.

3 Problems of obtaining statistical data

In the last few years, interviewers often found that respondents were not at home when they came to visit them. 15.7 % of all households are single-person households, 32.7 % are households of two economically active spouses where as a rule nobody is at home during the day. Quite a number of local units operate only at night. On top of that, there is the fear that details of their private life or company secrets might become known. This is why an increasing number of people refuse to provide information.

Conditions of data collection, subject-matter, scope and complexity of the survey and interviewers' skills influence response errors. In rural areas, the share of old people is very high so that correct answers can scarcely be expected.

Due to the markedly higher demand for statistics, the subject matter surveyed becomes increasingly complex leading to a rise in the number of response errors. Large surveys are particularly problematic in which additional personnel with a lack of experience are provisionally entrusted with interviewer tasks.

In 2002, the KNSO studied the situation of overlaps in data collection. The result was that enterprises were covered 25.1 times per year by various enquiries. Especially in mining and the production industry, companies with more than 300 employees were surveyed more than 45.2 times. Japan has limited its statistical surveys to 16 – 70 times a year depending on the enterprise size and the type of statistics. In Korea, there are no restrictions to date.

Drawing upon administrative data is an alternative avoiding the problems of data collection on the spot, or a measure of cost reduction. As a matter of fact, administrative data are already used for statistics production in many countries.

The degree to which administrative data are used by the KNSO is relatively low. There are only few types of administrative data, and these are mostly used as supplementary reference material in focussing the survey contents.

The use of most administrative data, among others of tax data, has been limited through legal restrictions. Furthermore, different classification systems and the fact that they are not standardised are obstacles to using administrative data.

4 Future efforts to solve the problems and improvement measures

In order to increase the use of statistics, the KNSO is making an effort to extend the data supply service continuously. The extension of the service also entails the danger of respondents' private data filtering through.

In Korea, the provisions governing statistical confidentiality are laid down in the Law on Statistics. Additionally, there is the Committee for the Provision of Statistical Data for the individual specialised statistics which before had been obtained without official notification.

For statistics compiled on the basis of official notification there is an obligation to provide information laid down in the Law on Statistics. Unfortunately, it is nearly impossible to implement an effective disciplinary measure in the case of no response.

The regular staff members carrying out the statistical surveys of the regional statistical offices are selected by means of a public competitive entrance examination to ensure competence in data collection. For large statistical surveys there is a system on the basis of which interviewers can be recruited for such a temporary function from the experienced staff.

The training was intensified on how to act at a face to face interview taking account of the familial environment and the psychological factors of the respondents.

Programmes for smooth communication are offered on the internet homepage. In real time, inexperienced interviewers recruited only for a limited time can look for solutions to problems together with professional, skilled interviewers employed on a permanent basis and seek their advice.

A revolutionary change is taking place in KNSO data collection: the introduction of the principle of team leader responsibility and the principle of remuneration according to performance. Through a test phase, these principles will be introduced at all regional statistical offices until the end of this year.

The principle of team leader responsibility means that the team leader assumes supervisory duties with regard to about ten data collectors. The principle of remuneration according to performance governs the assignation of tasks to the data collectors employed on a temporary basis and their remuneration according to performance. It is hoped that the staff's sense of responsibility with regard to statistical data collection is thus promoted.

At regular intervals, the regional statistical offices organise friendship meetings for the population. Various programmes such as non-profit services rendered to the benefit of the citizens are developed and implemented.

In order to create a climate of greater readiness to co-operate, public relations work was intensified through television, newspaper and internet support. In the case of surveys imposing great burdens on respondents, free gifts are handed out as an incentive to co-operate.

Korean information and communication technology is developing rapidly. The necessary equipment and infrastructure of the communication networks are widely available so that computer-supported survey methods can be introduced without delay.

In an online survey, the respondent himself completes the electronic questionnaire via the internet. This method reduces the burden on the respondent; data collection takes

place very rapidly and is simple. For that reason, the method is actively introduced and its degree of utilisation is increased.

Depending on the character of the survey and the group of respondents, the methods used are CAPI (Computer Assisted Personal Interviewing), CASI (Computer Assisted Self-Interviewing) or interviewing by e-mail.

The census of the economically active population and the social census are held with the help of small-sized computer PDAs by means of CAPI.

ECommerce – business statistics is conducted by CASI. The states of statistics use and data requirements are determined by e-mail survey.

For the census of the population and households (population census) scheduled for November this year, 320 000 households will be questioned online. It is intended that the household survey planned for next year shall be conducted in the same manner. Adequate programs are in preparation.

In order to meet the increasing demand for statistical information, several institutions entrusted with the production of statistics compile similar products. This causes various problems such as overlapping actions, increased burden on respondents and reduced quality of statistics.

As a solution, the KNSO proposes to use the survey items jointly, to adjust the survey intervals and to use the data of similar statistical surveys jointly.

For the survey of mining and the production industry, rather constant items are printed on the questionnaire already so that only changes need to be entered. Thus the burden on the respondents is reduced somewhat.

At the present time, the necessity and expediency of using administrative data is realised by a growing number of persons. Negotiations are being conducted with the authorities concerned on the so far restricted use of tax, pension and health insurance data.

In order to maximise the use of statistical data it is necessary to set up a data base of the universe. This serves to lower the share of complete enumerations and increase the number of sample surveys and thus also reduces the burden on respondents in certain respects.

Lately, a data base containing all Korean enterprises was set up in Korea, which also includes the entire range of data collected in the complete enumerations. It is developed further so that it can be used on the levels of individual local units and enterprises.

It is most convenient to detect and correct response errors just where the information is collected. Better equipment and an improved data processing method make it possible to revise the information on the spot and enter the data directly.

Consequently, data processing staff and resources which in the past had been concentrated at headquarters are now employed in practical work. Furthermore, computer equipment making the work easier is extended and corresponding programs are developed further.

The KNSO is striving to compensate for growing information gaps caused by increasingly unfavourable conditions of data collection by developing an imputation technique suitable for practical use in Korea.

The development of the most adequate imputation techniques requires much experience and determination. The KNSO is in a situation where numerous improvement efforts are required.

It is planned to revise the obstructive legal provisions in order to increase the use of administrative data. We will submit the amendment of the law to this year's regular parliamentary assembly. We also plan to standardise the concepts, classifications, codes and the scope of statistics. To this end, we are working towards an active co-operation with the authorities concerned.

In order to reduce survey overlaps, the first individual data records collected by the authorities producing statistics will be integrated into a data pool and made available to the statistics authorities rapidly and easily whenever this is necessary.

It may be expected that linking the data pool with administrative data will produce synergic effects. However, for the individual data contained in the data pool there is the danger of a violation of statistical confidentiality and respondents' privacy.

Methodological research is promoted on protecting the data of individual households and companies and on creating legal and systematic measures to govern their use.

To make the internet survey still being in the introductory phase more common, we are planning to design a questionnaire suited for internet use, to identify respondents preferring the internet and develop methods to check the information provided.

In Korea, a structural reform of the national statistical system is presently under way. It is to improve the efficiency of national statistics production. The development of imputation techniques is surely going to be an important field of research for the Statistical Research Institute, which, as has been decided, will be opened soon.

In the future, the imputation techniques should be treated as an important subject in an international exchange on statistical techniques, among others among Korea, China and Germany.

5 Conclusion

In Korea, a diverging statistical system was adapted and practised. As the central statistical authority, the KNSO regulates and co-ordinates the statistical activities of the government and the numerous private institutions producing statistics. Moreover, the KNSO also compiles the major basic national statistics of the population, economic activity, family budgets, prices and industrial activities.

While survey conditions are deteriorating, the demand for statistics is increasing with regard to complexity and precision. It is imperative to look for suitable measures to collect data effectively and use them more intensively.

So far, many problems have not really been addressed due to a lack of personnel, budgetary means and legal support, and urgently required reforms have failed. Now politics and the government realise the importance of statistical information and are ready to support it fervently.

A concrete measure is lifting the government's Statistics Committee from the level of heads of department to the level of ministers of the various authorities. The Statistics Committee has actually made it possible to co-ordinate the statistical activities effectively.

On account of comprehensive support from the government, the KNSO is now striving to lift national statistics to a higher level. We will look for manifold solutions in order to meet the demand for statistics and reduce the burden on respondents simultaneously.

Our efforts at innovation centre on improving the various statistical systems, on minimising the survey overlaps among the authorities producing statistics, on using the data collected jointly by operating a data base, on further developing survey methods through the use of new information technology achievements, and on developing imputation techniques.

I have commented on the tasks of and approaches to statistical data collection using Korean examples.

Supposedly, Germany and China, who are participants of this seminar, will have gathered similar experience, and I thus expect that there will be an open discussion on the basis of the above examples. And I would like to suggest that at this seminar should be the beginning of a lively exchange of information on these problems.

Günther Hanreich ^{*)}

The planning process in the European statistical system: The setting of positive and negative priorities

The presentation will elaborate the most important steps required to shape the EU statistical work programme, which is aimed, in particular, at the needs of the most important partners in this process.

The presentation will set out to show the basis on which a work programme covering a period of several years is compiled.

The need for drawing up a statistical work programme, covering a couple of years, accrues from basic legislation for Community statistics. This programme is made for a couple of years and has to lay down the approaches, the major fields of action, and the goals for a period that should not exceed five years, and it describes the frame for compiling all Community statistics. It is the policy basis for compiling a reference set of financial data on Eurostat's activities. It has to be adopted by both the Council of Ministers and the European Parliament. The five-year programmes are being evaluated, when half of the term has elapsed, that is after 2.5 years, and once again after 5 years, when the term of validity has expired. The current five-year programme covers the period from 2003 to 2007.

As far as a concrete one-year period is concerned, we are compiling a separate programme, which draws on the five-year programme for orientation and inputs.

Then, the presentation refers to the process of setting statistical priorities. To set statistical priorities means that it is necessary to balance costs and benefits between the need for statistical data, the resources available to statistical offices and the burden on data suppliers. In so doing, the following points are being elaborated:

It is not an easy job to identify negative priorities, as opinions on what concrete action should be taken may often be very different, a situation which may frequently be due to controversies between national interests and Commission interests. The efforts undertaken to bring the process of defining statistics of minor importance to an end must be intensified. The process in which some policy fields have moved from national level to European level means that some statistics are no longer needed on national level.

Concluding this section, the presentation points out that fields have been identified, in which simplifications are possible and desirable, such as for example:

- Structural business statistics;
- Short-term statistics on the business cycle;
- PRODCOM, statistics on products and goods;
- Intrastate – intra-Community trade.

^{*)} Günther Hanreich (deceased in February 2006), former Director-General of the Statistical Office of the European Communities (Eurostat), Luxembourg.

Proposals which will lead to simplifications have been worked out in the fields mentioned above. These proposals are being discussed in the respective bodies, and the corresponding simplifications as agreed upon are being implemented by and by.

Finally, the presentation points out the principles on which Eurostat will rely trying to distinguish between positive and negative priorities. These principles may also be the subject of a later discussion.

These principles are as follows: Importance or relevance to the user: European statistics must be defined mainly by their importance or relevance to policy makers taking decisions on European level. A merely national importance or relevance is not sufficient for statistics to be justified on European level. Cost analysis: this analysis, a very complex one, should consider the costs accruing to both the statistical offices and the suppliers of the data. This should also be taken into consideration when it is necessary to estimate the costs of new or improved statistics in order to meet new statistical requirements. A third group of principles would deal with specific matters: which means, first of all, the relation of data freshness versus data quality. While frequently collected data should include the most important indicators and variables, data with more details of in-depth information would need to be collected less frequently instead. Besides, it should be considered if it is advisable to make a distinction between countries which have differently large weights in European aggregates, which means that data of countries having a lower weight might rather be estimated.

In conclusion, the presentation is supposed to give some kind of outlook, pointing out Eurostat's contribution in support of the respective countries for the achievement of the MDGs (Millennium Development Goals) and, in particular, the elaboration of adequate quality indicators for the measurement of success as of 2015.

Strategies of national statistical offices to cope with future needs for information

Access to data without bureaucratic obstacles is indispensable for science to function properly. In the first place, this is true in respect of consulting science, which is supposed to make meaningful comments at short notice on political issues of current interest and which needs the latest data materials to substantiate these comments. Surveys of statistical offices are being financed from scarce tax funds and should be used in an optimal way. The publication of standardised tables alone will not do for that purpose, the more so as quite a few concepts are defined differently in different statistical surveys. In addition, statistical surveys produce many isolated records coexisting side by side, although it would be indisputably more advisable if the data from the various statistical surveys could be linked with each other.

Neither producers nor users are able to influence the legal basis of data transmission. Nevertheless, all parties have justifiable interests of their own. Official statisticians, for example, collect microdata on the basis of a statutory obligation of respondents to provide the requested information, but in so doing they depend on the respondents' willingness to cooperate; and that is the reason why a statistical office in charge of a survey is interested in protecting the respondents' privacy. On the other hand, scientists have a clear and distinct interest in the use of such data, politicians in their turn are interested in what scientists have found out, and the public at large has a legitimate interest in the data being used efficiently. It is certainly possible to take the interests of all parties into account. Thus, for example, microdata might be rendered anonymous for the compilation of scientific-use files or research data centres might be established though that would be but a second best solution.

Pricing policies for data transmission have considerably improved in favour of science over the last few years. Most of the data producers are pursuing a pricing policy on the marginal principle, enabling even poorly equipped research institutions to work with official data. An exception is Eurostat pursuing a pricing policy that must be referred to as prohibitive. The offices, in their turn, tend to treat inquiries about implausible values with little enthusiasm, saying that they are lacking the manpower required. Perhaps, it is possible here to achieve improvements merely by a better coordination of the activities shared between the Federal States' Statistical Offices and the Federation's Statistical Office.

In some cases a lot of administrative expenditure is required for scientists to get access to official data. For example, it is a usual procedure with microdata that researchers have to submit an application giving a problem formulation for the project and specifying the variables required for it. If the application gets the go-ahead, the data required will be provided, in which case it is not unusual that the data must be shredded upon completion of the project. This procedure is time-consuming, demanding, and unsuitable for many research projects. The access to the data would be more efficient, if the researcher had a

*) Prof. Dr. Michael Hüther, Cologne Institute for Business Research, Cologne.

scientific-use file right on his or her desk. In this case he or she could start going about the analysis of the data without time-consuming applications to clarify first of all, if the records are actually suited for solving the problem he or she is going to examine. After these preliminary steps there would still be time enough to submit an application for use of the data.

An example showing how to organise data transmission efficiently relates to the Socio-Economic Panel, although in this case, too, a contract is obligatory, providing for corresponding data protection rules. But what is different is the fact that one receives the full data record and is allowed, after termination of a project, to use the data for further investigations, in which case it suffices to submit a brief statement to the Institute of the German Economy (DIW). The fact that the SOEP is very popular in spite of the small size of its sample as compared with that of the microcensus underlines the importance that the accessibility issue has.

It is possible to greatly improve the quality and quantity of scientific research by simplifying the access to the data – something everybody would benefit from. The major counterarguments – data privacy and provision cost – are threadbare. No scientist would ever take the enormous trouble of rolling the data back to the state before the records were rendered anonymous. The potential use of such endeavour would be in no proportion to the expenditure incurred. Providing the data will certainly lead to additional cost, but the real question is actually how one can justify the disproportionately higher costs incurred by data collection, if the collected data is meant for use by a privileged minority only.

1 Microdata: Facilitating access

Unbureaucratic access to microdata is indispensable for the scientific community. The surveys conducted by the statistical offices are financed from scarce tax funds. Therefore, citizens have a right to the data being used in an optimal manner. The publication of standardised table volumes is not sufficient here because it is essential especially for consulting scientists to be able to give well-based comments in the short term on current political issues.

Statistical data may be misleading where they are based just on legal definitions rather than on definitions that are meaningful in terms of subject-matter.

- The example of the social budget: Contributions to statutory health and pension insurance are covered, whereas private health insurance premiums and expenditure on employee pension schemes are excluded, although de facto they have the same function.
- The example of income: In the sample survey of household income and expenditure, contributions to statutory health insurance are deducted from net income if the income is below the contribution assessment ceiling. If, however, employees are voluntarily insured under a statutory health insurance scheme, the contributions are included in the net income.

Statistics offer many data sets, part of which are however not at all co-ordinated with each other. Also, terms such as income are based on different definitions in different statistics. It would be useful to have the possibility to link statistics, for example by using register data. Setting up an access panel could also be helpful. Furthermore, it would be important to allow the use of the microcensus for longitudinal analyses.

The availability and the quality of Labor-market related microdata are good to satisfactory. Considering the substantial resources required for collecting and processing microdata, the scientific community would be well advised to limit the number of their wishes here. However, an areas which I think needs improvement is the possibility of access. Basically, access to official microdata has three aspects: Legal bases, pricing and bureaucracy. In their entirety, they require the scientific community to spend an immense amount of time on data procurement.

The legal bases regarding the passing-on of data can be influenced neither by producers nor by users. However, all parties involved have legitimate particular interests. Statistical offices collect microdata on the basis of a legal obligation of respondents to provide information, but of course they depend on the respondents' readiness to co-operate. Therefore, data producers are interested in protecting the respondents' privacy. On the other hand, the scientific community has a fundamental interest in using the data and politicians are interested in using the knowledge acquired by researchers. In turn, the general public has a legitimate interest in an efficient use of the data, once collected; after all, tax funds were used to produce the data. There are ways to reconcile the interests of all parties. Microdata can be anonymised for the production of scientific use files. Another possibility is to set up research data centres, which however is only a second best solution.

Scientists have to make great administrative efforts to be able to use official microdata. According to a common procedure, a scientist has to file a request specifying the issue of the project and the variables required. If the request is granted, the data will be provided, but it is not unusual that the data have to be destroyed when the project is finished. That procedure is time-consuming, difficult and unsuitable for many research projects. Data access would be more efficient if the scientist had a scientific use file on his desk. He could start his analysis without having to file time-consuming requests and could find out whether the data are suitable for his research. After those steps, there would still be enough time to file a request for data use.

The German SOEP is an example of how the passing-on of data can be organised in an efficient manner. In this example, too, it is indispensable to conclude a contract with relevant data protection provisions. However, scientists will get the entire data set. Also, the data can be used for other research even after the first project is finished. To do so, it is sufficient to send a brief note to the German Institute for Economic Research. Although the SOEP has a smaller sample size than the microcensus, its considerable popularity underlines the importance of the issue of data access.

An extreme example of a liberal policy of passing on data is the microdata of the US-American Bureau of Labor Statistics (BLS). The data sets of the Current Population Survey, which are comparable to the microcensus, and many other supplementary data can

be downloaded from the internet by anyone. Probably, that approach is incompatible with the legal framework conditions in Germany. However, the large number of scientific findings obtained by means of the BLS data illustrates the potential benefit of easy data access. As a consequence, it is easier to get information on the American than on the German Labor market.

Both the quality and the quantity of scientific research can considerably be improved through easier microdata access – to the benefit of everyone. The main counter-arguments – data protection and costs of data provision – are threadbare. No scientist would take the enormous trouble to reverse the anonymisation process of the microcensus. The potential benefit of such an attempt is out of all proportion to the effort. The costs of data provision can be quite high. It should however be asked how the much higher costs of data collection are justified if the data can be used only by a privileged minority.

2 Businesses: More business-relevant information

In a globalised economy, business services are growing in importance. Keywords to be mentioned here are the current structural change and the development of interlinked businesses. Official statistics should therefore take account of the increasing importance of business services by presenting them in greater detail.

According to business administration literature, the information management within a company – and, consequently, business accounting and in-company statistics – refer to the performance process in the enterprise. Some orientation regarding the issue of what statistics are needed from the businesses' point of view might be given by information flows linked to a company's performance process. At an upstream level of questions, the issues are the following:

- What information is used, and desired, in business accounting and in-company statistics?
- Is such information provided by non-company statistics?

So, a starting point for in-company information management and accounting is the performance process in the company. The purpose of those tools is to describe, explain and finally justify (towards investors) the performance process in the company. In business administration literature, the performance process – in a simplified form – is subdivided into the three areas of procurement, production and sale. So, what is the information demand here?

Procurement: In economic jargon, this would be referred to as the input side of the production process. Input includes the production factors of Labor, capital and intermediate goods from other enterprises and branches. The goal of procurement is to ensure flexible provision of material, while taking account of cost effectiveness within the company. For that purpose, all procurement markets must be analysed. So, information is needed on staff, suppliers, intermediate suppliers and investors, that is information on all those from whom the company receives performance of some kind. What is desirable from the companies' point of view is information on alternative suppliers and competitors on the relevant procurement side.

Production – performance: Here, the production factors are combined to produce the output of finished products and stocks and of services. The targets in production are sales-oriented performance and an optimisation of the adjustment of production to sales fluctuations on the one hand and of continuous production on the other hand. Altogether, the issue here is information on the production process itself.

Sales: The emphasis here is first of all on the organisation of sale and distribution. This requires systematic monitoring and coverage of the sales market and, consequently, knowledge about marketing channels, customers and, of course, competitors.

In short, we are talking about information on the various procurement and sales markets of a company, that is information on suppliers, customers and competitors on the procurement and sales markets. However, this also creates demand for information on the production processes on upstream and downstream production stages. Finally, it must be taken into account in some way or other that national categories are becoming more and more obsolete for businesses acting on an international scale – which are far more than just the multinational enterprises.

3 Costs: Disburdening the businesses

Regarding the question of what statistics should achieve and what burdens are acceptable in a survey, businesses may face conflicts of goals. Every business wishes to have its burden reduced but, at the same time, wants to be able to use reliable and detailed statistics. An example is the wish for improved statistics on business services. Especially in this sector, statistics have not been able to keep pace with the sector's growing importance. It is proposed that the presentation of services be extended, with a breakdown by branches concerned. It is however especially family-owned middle-sized businesses which suffer from bureaucratic burdens as they have to permanently report statistical data. Therefore, associations focus their proposals on disburdening small and medium-sized businesses.

The statistical burden on enterprises, and especially small and medium-sized businesses, can be reduced by a number of measures, without having to do without statistical information. Here are the major ones:

- Higher thresholds for surveys, for example, exempting businesses with less than 20 employees from the obligation to supply data, and especially refusing European provisions on extending the response duties for small businesses,
- increased utilisation of sample surveys instead of full censuses,
- co-ordination and combination of surveys, as well as
- secondary use of existing data, and
- changing over to electronic surveys.

What is judged critically is new statistical requirements at the European level such as the EU Labor cost survey and the extension of response duties for services and liberal professions. It is generally demanded to harmonise national and European surveys.

4 Globalisation: Requirements to be met by statistics

Globalisation is changing our worldwide economy and, consequently, the requirements to be met by statistics. More and more enterprises are operating on a global scale, which refers not only to the sales markets. In the course of globalisation, companies today purchase intermediate products from a multitude of countries, and they produce their goods also outside their home market. This means that more and more economic connections are created worldwide, both within and outside individual companies, which should be reflected by statistics.

Globalisation puts several challenges to official statistics. What is of major interest is information on the effects of vertical fragmentation – that is those going beyond national borders – on the production process. The increasing number of multinational enterprises also creates demand for data on the local units of those companies. Another important question is to what extent immaterial values are traded internationally, with statistical coverage and measurement problems certainly arising here. Along with globalisation, the financial relations are strongly increasing in the trade with goods and services. More detailed data would certainly be desirable here.

5 Conclusion

The Cologne Institute for Business Research – as an intensive user of statistical data – therefore expects that there will be multifaceted demand for statistical information. Our focus is certainly on easy and comprehensive access to microdata, so that we are able to fulfill our task of political consulting, which is important for the national economy. But I would like to put this in a more general context: Better access of the various research institutes or researchers to the microdata creates additional knowledge and thus produces value added for our entire economy.

What is more, the statistical authorities should tailor their activities even more to the statistics demand of the scientific community, politicians and the society. The focus here is on clear harmonised definitions and delimitations of the items measured, although low-cost and easy data access is highly important, too.

Over the last few years, many things have improved in official statistics. The fact that statistics users – who may be considered as customers of the Federal Statistical Office as a social enterprise – are listened to much more seriously than in the past is shown, for example, by this seminar. I therefore assume that the users of official statistics who have been invited to today's event will preach to the converted when giving their comments, suggestions and wishes to the Federal Statistical Office.

Therefore I think that both the Federal Statistical Office and all other participants will absolutely agree with my conclusion: Statistics is not an end in itself, but it must help to make our economy more efficient!

The future need for statistical information and services from the users' viewpoint

The dramatic structural change in the German economy does not remain without repercussions on official statistics, as it is accompanied by a change in the demands on the quantity and quality of official statistics. In addition, the currently led intensive debate in Germany on cutting the red tape and building a slim State raises new challenges that statistics have to put up with. Furthermore, new demands originate from strengthened efforts to make Europe grow closer together economically.

Ideally, official statistics should function as an early warning system for politics and the society. They are supposed to provide relevant figures on social and economic relations, enabling politicians, businessmen, scientists and the society to identify and analyse the underlying causes and, above all, to react quickly by taking corresponding action, so that negative evolutions can be averted. This postulates that needs for information are recognised at an early time, on the one hand, and that official statistics are able to react quickly and flexibly, on the other. As a rule, official statistics recognise well in time that there is a need for data. However, it is difficult to depict the changed reality quickly and adequately in the statistical system. Quick adaptation to new economic and social changes is inhibited, in particular, by a rigid legal framework. For statistics to respond adequately to a structural change, it is inevitable that the legal framework of official statistics must be rearranged. Minor modifications in the Federal Statistics Law will not do for that purpose, what is rather necessary is a fundamental reform of the Federal Statistics Law.

Official statistics are in a conflicting situation as they are supposed to supply powerful and meaningful statistics on a large number of economically and socially relevant situations, on the one hand, while keeping the burden on enterprises, which is linked with the statistical surveys, as low as possible, on the other hand. Business associations and industrial enterprises are confronted with the same conflict, too, as, on the one hand, they need these figures enabling them to act as entrepreneurs, but, on the other hand, they are the ones who have to supply those figures. However important it is to take into account a restriction in the statistical burden on enterprises as respondents obliged to supply data, it seems to be equally important to consider another aspect – that of the benefit of the use of statistics. Reducing the response burden must not be an objective in itself. It is rather necessary to try to maintain the balance between the necessity of rationalisation and the possibility of doing so. Cuts, wherever needed, should actually be made. But whenever there is a risk that continued cuts may lead to sensitive and unacceptable losses of information in the entire system, it is advisable to look for different ways of slimming, for example, by stronger use of administrative data or more intensive utilisation of new information and communication technologies. Another option for reducing the burden on enterprises consists in rearranging the federal structure of official

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statistics. Fighting the outgrowths of federalism holds quite a few potentials for statistical offices to reduce the response burden and to save resources.

The 1999 Marketing Concept of the Federal Statistical Office stipulated a shift from input-oriented work processes to output-oriented, customer-focussed service. Data collection, processing and dissemination should be directed towards user needs, while new markets and sales opportunities should be opened by anticipating the customers' wishes. This guiding idea was to be put into reality in a comprehensive way. On the one hand, this required official statistics to abandon the one-sided practice of focussing on the Federation's needs and to open the door for private and public institutions to become clients requesting statistics from all areas of statistical production. It is certainly advisable to set boundaries to the customers' bids so that the character of statistics as a public asset does not run the risk of being in danger. But it is not an appropriate choice to say that the only customers to request statistics can be public organisations, especially in view of the scarce resources available to the Federal Statistical Office and the Statistical Offices of the Federal States. Apart from institutional support to promote official statistics, decentralised possibilities of funding are imaginable as well; this is a common practice in many other countries.

The provision of timely economic data has considerably increased in importance. In the era of the information society, the timeliness of data is a decisive quality feature for every information provider. Thus, there is a growing pressure on official statistics to speed up the provision of data. As far as the timeliness of official data is concerned, there is still potential for improvement, as in some cases the time span between a survey and the publication of data is quite often very large yet. The Federal Statistical Office should endeavour to shorten this time span, in particular, by consequently making use of modern I and C technologies in the field of data collection and data processing. The right approach in this context is to conduct surveys over the Internet, which will lead to accelerated data transfers from enterprises to the Statistical Offices of the Federal States and, in the last analysis, to a faster supply of the data. In this connection, priority should be given to ensuring data quality, because data quality is a decisive, if not the most decisive, criterion for official statistics to be a success.

1 Statistics as a reliable mirror of reality

Ideally, official statistics should function as an early warning system for politics and the society. They are supposed to provide relevant figures on social and economic relations, enabling politicians, businessmen, scientists and the society to identify and analyse the underlying causes and, above all, to react quickly by taking corresponding action, so that negative evolutions can be averted. This postulates that needs for information are recognised at an early time, on the one hand, and that official statistics are able to react quickly and flexibly, on the other. As a rule, official statistics recognise well in time that there is a need for data. However, it is difficult to depict the changed reality quickly and adequately in the statistical system. Quick adaptation to new economic and social changes is inhibited, in particular, by a rigid legal framework. For statistics to respond adequately to a structural change, it is inevitable that the legal framework of official sta-

tistics must be rearranged. Minor modifications in the Federal Statistics Law will not do for that purpose, what is rather necessary is a fundamental reform of the Federal Statistics Law.

2 Balancing the cost-benefit ratio of statistics

Official statistics are in a conflicting situation as they are supposed to supply powerful and meaningful statistics on a large number of economically and socially relevant situations, on the one hand, while keeping the burden on enterprises, which is linked with the statistical surveys, as low as possible, on the other hand. Business associations and industrial enterprises are confronted with the same conflict, too, as, on the one hand, they need these figures enabling them to act as entrepreneurs, but, on the other hand, they are the ones who have to supply those figures. However important it is to take into account a restriction in the statistical burden on enterprises as respondents obliged to supply data, it seems to be equally important to consider another aspect – that of the benefit of the use of statistics. Reducing the response burden must not be an objective in itself. It is rather necessary to try to maintain the balance between the necessity of rationalisation and the possibility of doing so. Cuts, wherever needed, should actually be made. But whenever there is a risk that continued cuts may lead to sensitive and unacceptable losses of information in the entire system, it is advisable to look for different ways of slimming, for example, by stronger use of administrative data or more intensive utilisation of new information and communication technologies. Another option for reducing the burden on enterprises consists in rearranging the federal structure of official statistics. Fighting the outgrowths of federalism holds quite a few potentials for statistical offices to reduce the response burden and to save resources.

3 Increasing the user/output orientation of statistics

The 1999 Marketing Concept of the Federal Statistical Office stipulated a shift from input-oriented work processes to output-oriented, customer-focussed service. Data collection, processing and dissemination should be directed towards user needs, while new markets and sales opportunities should be opened by anticipating the customers' wishes. This guiding idea was to be put into reality in a comprehensive way. On the one hand, this required official statistics to abandon the one-sided practice of focussing on the Federation's needs and to open the door for private and public institutions to become clients requesting statistics from all areas of statistical production. It is certainly advisable to set boundaries to the customers' bids so that the character of statistics as a public asset does not run the risk of being in danger. But it is not an appropriate choice to say that the only customers to request statistics can be public organisations, especially in view of the scarce resources available to the Statistical Offices. Apart from institutional support to promote official statistics, decentralised possibilities of funding are imaginable as well; this is a common practice in many other countries.

4 Increasing the timeliness of data while ensuring data quality

The provision of timely economic data has considerably increased in importance. In the era of the information society, the timeliness of data is a decisive quality feature for every information provider. Thus, there is a growing pressure on official statistics to speed up the provision of data. As far as the timeliness of official data is concerned, there is still potential for improvement, as in some cases the time span between a survey and the publication of data is quite often very large yet. The Federal Statistical Office should endeavour to shorten this time span, in particular, by consequently making use of modern I and C technologies in the field of data collection and data processing. The right approach in this context is to conduct surveys over the Internet, which will lead to accelerated data transfers from enterprises to the State Statistical Offices and, in the last analysis, to a faster supply of the data. In this connection, priority should be given to ensuring data quality, because data quality is a decisive, if not the most decisive, criterion for official statistics to be a success.

YUAN Guangrui ^{*)}

Thoughts on statistical services in the future: The fiscal sector's perspective

Ladies and Gentlemen:

I am very honored to have this opportunity to share with you some thoughts on China statistical services from fiscal sector's perspective.

National economic accounting, monetary statistics of banks, balance of payments and governmental fiscal statistics are the four major macro ministerial statistics. General speaking, fiscal sector has dual functions, on the one hand, it is the user of macro economic statistics, on the other hand, it is the supplier of government fiscal statistics. In recent years, fiscal sector is actively pushing forward the reform and improvement of Chinese government finance statistical system by learning international experience and abiding by relevant laws and regulations, further enhancing the transparency of finance statistics and data quality in the aim of meeting the needs of both domestic and international users. At the meantime, as one of the macro-regulatory departments, fiscal sector heavily relies on macro economic statistics both domestic and international to analyze the macro economic performance and fiscal revenue and expenditure positions, to make estimates and to shape fiscal policies. Therefore, fiscal sector can be regarded as the user of macro economic statistics. In the following sections, I would like to share with you our viewpoints as the provider of finance statistics services and also as the user of statistical data.

I Current situation and future development of Chinese government finance statistics

Current situation of finance statistics services: In recent years, significant progress has been scored in government finance statistics system. They are reflected in the following aspects: one is further improved finance statistics system, which is focusing on reforming the ministerial budgetary system and the single fiscal account. These are fundamental changes of the finance statistics system, which could reflect the government fiscal activities in a comprehensive way. Secondly, the scenario on reforming classification system of government fiscal revenue and expenditure has been formulated. Thirdly, the set-up of fiscal information network not only improved the transparency of finance statistics, but also provided technical support to guarantee the quality, timeliness and completeness of the fiscal data provided to the public.

Future development of finance statistics services: fiscal sectors at all levels will further improve the budget management system, the off-budget funds and social security funds will be brought into the scope of budget management; further push forward the classification system reform of government revenue and expenditure in the aim of setting up a scientific classification system; implement the treasury single account reform in an all

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round way and speed up the establishment of modern fiscal management system; further improve the transparency of the finance statistics to better meet the needs of the public and further enhance the professional knowledge of our staff by providing training courses to them. Therefore, Chinese fiscal sectors need technical assistance and support from other countries and international organizations.

2 Future statistics services: from users' perspective.

Fiscal sector's demand: the macro economic data we need are as following: aggregate data and structural data that reflect the economic performance, such as: investment, consumption, net export, prices, total investment in fixed assets by region, import and export data by types of trade and ownership. We also need data reflect world economic development and aggregate economic data by countries, for instance, GDP, investment, consumption, import and export, prices, unemployment rate and statistics depict sustainable development of environmental sources and social securities.

Thoughts and suggestions from fiscal sectors toward statistics services in the future: Firstly, statistical work should shift from providing statistical information to a more broader dimension of making full play of statistical functions to meet the needs of the public both at home and abroad. Secondly, statistical work should also serve the government's need of regulating the economy. Basing on the current situation of China, the statistical information should include more indicators to reflect the development of social activities, changes of sources and environment situation. Therefore, it can better serve the need of tracing the sustainable development of the economy and the society. The statistical system reform should be enriched, adjusted and perfected in line with the economic, social and scientific development. Thirdly, with the economic globalization, statistical work should be integrated with the international statistical system by expanding international statistical cooperation and exchanges.

Ladies and gentlemen, we are going to make greater efforts in improving government finance statistics system, at the same time, we sincerely hope to cooperate with other countries to reform the government statistical method, methodology and system which will in turn to improve the statistical work as a whole.

Thanks!

1 Current situation of government finance statistics services in China and its future development

The finance statistics services are mainly from Ministry of Finance and fiscal sectors at various levels. In recent years, in particular when China joined the IMF's General Data Dissemination System (GDDS) in April 2002, basing on the requirements of GDDS, fiscal sectors at all levels have made great efforts in improving the scope, frequency and timeliness of finance statistics, enhancing the quality and completeness of statistics and guaranteeing the access of finance statistics by the public. Achievements have been scored in this field which is reflected in the following aspects.

A series of reforms have been taken place in Chinese fiscal sectors, many of the reforms have played a significant role in perfecting the finance statistical system. The most prominent ones are: the departmental budget system, the main content is to implement the new system of one department with one budget covering extra-budget funds and revenue generated by government funds. This new budget management system can draw a full picture of the revenue and expenditure positions of government agencies. Ministry of Finance of China initiated its reform of ministerial budget system in 2000, by the end of 2004, a total of 40 government agencies were covered in the pilot test of separating extra-budgetary revenue from the expenditure. The management of extra-budgetary funds has been initially standardized. At the same time, the budget procedure and management regulations are further improved. Secondly, it is the treasury single account reform. Its main target is to unify the management of all government fiscal funds. The revenue will go direct to the treasury or special fiscal account, and the expenditure will be paid to providers of goods or labor forces through the single fiscal account. This reform has laid a solid foundation for the government finance statistics to reflect the government fiscal activities in a comprehensive way. The treasury single fiscal account reform started in 2001, until now, there are over 160 central government agencies under this umbrella, and an other 33 provinces, autonomous regions and cities directly under the jurisdiction of the central government participated in this reform. It will spread to over 500 counties in more than 200 prefectures.

A standardized and reasonable budget classification system is prominent to guarantee the quality of finance statistics. The current budget classification system adopted by Chinese government was still the one being established during the planned economy period. With the establishment of the socialist market economy, the shortcomings and restrains of the system are becoming more and more prominent. Though adjustments were made in recent years, it still falls far away from the international accepted practice, in particular the one advocated by IMF in 2001. Therefore, Ministry of Finance set up a research team studying the government fiscal budget revenue and expenditure classification system in 2002. Its main task is to reform the budget revenue and expenditure classification system of China by learning the revenue and expenditure classification system from the IMF "Government Finance Statistics Manual 2001", and taking into consideration of the real need of Chinese budgetary management. A set of reform measures has taken shape initially, and pilots are being carried out in some central and provincial government agencies. It is expected that this classification system will be put into operation while compiling the budget for year 2007 in 2006.

Ministry of Finance makes great efforts in improving the transparency and broadening the channel for the public accessing to the finance statistics, let all circles of the society have a better understanding of the financial situation by sharing with them the financial reform and development information. Firstly, Policy and Fiscal Affairs Department of Ministry of Finance is in charge of providing quarterly fiscal data (including debts) to Statistics Department of IMF and its publication "International Finance Statistics", and annual government revenue and expenditure to IMF "Government Finance Statistics Yearbook", those data are converted according to the standards set by IMF in its "Government Finance Statistics 2001" (GFSM 2001). The annotation of Chinese finance statistics is made on an annual base. Secondly, Ministry of Finance provides finance statis-

tics to some domestic departments and agencies. Ministry of Finance provides National Bureau of Statistics with monthly and annual finance statistics. We also publish "Finance Yearbook of China" and "Accounting Yearbook of China" annually. Thirdly, measures have been taken in enhancing the management of finance statistics. Ministry of Finance has strengthened its network project, which is called "Government Finance Management Information System" by making good use of the modern information technology to develop the information management system. Now this new system has been used effectively among central government agencies, and some of the provinces start to join this system. The financial information system has provided strong technical support to guarantee the quality, accuracy and completeness of the finance statistics.

The achievements in government finance statistics services at current stage are preliminary as compared with such services provided by other departments and foreign countries. We still have a long way to go, in particular in the field of transparent finance, sound finance statistics system and high quality of government finance statistics. Therefore, fiscal sectors at all levels will further improve the budget management system by bringing the extra budgetary funds and social security funds into it. The reform of government budget revenue and expenditure classification system will be further improved and a scientific and reasonable classification system should be built. The reform of unified fiscal account system should be implemented across the nation, and the modern fiscal management system should be established. We should also enhance the transparency of finance statistics to better serve the needs of the public. We should improve the professional knowledge of our staff by providing training courses to relevant people. In this regard, Ministry of Finance sincerely hopes that we can get technical assistance and support from foreign governments and international organizations.

2 Challenges of statistics services brought by economic and social development

Fiscal sector of China is the important macro-regulatory department of the Chinese government. We heavily rely on both domestic and international economic statistics in the course of formulating financial policies. We need to have a close study on the macro-economic environment to make projections on short-term and middle and long-term budgetary revenue and expenditure and the effectiveness of the financial policies. Therefore, we can make timely adjustment of our financial policies in response to the changed economic development. Data we need from statistical agencies is all dimensional, multi-facets and multi-tiered, that is to say we need a complete and comprehensive statistical system. For the Fiscal sector's demands: the macro economic data we need are as following: aggregate data and structural data that reflect the economic performance, such as: investment, consumption, net export, prices, total investment in fixed assets by region, import and export data by types of trade and ownership. We also need data reflect world economic development and aggregate economic data by countries, for instance, Gross Domestic Product (GDP), investment, consumption, import and export, prices, unemployment rate and statistics depict sustainable development of environmental sources and social securities.

The main trend of economic and social development is globalization of economy and liberalization of the market. Statistical services are facing the challenge of adapting to this new trend no matter macro-economic statistics or government finance statistics. A solid work should be done to perfect the statistical system and methodology and to improve the statistical services.

Statistical data are public goods; statistical information should not only meet the needs of the government agencies and research institutions but also the public. The interests of the public towards statistics are ever increasing, besides major economic indicators, they ask for the prediction of economic development. To this end, we think the statistical services in the future should be focused on improving the quality and transparency of the data, and enhancing the frequency and timeliness of data that could be obtained by the public. Thus, the public can have a better understanding of the economic and social development of various countries.

Accurate and timely statistical information is the foundation for government making economic regulation. Statistical agencies are responsible for providing valuable information for policy-makers. At current stage, firstly, the statistical services should depict the sustainable development of the economy and the society, indicators reflecting social development, and sources and environment situation are needed. The current national economic accounting system should shift to a comprehensive economic and environmental accounting system, the statistical accounting system should focus on green GDP and adapt to sustainable development. When unifying the accounting for economy, society, sources and environment, the self-service within a household should be covered, a comprehensive national economic accounting system reflecting the overall economic activities should be established. Secondly, statistical indicators and statistical reform should be seeded in national accounts, be enriched, adjusted and perfected in line with the economic, social and scientific development. Statistical indicator system, which show the achievements of economic system reform and factor of product should be further replenished and improved. The system should include indicators reflecting the following areas: macro-regulatory system, change of ownership; the scope of state-owned economy, its dominant role and controlling power; the development of non-state-owned economy, the relationship and structure of income distribution, the employment, the insurance and social relief. A statistical system reflecting the source, environment and ecological protection and sustainable development should be established and improved. Social security statistical indicator system reporting reform in the fields of medical care, labor insurance and housing system should also be set up. Thirdly, while improving the basic statistical indicator system to meet the need of national economic and social development, a series of special statistical indicator system should be worked out to trace the hot issues emerged in economic and social development, and to evaluate and monitor achievements made by government in regulating the economy.

The acceleration of economic globalization and closer economic cooperation, statistical work is facing new challenges. Statistical agency of China should encourage international cooperation and exchange to learn the advance experience and ideas from other countries. Only by adopting international accepted standards and methods, can statis-

tical methods and methodologies be improved, the statistical management system be innovated. Statistical agency should also broaden the mind in serving the needs of the public, making the share of information beyond the boundaries.

Ladies and gentlemen, it is incumbent on fiscal sector to serve the statistical agency. Our objective is to improve our service and perfect the system. We sincerely hope to co-operate with other countries to reform the government finance statistical method, methodology and system, which will in turn to improve the statistical work as a whole.

Thank you very much!

WANG Tongsan *)

Evaluation and expectation by representative of domestic users in China

Due to working relations, I have kept a long term and very close cooperation with the National Bureau of Statistics of China (NBS). A number of senior officials of NBS such as Mr. QIU Xiaohua, its Deputy Commissioner and Mr. Zheng Jingping, Director-General of Department of Comprehensive Statistics, and Mr. LI Xiaochao, Director-General of International Statistical Information Center of NBS are all my good friends. On this occasion, I would like to talk about the problems in three aspects.

I Importance of Chinese Statistical Work

Statistics is an important basis in terms of management of the nation and its importance becomes more and more obvious since China adopted the policy of economic reform and opening to the outside world.

Statistical agency is normally the first speaker at a number of important economic meetings. At these meetings, officials and experts from the statistical agencies are often invited to deliver a speech at first. This is because we can start in-depth discussion so long as we must first of all understand the latest statistical figures in terms of any economic problem research and discussion. Their speeches not only provide the latest statistical data, but also more importantly they can let the participants understand the hidden economic realities with their own experience and analysis through the bald statistical figures.

Less and less criticism and complaint towards the statistical work. This phenomenon accounts for the important progress achieved from the quality of statistical work and the importance of statistical work becomes more prominent because of the factor.

Remarkable achievements of statistical publication agencies. The statistical materials published and issued by the statistical publishing agencies are not only constantly increased in its variety, but also in its quantity. This also proves the importance of statistical work from another point of view.

II Further improvements should be made in terms of statistical work.

There is no denying the fact that very important success has been achieved from the statistical work of China. But I still think that there needs to make further improvements in the field of statistical work. I would like to point out the following three points of wishes:

*) Prof. WANG Tongsan, Institute of Quantitative and Technical Economics, Chinese Academy of Social Sciences, Beijing.

- *More complete and richer quarterly statistical data should be provided. It seems that the National Bureau of Statistics of China release less quarterly data. We are now facing big problem in this regard, which is mainly on the data.*
- *Provision of employment and unemployment statistical data should be made.*
- *To inform users of the revision of the statistical data timely and definitely.*

III Cooperation with the National Bureau of Statistics of China

The Chinese Academy of Social Sciences is a national research institute of philosophy and social science and its several economic research institutes, which are relevant to various kinds of economic problems, keep very close cooperative relations with the National Bureau of Statistics of China and the local statistical offices. The key work of my organization, Institute of Quantitative and Technical Economics, Chinese Academy of Social Sciences is to use quantitative economic method to analyze and study some relevant economic issues of China, therefore, we are more dependent upon the statistical data. We have very close cooperation with the experts of relevant departments of the National Bureau of Statistics of China. Now I would like to brief you three models, which are accomplished in collaboration with NBS.

***First:** Macro econometric model. This model is the basis for us to conduct the key topic of state on Chinese Economic Situations Analysis and Forecasting. This project won the second award of state soft-science.*

***Second:** CGE model. The establishment and application of CGE model provide important scientific basis in studying the various impacts brought by Chinese entry to WTO.*

***Third:** Long term systematic dynamical model. The long-term systematic dynamical mode is one of powerful tools in studying the long tem economic development of China.*

1 Importance of Chinese statistical work

Statistics is an important basis in terms of management of the nation and its importance becomes more and more obvious since China adopted the policy of economic reform and opening to the outside world. I would like to talk about my own experience in the following three aspects:

I participated in some relevant economic research and economic work meetings and I noticed that at these meetings, officials and experts from the statistical agencies are often invited to deliver a speech at first. This is because we can start in-depth discussion so long as we must first of all understand the latest statistical figures in terms of any economic problem research and discussion. Therefore, the senior officials such as Messrs. QIU Xiaohau and ZHENG Jingping from the National Bureau of Statistics of China are always the first speakers as long as they attend some meetings. Their speeches not only provide the latest statistical data to let the discussants have a better understanding of current status of national economic performance, but also more importantly they can let the participants understand the hidden economic realities with their own experi-

ence and analysis through the bald statistical figures. The officials of NBS are always the objectives chased after by the media. I think the reason chased after by the media is not because they have the data, but because they understand the data very well.

At the beginning of the economic reform in China, namely from 1980s, even at the beginning and middle of 1990s, the Chinese statistics was criticized and complained very much by various aspects in China and abroad. In summary, they include such aspects. Firstly, statistics is inaccurate; secondly, releasing of statistical data is not timely and thirdly the statistical figures are greatly influenced by the factors such as politics; fourthly, the pricing of providing special services by the statistical agency is so high. Frankly speaking, in that period, it is reasonable that there exist such criticism and complaint. With the efforts by the statistical agencies and with the assistance from the relevant departments and experts and effective international cooperation, the statistical agencies received less and less criticism and complaint. This phenomenon also accounts for the important progress achieved from the quality of statistical work and the importance of statistical work becomes more prominent because of the factor.

As mentioned by some speakers during their speeches at this meeting, the National Bureau of Statistics of China and the local statistical offices published a great number of statistical materials. The Statistical Yearbook of China is published annually and becomes thicker and thicker and provides a great amount of useful data. However, the users have to pay more money to buy it. The statistical materials published and issued by the statistical publishing agencies are not only constantly increased in its variety, but also in its quantity. It is affirmative that the statistical publishing agency is one of publishing agencies with better profit conditions in China. This also proves the importance of statistical work from another point of view.

2 Further improvements should be made in terms of statistical work

There is no denying fact that very important success has been achieved from the statistical work of China. But I still think that there needs to make further improvements in the field of statistical work of China. I would like to point out the three wishes below as the user of statistics in China.

With the establishment and perfection of Chinese socialist market economic system, the Chinese economy is transforming from the traditional planned economy to the increasingly mature market oriented economy. Under the market economic environment, it is obviously insufficient in terms of strengthening the research work of macro economic management and regulation if we only have more detailed annual data. We need more complete, more accurate and timelier quarterly data, this is the indispensable basis for us to do a better work of macro economic analysis and research. In this aspect, it seems that the National Bureau of Statistics of China release less quarterly data up to now. As for my institute, the quarterly macro economic model must be established if we want to use more scientific method to study the short-term macro economic fluctuation. The more detailed quarterly data should be needed in setting up the quarterly macro economic model. We are now facing big problem in this regard, which is mainly on the data.

Up to now, we are very short of employment and unemployment statistical data. The official release of the data is only the registered urban unemployed population or registered urban unemployment rate. This situation is far from meeting the needs of economic analysis and research. The employment or unemployment is an important goal of macro regulation. The macro regulation can not be successfully realized without accurate and effective employment or unemployment figures. The objective of building a well-off society in an all-round way in China is put forward in the Sixteenth National Congress of the Chinese Communist Party. The Party and senior Chinese leaders always stress that all kinds of work should reflect the principle of people-oriented. To constantly raise the employment rate and lower the unemployment rate is one of fundamental directions in realizing the strategic objective put forward in the Sixteenth National Congress of the Party. I heard about that a great amount of research and preparatory work at preliminary stage in terms of overall employment and unemployment statistics of China was done in the NBS. We highly admire and appreciate the efforts of the NBS and we wish the national employment and unemployment statistical data can be released as early as possible.

At present, the statistical data in China, especially the annual data have the estimated figure at the end of the current year, figure of communiqué in the early next year and the yearbook figure in the middle of the next year. The three figures may not be complete same. It is very necessary for the statistical agencies to adjust and revise the original data timely in accordance with the constant richer and perfected basic statistical data, and it is a necessary way of ensuring the accuracy and reliability of statistical data. But as users, it is hard to avoid that sometime they did not notice the revision and adjustment of the data, therefore it might cause some problems of utilization. It is desired that the users be notified timely and definitely when the NBS made revision and adjustment to the published data.

3 Cooperation with the National Bureau of Statistics of China

The Chinese Academy of Social Sciences (CASS) is a national research institute of philosophy and social science. Its research on diversified economic problems is one of key tasks of CASS. Its several economic research institutes, which are relevant to various kinds of economic problems, keep very close cooperative relations with the National Bureau of Statistics of China and the local statistical offices. Professor LIU Guoguang, who was former Vice President and specially invited adviser of CASS was once the Deputy Commissioner of NBS. The key work of my organization, Institute of Quantitative and Technical Economics, Chinese Academy of Social Sciences is to use quantitative economic method to analyze and study some relevant economic issues of China; therefore, we are more dependent upon the statistical data. We have very close cooperation with the experts of relevant departments of the NBS in the past over 20 years. With their support and assistance, a number of important scientific results were achieved. Now I would like to brief you three models, which are accomplished in collaboration with the NBS:

- The Macro econometric model is the basis for us to conduct the key topic of state on Chinese economic situations analysis and forecast. From the middle of 1980s, we

started close cooperation with the NBS in this project. In the course of implementation of the project, the NBS not only provide us with a great amount of necessary statistics in China, but also more importantly furnish very important reference analysis for our analytical and forecasting report with their own rich experience and special feeling in the statistical forefront. This project won the second award of state soft-science and it produce more and more important and wider effects in China and abroad.

- The establishment and application of CGE model provide important scientific basis in studying the various impacts brought by Chinese entry to the WTO and meanwhile it creates the conditions for research on harmonized development of the Chinese economy with the environment. In this model, the input and output table is a major component. It is impossible for us to build the CGE model of China without the hard work and great efforts by relevant departments of the NBS in establishing the Chinese input and output table.
- The long-term systematic dynamical mode is one of powerful tools in studying the long-term economic development of China. It can be used to make forecasting or estimation of development tendency of some important national economic indicators in ten years, twenty years or even longer period and it is one of effective measures in studying national and local long-term development strategies.

The research, updating and utilization of the model can not be carried out without the data collection, tabulation and processing. An economic model without a good data support is only rubbish in and rubbish out. In 1980s and the beginning of 1990s, we spent a lot of time in data collection and processing in our modelling research. Such work can not be finished without support and assistance from the NBS. Even if a plenty of time is spent.

A book entitled "Anthology of Economic Models of Institute of Quantitative and Technical Economics"; Chinese Academy of Social Sciences was edited and published recently by my Institute. In the preface of the book, I wrote we must thank the relevant colleagues of the NBS for their unreplacement and valuable assistance. They not only provide us with data support, but also on many occasions directly involve in research and application analysis of our models. The present remarkable success in our economic model research and application can not be achieved without the great assistance from both the NBS and the local statistical offices.

I would like to conclude my evaluation by saying that once again, thank you very much for inviting me to attend this meeting and I sincerely hope that Chinese statistical work will ascend further and has a more splendid tomorrow.

Improvement direction in the Korean labor statistics from users' perspective

I National Statistical Data Production and Use in General

Korean National Statistics Office produces 53 kinds of basic and important statistics and other Ministries and organizations produce 420 kinds of statistics. Number of persons for statistics production is 3,871 (July 2004) and of which in National Statistics Office 1,839 (48 %), other central ministries 1,010 (26 %), regional governments 516 (13 %) and private organizations 506 (13 %). Korea has deficient number of persons working in National Statistics area, especially in the planning and analysis part. Comparing the number of persons in planning and analysis, Korea has just 1/10 of those of advanced countries. User Demand Survey (NSO, 2004) shows that new areas of statistics are on sociological and regional data. Concrete fields of the areas are health, insurance, environment, poverty, culture, IT and BT industries, technology, foreign investment, balanced regional development. The most important problem raised by users are on the constraint of budget and number of persons working in National Statistical Data, which give deficiency of feed back system for the future planning and analysis of data.

II Problems of National Labor Statistics and Direction for Improvement

Economically Active Population Survey needs income item in the basic survey even though it does in additional survey. Weight should be regarded more importantly for region "sex" age group levels, especially when the population of samples changes at every five years. Regional Statistics should be extended to the local level since balanced regional growth has been more important issues with globalization in Korea nowadays. Ministry of Labor has the responsibility of performing most of Establishment Survey Data in Korea. The most significant problem in these kind of data raised by users is on the representativeness of population for the samples. Some part of employment, for example, employment in government, establishments under certain level, non regular employment are not included in the population. Therefore the population for the sample needs to be extended in the future. Employment Insurance DB, Public Officers' Pension DB, Private School Teachers' Pension DB have to be regarded as pools of population data. Wage Structure Survey, Small Establishments' Employment Survey, Firms Labor Costs Survey conducted by Ministry of Labor should be merged into one Establishment Survey to have more efficient data production and to have more representativeness of population. Employment Insurance DB has been sources of population for the paid workers and unemployed. Administrative Data, such as, four kinds of insurance DB (employment insurance, pension, health, industrial accident), Public officers' Pension DB, Private School Teachers' Pension DB, National Tax Office DB are better to be connected for the extension of employment and income population.

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III Concluding Remarks

First: after Korea's financial crisis, labor market situations has been changed significantly. It needs more exact and speedy data representing current labor market situations in Korea and to have better labor and product market policies. But National Statistics is behind in exactness and speediness from the demand of users. Therefore more investment on budgets and manpower on National Statistics is essential for Korea's future economic and social growth.

Second: some of National Statistics should be merged into one to have more efficient and representativeness.

Third: data production needs dualistic system with basic and additional surveys to have more flexible data production.

Fourth: regional and local data should be produced.

Foreword

In chapter I, I would like to discuss, from a user's point of view, the production of official statistics reflecting public infrastructure. In this context I also wish to mention the difficulties involved in meeting users' needs.

Chapter II, will dwell on problems and proposals for improvement regarding the Labor statistics with which the author is mainly concerned.

Speaking of labor statistics, we mean household surveys, on the one hand, and business statistics, on the other. Here we are going to explain the present-day situation, problem fields and proposals for improvement. Further statistics such as employment insurance and four other insurances as well as statistics on the relationship of employers, employees and trade unions shall not go unmentioned.

1 On the production of official statistics and the problems involved

The Korea National Statistical Office (KNSO), which is the Republic of Korea's national statistics authority, compiles 53 extensive basic statistics, while another 420 surveys are produced by ministries and other official institutions (136 agencies). That means that 473 surveys are official statistics.

Overview

Agency	Function	Statistical survey
KNSO	<p>Production of statistics of national importance</p> <p>Coordination of the various offices and authorities</p>	<p>Population and dwellings, Industry, Wholesale trade, retail trade and services, Agriculture, forestry and fisheries, Basic survey on enterprises and establishments, Consumer price indices, Household income and expenditure trend, Labor relationship trend, Industry: production indices etc.</p> <p>A total of 53 statistical surveys</p>
Other central ministries	Collection of statistics in their spheres of competence	<p>Ministry of Agriculture and Forestry: 19 statistical surveys such as e.g. agricultural products,</p> <p>Ministry of Labor: monthly labor statistics,</p> <p>Ministry of Health and Welfare: 30 statistical surveys such as e.g. health of the population,</p> <p>Ministry of Construction and Transport: 18 statistical surveys such as e.g. start of construction for buildings etc.</p> <p>194 statistical surveys of 29 ministries</p>
Regional autonomous authorities and offices	<p>Data collection by administrative action at regional level,</p> <p>Support to extensive surveys</p>	<p>Registration of inhabitants etc.</p> <p>95 statistical surveys of 16 cities and provinces as well as 16 municipal and regional educational authorities</p>
Private institutes and institutions	<p>Collection of data obtained on the basis of own activities,</p> <p>Compilation of statistics on the basis of inquiries</p>	<p>Korea National Bank: 16 statistical surveys such as e.g. national accounts etc.</p> <p>131 statistical surveys of 74 agencies</p>

Source: Committee for the Reform of Government and Administration for the purpose of decentralisation (Feb. 2005), Draft plan for the extension of infrastructure regarding official statistics.

The number of manpower mainly employed with statistics amounts to 3,871 (as of 01 July 2004). Manpower distribution between the various agencies is as follows: KNSO: 1,839 (48 %), other central ministries and authorities: 1,010 (26 %), regional autonomous authorities: 516 (13 %), private institutions 506 (13 %).

Thus, the number of manpower in the statistical field is insufficient in Korea. In particular, for the planning of statistics Korea has just 1/10 of the manpower available to the very advanced countries.

Personnel in statistical offices for planning and analysis on the basis of 1 million labor force in 2004

Korea	Netherlands	Canada	Denmark	Australia	USA
10	159	139	116	83	51

Source: Lee, Jae-Hyoung (2004), Draft plan for the development of the official statistics system, Korea Development Institute

Based on the outcome of the examination of actual utilisation and needs for statistics (2004), which was issued by KNSO, we find that there is a need for new statistics in the following fields:

- In the social field: health, insurances, pensions, environment, culture, leisure time, crime rate, poverty, irregular employment, etc.
- In the economic field: bioengineering, science and technology, foreign investments, business activities abroad, etc.
- In the regional field: consistent development of regions, requirements and tasks of the nation.
- Lack of specific units in ministries and authorities that define and articulate the exact needs to be passed on to the producers of statistics. In most cases, press and information units in ministries and authorities are simultaneously responsible for statistics as well.
- Another reason which is worth mentioning relates to the frequent relocations and job changes of those in charge of statistics (ca. 35 % per year).
- Those agencies that produce statistics themselves, including KNSO, behave rather reluctantly, when invited to disclose and reflect their needs.
- But even if the latest requirements are submitted, they are doomed to failure because of budgetary or organisational restrictions.

2 On present-day labor statistics and improvements

Pursuant to the 160th labor statistics convention of the International Labor Organisation (ILO) of 1985, "each member which ratifies this convention undertakes that it will regularly collect, compile and publish basic labor statistics, [...]".

Basic labor statistics shall be expanded to cover the following subjects:

- economically active population, employment, unemployment;
- structure and distribution of the economically active population;
- earnings and hours of work;
- wage structure and distribution;
- labor cost;
- consumer prices;
- household income and expenditure;
- occupational injuries and occupational diseases;
- industrial disputes.

In 1997 this convention was ratified by the Republic of Korea as well, which collects labor statistics in the fields established by the convention.

Statistical surveys are, in general, classified as follows: First, one distinguishes between general statistics and those compiled and officially recommended by the government or the head of the statistics authority. All other statistics are regarded as general statistics.

Statistics are broken down by the way they are generated into investigative, reporting and processing statistics. In investigative statistics, data on units (individuals, households, enterprises, etc.) are collected by way of an inquiry. In reporting statistics, information on units is obtained by way of using archived data concerning applications, reports, permissions and authorisations from administrative agencies. Processing statistics use the data from investigative and reporting statistics as a basis for evaluation.

Applying that statistics classification to labor statistics, we will get the following table. Here, it is, above all, investigative statistics that play a major role as basic inputs for processing statistics.

Classification of statistics in relation with labor

	Survey/Inquiry	Reports	Processing operations
Mandatory statistics	Economically active population monthly labor statistics (Urban) household budget surveys		National accounts
General statistics	Manpower requirement trends labor cost of enterprises	Collective bargaining agreements employment insurance	Social indicator Korea labor productivity index

The object of investigation of this research paper shall be those Labor-related investigative statistics which are most frequently used by employers, employees, trade unions and political planners and which have comparatively good representative ness.

Either households or enterprises and establishments are interviewed depending on the population to be covered. Furthermore, either quantitative or price-related variables are collected depending on the variables to be examined.

Subdividing the labor statistics compiled by the main producers – KNSO and the Korean Ministry of Labor – we will get the following breakdown:

Most of the statistics compiled by the KNSO are household budget statistics, some of which are quantitatively oriented and Cost-oriented.

- To assess the provision of labor one collects data on the “Economically active population” and conducts a “Supplementary survey on the economically active population”.
- To record income and expenditure items of households and individual household members the surveys that can be mentioned as representative examples are the “(Urban) Household budget survey” and the “Household consumption expenditure” survey.

The surveys conducted by the Korean Ministry of Labor relate exclusively to enterprises and establishments:

- To define quantitative labor requirements they publish “Manpower requirement trends”, “Monthly labor statistics” and “Monthly special labor statistics”.
- To define the cost for enterprises and establishments in terms of wages and salaries and to identify working conditions they collect data such as “Labor cost of enterprises and establishments”, “Monthly labor statistics”, “Monthly special labor statistics”, “Basic statistics on the wage structure” and “Working conditions at small enterprises” and the like.

Classification of the most important investigative labor statistics

	Quantitative surveys	Cost-related surveys
Households	“Economically active population”	“(Urban) household budget survey” “Household consumption expenditure”
Enterprises and establishments	“Monthly labor statistics” “Manpower requirement trends”	“Monthly Labor statistics” “Labor cost of enterprises and establishments” “Basic statistics on the wage structure” “Working conditions at small enterprises”

The claim for better data usability:

- Efforts need to be taken to improve the utility of data materials. For if we take it for granted that effective utilisation is what users consider the ultimate goal of surveys, we must include in our considerations not only the survey itself, but also the use made of the data obtained.
- It is the usual practice of household budget surveys that the representatives selected by way of sampling are retained for five years and that several inquiries are conducted in comparatively short intervals of time. On that background it is possible to obtain a large amount of high-quality data with minimum extra cost.

The claim for including a question about the income in terms of a permanent variable saying that it would then be easier to record labor supply for households and individuals.

- After 1998 the fundamental statistical survey of the “economically active population” has ceased to examine the income.
- Although it is true that a question about the income is included in the “Supplementary survey of the economically active population”, that question is, as a rule, directed to wage and salary earners only.
- It must be stipulated by law that the “Supplementary survey of the economically active population” needs to be conducted at least once a year.
- Asking the question about incomes, a distinction should be made between income from labor and income from non-labor sources. That means that total population should not be restricted to wage and salary earners, but include all of the people capable of working.
- So far, stress has only been laid on region and sex, when examining the “economically active population”. However, other classifications such as by age group or education are equally important, not least with a view to time series analysis.
- In 2003, Korea’s NSO added the age class to the variables region and sex, which were distinguished between 1991 and 2002.
- Beyond the efforts, the KNSO has undertaken so far, it is desirable that more research work be done to specify a possible way of further differentiating the survey population by educational level.

The claim for region dependant employment statistics

- The enhancement of statistical techniques such as e.g. small area estimation would allow the compilation of regional statistics. A cost-effective and efficient system is to be elaborated.
- Regional statistics have gained in importance, in particular, on the background of efforts to ensure a homogeneous regional development.
- The infrequent “Supplementary survey of the economically active population” not only reflects current problem issues in a labor context, but also outlines the trends of future requirements, thus fulfilling user needs. From that point of view it is desirable that the survey be undertaken on a regular basis.

As far as cost-related household statistics are concerned, there is a need to improve not only the survey itself, but also its data usability.

- Considering that the “(Urban) household budget survey” was designed as a part of the “Economically active population” survey, we need to bring these two surveys together.
- It is taken for granted that in that case it will be possible to achieve a high quality of data without a lot of extra cost in terms of financial means.

Thus, it can be said as a conclusion that Korea's NSO must make the data available both in their thematic context and as panel studies so as to enable the users to use the data in a reasonable and profitable way.

Possibilities of reorganising household panel surveys

At present	Quantitative survey (individual person)	Cost-related survey	
		Individual	Household
Regular survey	Economically active population		(Urban) household budget survey, agricultural household budget survey, Household budget survey of fisheries
Special or supplementary survey	Supplementary survey of the economically active population		Household consumption expenditure

In future	Quantitative survey (individual person)	Cost-related survey	
		Individual	Household
Regular survey	Economically active population		Nation-wide household budget survey of all private households
Special or supplementary survey	Supplementary survey of the economically active population		Special survey in addition to the nation-wide household budget survey of all private households

- It is important to define household income from non-Labor as well and to present these results or at least part of them and to make them available to the public at large.
- It is true that the size of total population of the “Household consumption expenditure” survey is larger than that of the “(urban) household budget survey” – which can be explained by the fact that the latter one leaves farmers' and fishermen's households unconsidered – but the frequency of the household consumption survey being 4 – 5 years is low as compared to that of the urban household survey. As a consequence, timeliness of the data is rather bad.
- In order to show “Household consumption expenditure” data in their thematic context with what is here tentatively referred to as “Nation-wide household budget survey of all private households” it is necessary to collect additional data on household

assets or properties, i.e. capital investment, indebtedness, furniture or furnishings of apartments etc. This survey could then be referred to as "Nation-wide special household budget survey".

- The public at large should be informed of the action taken to deal with the relatively high non-response rate of the "(urban) household budget survey" and which techniques are available to counteract it, such as imputation. At the same time a good deal of thought should be given to what can be done to improve the public's assistance and cooperation. What should be considered as well is the type of sample survey administration and survey implementation.

Increase in representative ness by extending the survey population

- The Labor Ministry's survey of enterprise statistics does not include the public sector in the survey population. It includes but private enterprises and only those people who are regularly employed in them. Furthermore, in the overwhelming majority of cases the survey population includes establishments only if they have at least a staff of five employees.

Object of investigation of the Labor Ministry's surveys

	Private sector	Public sector
Regularly employed people	Field A "Monthly labor statistics" "Manpower requirement trends" "Basic statistics on the wage structure" "Working conditions at small enterprises" "Labor cost of enterprises and establishments"	Field C No survey so far (public servants)
Irregularly employed people	Field B "Labor statistics on irregularly employed people" (2002 pilot survey)	Field D No survey so far (employees other than public servants)

- Consequently, the public sector, establishments having fewer employees than a specified minimum and all employees who do not have a regular or properly worded employment contract are excluded from the survey. But this being so it is questionable whether the statements of Labor statistics on wage and salary earners are really representative.
- Taking into account that such restrictions are applied to survey population, the degree of representative ness of Labor Ministry's statistics in 2000 is seen to be 58.6 % or so.

For the future, it is envisaged that the survey shall gradually be extended to cover all sectors, all sizes of establishments and enterprises and all employment relations and that variables, which are actually redundant (e.g. wage cost and labor cost), shall be summed up in one category.

The exploration of contemporary labor and the administration of sampling representatives

- The Ministry of Labor processes and evaluates the KNSO "Basic survey of enterprises and establishments" once again to adapt it to its own labor administration standard. The resulting statistics are referred to as "Current state of working conditions at enterprises and establishments". The enterprises and establishments covered by the survey form the population which is used as the sampling frame for choosing representative enterprises and wage earners, whose specific characteristics and features need to be defined in another survey by assigning them a particular weight.
- In view of the long time that elapses until implementation of the survey one has difficulty ensuring the administration of the representatives chosen, on the one hand, and finding suitable weights for the identification of their characteristics, on the other hand.
- As a consequence for the future, it is envisaged that in addition to the data from the "Basic survey of enterprises and establishments" data from databases will also be used for sampling purposes, such as employment insurance, pensions to public servants, pensions to teachers of private schools and similarly reliable and recent data. Another possibility would be to explore options of how to replace representatives that dropped out from the sample.

The "Monthly labor statistics" survey as the most representative quantitative survey should be conducted so as to provide more recent and more coherent data in the form of a time series. In addition to that it is absolutely necessary to clarify the extent to which it will be possible to replace "Special monthly labor statistics" by other data or – alternatively – to which it will be possible to pool these statistics with "Manpower requirement trends".

- The study has shown that if additional register data were used for "Monthly labor statistics" a satisfactory result could be achieved. This postulates of course that the employment insurance database with its monthly enterprise data is kept up-to-date and well maintained. This database can be used to derive conclusions about the total amount of employment and wages, because it also contains unemployment insurance contributions data. That means that such action would make another additional survey dispensable.
- The analysis has also shown that by additionally relying on data from "Basic statistics on the wage structure" and data on "Working conditions at small enterprises" we could achieve a goal that would be almost identical with that we seek to achieve in the context of "Special monthly labor statistics".

We must reduce the unnecessary double expenses incurred in the field of cost-related enterprise statistics by the fact that we represent all of the employed people at one time and the individual person at another time.

- The presently conducted surveys such as "Basic statistics on the wage structure", "Labor cost of enterprises and establishments" and "Working conditions at small enterprises" etc. have so far been meant for salary earners in the private sector only.

- For the future, it should be envisaged that those areas which so far have not yet been recorded statistically (e.g. persons irregularly employed in the private sector, the entire public sector) will be covered by means of individual surveys (e.g. "Labor statistics on people employed irregularly", "Labor statistics on people employed in the public sector"). After a phase of thorough examination, efforts should be taken to establish a survey, which necessarily considers all wage and salary earners from all sectors and with all kinds of Labor contracts and which is here tentatively referred to as "Nation-wide statistical survey on the wage structure".
- Those "Nation-wide statistics on the wage structure" could replace, above all, the data presently obtained from the "Labor cost of enterprises and establishments" survey and the data on an individual's wages and working conditions would be comparable with enterprise data. This would reduce the cost of the survey and increase its utility.

Possibilities of reorganising enterprise statistics in the field of study

At present	Quantitative survey (enterprises)	Cost-related survey	
		Enterprises	Individuals
General regular survey	"Monthly labor statistics"		"Basic statistics on the wage structure"
Special or supplementary survey			"Working conditions at small enterprises"
	"Special monthly labor statistics" "Manpower requirement trend"	"Labor cost of enterprises and establishments"	"Labor statistics on persons employed irregularly" "Labor statistics on persons employed in the public sector"

In future	Quantitative survey (enterprises)	Cost-related survey	
		Enterprises	Individuals
General regular survey	"Monthly labor statistics"		"Nation-wide statistics on the wage structure"
Special or supplemen- tary survey	"Working conditions at enterprises and establishments"		

Apart from surveys such as employment and wage statistics, there are other very good full-coverage surveys in the field of study. Below some proposals for improvement shall be made.

The salary earners insurance database cannot only serve as a basis of the Korean Labor Ministry's enterprise statistics surveys, but also as a basis that ensures good representativeness and timeliness in the production of statistics related to employment and

wages. This possibility should be exhausted. We must actively seek a way enabling us to make the very reliable labor statistics obtained by full-coverage surveys (e.g. four statistical surveys on social insurance) as well as the databases on old-age pensions of public servants, of private school teachers and of the national tax authority more easily available also to researchers for scientific work.

The responsible labor ministry division should attempt to present statistics which indicate a direction, making it possible to adopt Labor policies and make assessments in the labor field. Effectiveness of production, administration and utilisation must be ensured, in particular, with regard to those full-coverage surveys which are conducted in irregular intervals in fields such as human resources administration and relations between employers, employees and trade unions (for example, trade unions, collective bargaining, work-related impairments, etc.).

Summary

The international monetary crisis and the rapid change of the Labor market have shown very clearly that we need high-quality labor statistics. But, unfortunately, we are faced with a situation in which political environment (in terms of budget and human resources) as required for the sake of accuracy and timeliness is not sufficiently available.

Improvements in future labor statistics are aimed at extending the survey population, while forming pools of redundant variables in the statistical surveys, making the statistical system more flexible by splitting it up into regular surveys and special or supplementary surveys (dual system), while simultaneously ensuring representativeness and timeliness, strengthening the collection of regional statistics, as required.

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Response burden of enterprises caused by official statistics

Commissioned by the Federal Ministry of Economics and Labor, the DIW Berlin is conducting a study with the aim to measure the response burden on German business and industry caused by official statistics. The response burden study is carried out in co-operation with the Federal Statistical Office and the statistical land offices.

The study was initiated because the information available about the burden caused by bureaucracy does not provide a reliable answer regarding the proportion of the burden imposed by official statistical surveys. To this end, a concept was developed which includes the following three components:

- *analysis of the business register of the statistical offices,*
- *response burden survey carried out by the statistical offices,*
- *supplementary response burden survey by DIW Berlin to cover selected enterprises.*

An analysis of the business register of official statistics will provide information about individual participation, i.e. the number of enterprises and local units affected by the compilation of various types of official statistics. However, that number does not say anything about the actual extent of the statistical burden since the business register does not include any information, for instance, about the questionnaire design, the complexity of the questions to be answered and the preliminary work to be undertaken by the respondents. As, consequently, the use of the business register is not sufficient to measure the burden on business and industry caused by official statistical surveys, other ways of quantifying that burden have to be found.

A first step in this context was the response burden survey carried out by the statistical offices. It was based on a special questionnaire which was added to each of the questionnaires of the 74 official statistical surveys conducted in Germany in 2004. The questionnaire used was the same in all the surveys. Its structure was simple, comprising three quantitative and two qualitative questions. The official response burden survey, participation in which was voluntary, yielded information on the following items:

- *amount and distribution of the average time required for responding to the questions of each of the 74 statistical surveys,*
- *accounting systems of the enterprises covered,*
- *the complexity of the individual surveys of official statistics,*
- *difficulties encountered in completing the questionnaires of the different surveys,*
- *proposals for improving official surveys.*

A second opportunity is to carry out a supplementary response burden survey among those enterprises which, in the context of the above survey by the statistical offices, expressed their willingness to participate in another similar survey to be carried out by

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DIW Berlin. The survey is based on 11 questions designed, in particular, to provide additional information on the following items:

- statistical infrastructure within the enterprises,
- burden caused by non-official statistical surveys,
- burden caused by other services to be provided to public authorities,
- proportion of the burden caused by official statistics relative to the total bureaucracy burden,
- benefits obtained from official statistics.

The broad response burden study is to identify the causes of that burden by determining the actual load of official statistical surveys rather than the burden felt by enterprises with the aim to find approaches to reducing the burden on business and industry.

1 Background of the response burden study

In the context of discussions on the reduction of bureaucracy official statistics have to work out an objective picture about the concrete burdens imposed by statistical surveys. The following may be learned from the shortcomings of previous studies in this field:

- The available bureaucracy studies are intended to cover the entire range of administrative burdens. They are not focussed on response burden caused by official statistics.
- Many response burden studies are carried out retrospectively with the consequence of bad memory of the respondents.
- Some of the statistical response burden surveys represent insufficient samples with the consequence of results varying up to 500 %.
- Non-official statistical surveys (e.g. of private market and opinion research institutes, banks or business associations) are often wrongly identified as official statistics.
- There may exist a bias in individual judgement on response burden due to aversions in completing questionnaires.

The consequence of these shortcomings: We have to look for better information on response burden caused by official statistics.

2 Aim of the response burden study

The aim of the envisaged response burden study is to measure objectively the response burden of enterprises caused by every single official statistical survey performed in the year 2004. By identifying causes for the volume of response burden it will be possible to develop proposals for reducing the burden of enterprises and finally to present ideas for improving official statistical surveys.

Another aim of the study is the comparison of the response burden caused by official statistical surveys with the response burden induced by non-official statistics and by other services provided for the government. Additionally, the benefits from official statistics will also be taken into account when evaluating the response burden of enterprises.

3 Concept of a study on response burden of enterprises caused by official statistics

The concept of the response burden study consists of three components:

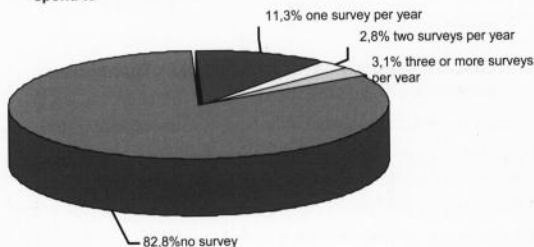
- The use of business registers of the statistical offices.
- A response burden survey carried out by the statistical offices.
- A supplementary DIW response burden survey among selected enterprises.

From the statistical business registers in Germany information can be gained about the basic population, i.e. the number of enterprises and local units affected by official statistics, and about the individual participation, i.e. the sample size of enterprises and local units concerned in the various kinds of official statistical surveys.

Register analyses show the response frequency, i.e. the number of enterprises and local units which in Germany are questioned by one, two, three or more official statistical surveys (see figure 1). But we also know that

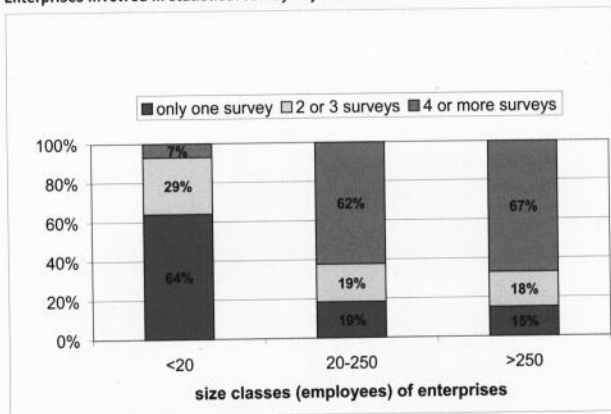
- specific industries are affected more than others.
- The bigger the statistical unit affected by official statistics the greater the response burden (see figure 2).
- The number of official statistics and the response frequency are unevenly distributed.

Figure 1
Response frequency of enterprises and local units for official statistical surveys
... percent of enterprises and local units re-
spond to



Source: Federal Statistical Office of Germany, 2005

Figure 2
Enterprises involved in statistical surveys by size class



Source: Federal Statistical Office of Germany, 2005

A register analysis provides valuable information on statistical burdens. However, the number of official statistics in which an enterprise or local unit is involved provides no information about the volume of response burden. There is no register information about the frame of questionnaires, the difficulties of questions to be answered and the special preparatory work to be done by the respondents.

It follows that the use of official statistical business registers is helpful but not sufficient to measure the statistical burden of enterprises and local units. We have to look for additional approaches to gain reliable information on the response burden caused by official statistics.

The survey approach consists of the following elements:

- For every of the 74 official statistical surveys performed in Germany in the year 2004 the response burden was measured empirically.
- The response burden enquiry was carried out in direct connection with the actual official statistical survey by adding a special burden questionnaire.
- The same questionnaire on burden was used for all 74 official statistical surveys.
- Participation in the burden enquiry was voluntary.
- The enterprises of the burden enquiry were selected by a stratified sample.
- The questionnaire structure is very simple, comprising three quantitative questions and two qualitative questions.
- Additionally, the respondents were asked for the willingness to answer further questions of the research institute DIW Berlin.

The three quantitative questions in the burden questionnaire are:

- What kind of staff was involved in filling in the questionnaire of the official statistical survey? (There are three possible answer categories: management; specialised staff; external persons)
- How much time was spent by the individual staff in filling in the questionnaire?
- Where does the necessary data to fill in the official statistical questionnaire come from and to what percentage have different sources been used: the accounting system with unprocessed or processed data; other sources with unprocessed or processed data?

The answers to these three questions give us information on the amount and variance of the average responding time for each of the 74 official statistical surveys.

The answers also offer information on the accounting systems of enterprises and can be seen as an indicator for the complexity of the individual statistical surveys.

The two qualitative questions in the burden questionnaire are:

- What difficulties occurred when filling in the questionnaire of the official statistical survey?
- Do you have proposals for improving the official statistical survey or for reducing the response burden?

The verbal reaction of the enterprises to these questions shall help to identify the specific difficulties of every official statistical survey and to gain ideas on how to improve official statistical surveys from the viewpoint of the respondents. But in spite of all this new information on the statistical response burden of enterprises, an in-depth analysis will become necessary to go beyond the causes of the collected results.

The in-depth analysis will be realised through a supplementary response burden survey of the German Institute for Economic Research (DIW), an independent economic research institute in Berlin. The survey is based on a sub-sample of the official response burden survey referring to those enterprises which have expressed their willingness to answer further questions of the DIW. It consists of a paper enquiry and complementary interviews.

The questionnaire of the supplementary response burden survey gathers information on the statistical infrastructure within the enterprises, e.g. is the response to surveys organised in a centralised or decentralised way.

The burden caused by non-official statistics and by other services provided for the government, thus, the relative statistical burden was the focus of the supplementary DIW survey. The question raised is: What part of bureaucracy burden of enterprises can be attributed to official statistical surveys?

Benefits of enterprises from official statistics:

- What statistical sources are used and how often are they used?
- What kinds of statistical information are relevant for the enterprises' decisions?
- For which purposes are the statistical information used?

4 Results of the response burden study

The study on response burden of enterprises presents a new approach to collect information about the response burden of economic units in Germany. By the measurement of the average time and its dispersion for answering the questionnaires of 74 official statistical surveys the burdening role of official statistics can be verified. A breakdown of the results by branches and by size classes can also help identifying the different statistical load of enterprises and local units.

The burden study will be accompanied by a project advisory committee consisting of representatives of the Federal Ministry of Economics and Labor commissioning the project, the statistical offices, the DIW Berlin, and two head business associations. First results of the response burden study will be available at the beginning of the year 2006.

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Methods of reducing the burden on respondents: The “e-census” in the Republic of Korea

I Introduction

Population and housing censuses are a major source of demographic and socio-economic statistics in Korea. They are also a unique source of geographically detailed data. The demand for this kind of information has increased rapidly in recent years, and this is why census is still conducted in Korea. The population census in Korea dates as far back as the Samhan Era over two thousand years ago, however, the 1925 census is generally acknowledged as the first population census in Korea from the viewpoint of its coverage and objectives. Sixteen rounds of censuses have been carried out at 5 year intervals since 1925 in order to obtain reliable data about the structure and the trend of the population, household and housing.

II e-census plan

In recent years, a sudden increase of one-person households or dual-income families with busy lifestyles makes it difficult to contact an eligible respondent. Furthermore, because of the aged households and a rising tendency for the protection of privacy; a census circumstance is becoming more difficult than ever. To overcome these hard-to-enumerate circumstances, and the ever-increasing costs, and pressures to reduce respondent burden, the KNSO has a strong incentive to seek new solutions in census data collection and provide more effective methods of data processing. The KNSO has decided to introduce a utilization of administrative register data, shortening of census items, imputation system for the nonresponse, home page system. Also, after numerous debates the KNSO is moving forward with plans for the e-census inclusive of internet survey, web-based data entry system, cyber-education system and an on-line field management system such as enumerator recruitment through the advanced IT infra during the 2005 census.

III Internet survey

In the early days of census, and almost up until the last census, there was only one possible way to collect the necessary information on persons from the households, and that was with the help of written questionnaires and census takers. The traditional written method will remain for the majority of households, but under the slogan “e-census”, the KNSO has developed an internet survey system for the 2005 census which will enable a small proportion of the population (about 2 %) to submit their census questionnaires electronically, via the internet, instead of using the conventional written method.

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The operational processing of the internet survey has several steps which the respondent must follow: First, respondent who wants to complete the census questionnaires through the internet must make an application in advance with name and resident registration number. Second, the KNSO certifies his/her real name with a Resident Registration Number through a Credit Assessment Authority. Third, the applicant has to input other necessary information such as ID, password, telephone no, e-mail, address, and etc. Fourth, the KNSO confirms an applicant's dwelling place in the address DB and notifies him whether it is true or not by SMS(Short Message Service) function which allows text messages to be sent and received to and from mobile phones. Last, Applicants access the internet system by using his/her ID and password through the internet network and complete the census questionnaires.

Advantages:

- The faster availability of data through the simplification of data entry and editing.
- Better data quality thanks to online checks for completeness, and validity, and to the flash up warnings and correction prompts provided by the program.
- More user-friendly than the paper questionnaire.
- Interactive user guidance and automatic filtering of irrelevant survey items.

Challenges or Problems:

- Rectifying errors such as duplications and/or omissions of the members within one household.
- Data security.
- Calculating the capacity of the server and the network itself and implementing the system of minimum 10,000 users accessing simultaneously.
- Strategic plan for various obstacles such as the session interruption, hacking and etc.

IV Planning Model for the 2005 census

With the need to cope with new challenges and problems mentioned above and the priority to find a cost effective system for both the internet survey and the Web-Based Field Input method, ISP(Information Strategic Plan) on the integrated data processing system was made at the end of last year. According to the results of the ISP, the planning system is basically implemented into the HA(High Availability) system with a dual system to guarantee the non-interruption over the enumeration and input period even if any disaster may occur. The Integrated Data Processing system for the 2005 census is made of a 3-tier structure of Web-WAS-DB. The Web-server is composed of a multi-node to scatter the risk from multi-user's concurrent burden and to the load balancing of a sudden increasing burden. The KNSO considered the effective use of existing IT infrastructure by the provinces and the SSL (Security Socket Layer) encryption technique to eliminate risk on the internet network and to protect the sniffing of information.

1 Census 2005: Population and housing

Since 1925 and 1960, respectively, population censuses and housing censuses have been conducted in the Republic of Korea at five-year intervals. Consequently, the year 2005 will see the 17th Population Census and the 9th Housing Census. The Census reference period will stretch over 15 days, namely November 1st to November 15th. The data requested will be collected either by interviewers, by mail or via the internet. On the whole, data will be collected for a total of 44 variables, with the questions put to 10 % of the households concerning not more than 23 variables.

As soon as the field surveys are completed, the questionnaires will be arranged and organised over a period of seven days and the data be entered in the web-based data processing system from November 23rd to December 20th. At the same time, checks will be made of the questionnaire content. Preliminary results are expected to be released at the end of the year while the results of the final analyses are intended to be published in a breakdown by five areas between May and December 2006. Hence the results of this census will come out three to seven months earlier than it was the case with the 2000 census.

2 Planning the “e-census”

Nowadays, many households are dual career households, where both spouses work. And the number of single households has increased rapidly, too. As a result, the share of households is increasing where, during the day, it is difficult to contact and interview respondents. Furthermore, respect for privacy has continuously gained in importance so that the survey circumstances are getting more difficult. On the other hand, however, both the increasing degree of computerization and the availability of communications technologies have had a very positive effect on data collection and processing. In particular the digitalization of administrative data is of great help for the census.

- Single adults: (2000) 15.5 % → (2005) 17.0 %.
- PCs in households: (Dec. 2003) 15,170,000 pieces.
- Number of persons who use the internet for more than one hour per week: 29,750,000.
- Number of internet users who have high-speed access: (Aug. 2004) 12,070,000.

To comply with the above social and statistical requirements and reduce the burden on respondents, we will make use of administrative data, reduce the number of variables, draft a user-friendly questionnaire, apply methods of imputation for non-response, expand our homepage and provide free telephone services in the context of the 2005 Census.

Though the use of administrative data would lead to a considerable reduction in both the response burden and the survey costs, it should be taken into account that these data are not based on uniform definitions and classifications. Furthermore, stricter data protection provisions prevent the data from being directly included in the census. For these reasons, we have planned for the 2005 Census to provide only such register-

based data via the internet which respondents usually do not know exactly, for instance, housing data such as floor space, the year of house construction and the like.

We have reduced the number of questions from 50 in 2000 to 44 in 2005. This reduction has been achieved by excluding obsolete items. However, we have also responded promptly to urgent political requirements by including new items relating to matters such as low birth rates, the ageing of society, and housing quality. In this way, we have succeeded in reducing the response burden and increasing relevance while at the same time cutting costs. Other reductions have been achieved by deleting items which are subject to less variation like, for instance, the "Energy consumption of households (cooking)" in the years ending in "5" (the situation is however different as regards years ending in "0").

As the share of older people is continuously increasing in our society, we have decided to enhance visual perceptibility by specifying a font size of 10 points (2005) instead of 8 points (2000) and using a two-colour layout (one-colour layout in 2000) for the questionnaire. And we have changed over to the DIN A4 format as we believe its use is more convenient and simpler. What is even more important is the fact that we have included examples for answering each of the questions to make it easier for respondents to fill in the questionnaire.

To avoid errors in the survey, we have decided to apply an imputation method in cases where no or only incorrect data will be available for analyses and, additionally, also in cases where questionnaires will not at all be completed due to absence or non-response of all household members.

We will expand our homepage in 2005 to provide all information relating to the census on the internet. And respondents will be given the opportunity to directly answer the relevant questions in electronic form. The electronic questionnaire encompasses a help function to assist the respondents by instructing them on how to correctly enter information and supplying them with basic parameters of their dwelling.

We had a free service hotline during the 2000 Census, too, which was operated without interruption to answer in an precise manner the questions our citizens had about the survey. This time, however, we intend to make use of the services offered by a private company which can provide both the technical equipment and expert advisers required. Setting up that call centre, we hope to further upgrade our services.

Other efforts on our part are aimed at advancing and strengthening the "e-census" to make full use of the opportunities offered by the IT structure of our country. These efforts are however not limited to collecting and checking the data, but also focus on areas such as the web-based exchange of data, data editing, the administration of computer-based tutorials and objects, personnel, education and training, the actual survey and subsequent checking procedures, and a system of prompt notification and contact via SMS and e-mail.

As a precautionary measure to counteract "known non-response" by specific groups of the population, we will offer a number of additional response options as an alternative to the conventional interviews in order to reduce the burden on respondents. In the following, I would like to discuss the details of online surveys as an alternative option.

3 Introducing internet surveys

The 2005 Census will for the first time provide respondents with the opportunity to answer the survey questions via the internet. We have decided to introduce this method for several reasons which can be identified as follows: the increasing difficulties interviewers face in contacting single households or households of employees; the rising number of households having a personal computer and internet access; the good infrastructural conditions for an online survey; the growing demand of the younger age groups for using the internet for surveys.

The internet survey is first of all aimed at younger people whose place of residence is mainly situated near a university or in an urban agglomeration area where you can find many single room apartments. Households which, between October 29th and November 7th, express the wish to be interviewed via the internet will be covered between November 1st and 10th, i.e. within a period of ten days (conventional paper-based interviews will take place between November 1st and 15th). We expect that approximately 320,000 households, that is 2 % of all units, will participate in the internet survey. To ensure a high degree of quality and keep administrative work within reasonable limits, we intend to be very careful in selecting households as respondents, putting emphasis on the representativeness of the households in the relevant population groups rather than the participation of huge numbers.

To make it clear again, the objective of introducing an online survey is above all the reduction of non-response among certain groups of the population or households.

The online survey will be carried out in several phases which can be roughly categorised as follows:

- application phase,
- entry phase (input phase),
- administration phase.

The application phase encompasses the authentication procedure (verification of identity) and the entry of the applicant's basic data.

A household wishing to be included in the internet survey must first enter the relevant name and resident register number via the 2005 population and housing census homepage. The application for being included in the online survey is to be submitted by one household member only. Provided the application is accepted, the population and housing data will then be enquired for all members of the household.

The KNSO will have the identity (name and resident register number) of each applicant certified by a credit assessment authority. Upon authentication, the applicants list is checked for potential double entries of a given applicant. If this is not the case, the computer screen will show the applicant a general introduction page which explains the terms and definitions. The applicant will be informed about the persons of his/her household to be or not to be included in the survey so that none of them will be left out or counted twice. Subsequently, the screen will change over to the page where the respondent can enter the relevant data.

The applicant has to create a user ID and a password, and to input his address, telephone number, e-mail address and the number of persons living in his/her household. This will be the end of the application procedure. The user ID will be checked immediately upon its creation in order to prevent double use. User ID and password will later be needed to log in for questionnaire completion. As the content of the questions differs to a certain degree for areas with (mostly large) dwellings in multi-storey buildings, areas with (mostly smaller) dwellings in multi-family houses and other areas, different screen pages will be opened depending on the address entered in order to facilitate responding and minimise potential sources of error. If the dwelling is situated in a district of multi-storey buildings or multi-family houses, links to an address database will allow the respondent to easily choose from a variety of building designations provided for the given area. Besides, the address entered by the applicant and the household member's name will be used to find out whether the household concerned has previously submitted another application.

We will use the address indicated by the applicant to identify, with the help of the underlying address database, the code assigned to the given district for the purposes of the survey. This code will then be used to automatically identify, based on the district index database, the area as an area of complete or incomplete census. Households which can be promptly assigned to one of the above census categories will be given the opportunity to enter their data immediately upon their application. In all other cases where the type of census cannot be identified automatically (because of, for instance, an unclear address or assignment failure due to incompleteness of our database), assignments will have to be made manually. It is only after the type of census has been determined that the households concerned can enter their answers in the questionnaire. We will send an SMS or an e-mail to the households, informing them about the time of possible data entry.

Upon logging in on our homepage by entering user ID and password, the respondent can enter his/her answers in either the complete census or the incomplete census questionnaire and subsequently send it to us.

Applicant households which are automatically assigned to one of the two types of survey depending on their place of residence will not be requested to log in again. Before the actual questionnaire will appear on the screen, however, information is provided on confidentiality and data protection rules, the time needed for completing the questionnaire, the content of the questions and the way of answering them, and also the service hotline for questions.

The design of the entry mask to be used for the internet survey differs from the printed questionnaire. The entry mask rather takes into account the specific features of the internet. The code numbers of the administrative district, the district in town, the residential building and also the household are pre-entered based on the links to the relevant database and hence are not intended for free keyboard entry. Furthermore, the database will be used in the most efficient way by providing multiple choice answers regarding such variables as administrative district, nationality, religious affiliation, etc.

In addition, we will provide help and an example for answering each of the questions. Taking into account certain techniques and methods like, for instance, quiesce and filtering functions, we have ensured the integration of efficient and effective completion procedures right from the beginning of designing the homepage.

The information on households responding via the internet is administered by including them, together with the relevant residential building and household numbers, in a register of names. Hence the data are stored in the same manner as the information on households responding in the traditional way. Besides, the system allows to inquire during the field survey (small towns, municipalities, villages) the current state of applications for participation in the internet survey and the state of online response. As soon as a household has provided all data on the internet and hence the enquiry is completed, the household and the residential building will be assigned a code number. Households which, despite their application for internet participation, do not transmit any data via the internet, will be contacted in the traditional way by an interviewer. They will be required to fill in the questionnaire in writing. To counteract the potential danger of double counting or omitting a household in the internet survey, we will carry out additional checks during the subsequent stage of arranging and organising the material. A final check will be made at the time the information provided in the conventional printed questionnaires is entered in the data processing system.

For next year we have planned to select about 200 households from the total which participated in the online survey to gather supplementary statistical information. We intend to carry out comparative analyses of the data provided in printed questionnaires and those entered in electronic survey forms, in particular, to find out distinctive features and to answer the question about the further development of online surveys.

The advantage of the online survey is a simplification of data entry and editing which, in addition, will take considerably less time. Furthermore, the data will be available sooner for processing. In the 2005 census, a first plausibility check will be made immediately during the stages of data entry and storage. A more thorough check will be carried out after the data of the printed questionnaires have been put in and matched with the data provided in the online survey forms. Double counts and non-response will be checked in the context of that thorough examination, too.

Another advantage of electronic questionnaires is that checks for completeness and correctness can be carried out online. A help function will be available to promptly correct data, which will have a positive effect on data quality. Unlike with printed questionnaires, information and assistance can be provided to respondents in a way similar to a dialogue situation. This is useful from the perspective of user-friendliness, too. Another plus is the filtering function to filter irrelevant survey items.

The internet survey definitely has advantages; however, it also poses challenges and problems.

Errors caused by double counting or omitting household members will have to be rectified. To meet this challenge, the Republic of Korea has developed an approach which is characterised by subjecting the data to checking procedures several times from the application phase through to data evaluation. In addition, during the time the data of the

printed questionnaires are entered into the system, one and the same statisticians will be responsible for administering the register of names to make sure that double counts or omissions of persons will be realised as soon as possible.

Data protection and confidentiality have to be taken care of. To this end, it has to be ensured that the user IDs and passwords will differ between the households. To participate in the internet survey, the respondents require access to the system. Upon their access, however, a module to encrypt the data will be installed automatically. Besides, our system is protected against unauthorised external access by a double firewall.

The capacity of the server and the network must allow simultaneous access of more than 10,000 users. It is however difficult to calculate in advance the number of households that will participate in the internet survey. Consequently, it is also difficult to determine the required server and network capacity. Our yardstick has therefore been the server and network capacity we will require for the 12,000 accesses on our part to enter data into the web-based questionnaires and carry out the relevant data checks. By the way, access will vary depending on the phases of work. The phase of co-ordinating and administering the online survey and of cyber training will take place between September and October, while the internet enquiries will be carried out in November and the data be entered into the system and subsequently be checked in December.

Strategic plans will have to be drafted for the above period to avoid risks such as system interruptions and crashes, and hacker attacks. The whole system, including the computer, network and server, must be provided with adequate protection. We have equipped ourselves with a precautionary system to tackle potential problems that might appear during the e-census period.

4 The system structure planned for the 2005 census

With the need to cope with the relevant challenges and problems and keeping in mind the goal of putting into practice a cost-saving and extremely efficient online procedure for data entry and field input, we drafted an information strategy plan (ISP) at the end of last year. In accordance with the results stated in the ISP, the planned integrated data processing system will not be adversely affected by any kind of problems during the data collection and input phases thanks to its dual system (implementation into a high availability system).

The e-census system has a three-tier structure of Web-WAS-DB. The web server will be equipped with a multi-node to prevent the danger of capacity overload in cases of simultaneous access of large numbers of users.

Because of their efficiency, the KNSO uses the existing IT infrastructure and network of the provincial administrative authorities. It has eliminated the risks posed by the internet by, for instance, incorporating SSL encryption as part of the protective measures taken.

The development of quality indicators in the statistical field

- *The first chapter introduces the overall concept of data quality management (quality reports, quality indicators, self-assessment). In this context, the following components are outlined briefly:*
- *Setting up a database with information about the data quality of individual sets of statistics: To conduct analyses of data quality (in particular, in the context of in-house controlling arrangements and data quality management), a database is to be set up which will contain substantial information about the data quality of the statistics contained in EVAS, the Integrated List of All Statistics Compiled by the Federal Statistical Office and the Statistical Offices of the Länder (Federal States).*
- *Preparing a checklist for survey managers: A German version of the self-assessment checklist for survey managers (DESAP), the development of which was commissioned by Eurostat and carried out under the direction of the Federal Statistical Office, should be made accessible to all specialised departments. The checklist has been designed as a tool for assessing any primary or secondary statistics, however, it is not suited for accounting systems.*

Internal monitoring based on quality indicators: To facilitate the determination of selected quantitative quality indicators, a list of such indicators has been developed which can be used, among other things, for external reporting and in the context of in-house controlling arrangements.

The following indicators are intended to be used for such monitoring. The figures in brackets evaluate the importance of a given indicator based on Eurostat's relevant classification:

- (1) to be fully included in the quality report;*
- (2) to be included in the quality report as a selection;*
- (3) for internal information only, not to be included in the quality report.*

User satisfaction data can be obtained, on principle, by user satisfaction surveys. Since such surveys are presently planned for individual cases only, they cannot be used to derive a standard indicator.

A calculation of sampling errors (random errors) should be made (as far as possible) in respect of all variables and the size of non-sampling errors should be estimated. The respective technical experts select the so-called "core variables", for which the following indicators are to be shown:

- *absolute standard error (2),*
- *relative standard error (2).*

To estimate the non-sampling errors, the following data should be ascertained for selected variables ("core variables"):

*) Dr. Manfred Ehling, Federal Statistical Office of Germany, Wiesbaden.

- response rate with regard to the survey as a whole in % (1);
- non-response rates regarding the variables selected (2);
- imputation rate regarding the variables selected (3).

Overcoverage and undercoverage and other systematic errors are not quantified. What the above mentioned data items reveal is anyway but a rough guide for assessing the systematic error (bias). As a rule, the bias itself and, consequently, the overall mean square error cannot be specified exactly so that it is not possible to calculate the quantitative measure needed for that purpose.

For the evaluation of provisional results, the following calculations should be made in respect of selected variables as mean values over the last 24 months or eight quarters:

- proportion covered of the units and values of variables, if necessary, broken down by class that contributed to the provisional result (3);
- arithmetic mean of the revisions observed during the past with and without consideration of the algebraic sign (1);
- median of the revisions observed during the past with and without consideration of the algebraic sign (3).

What can be quantified in this context is the time gap between the period of reference and the time when first results become available (timeliness) as well as occurrence of possible delays in releasing important standard publications (punctuality):

- number of days between the date of reference or the last day of a reference period and the planned date of releasing a federal result (possibly also Federal States' results) (1);
- number of days between the date of reference or the last day of a reference period and the actual date of releasing a federal result (possibly also Federal States' results) (1);
- number of days between the planned and the actual date of releasing a federal result (possibly also Federal States' results) (3).

Annual averages should be provided for monthly and quarterly data releases. A qualitative description should be given of the measures envisaged to improve timeliness and punctuality.

Availability can be quantitatively measured by the number of accesses to data, above all, by using the following data items:

- number of accesses to the respective areas of the Genesis-Online database in a given last year (3);
- number of releases as a printed or downloaded product (3);
- lowest regional level of release (1);
- availability of a quality report (3).

Data such as reference address, terms of contract, contact information as well as supplementary details on the data (methods, concepts, restrictions of accuracy owing to a high sampling error or bias, release media, and more detailed publications on the subject) should be stated on a qualitative basis.

Regional distinctions (e.g. between Federal States) in definitions, classifications or because of different structures should be described in qualitative terms. The effects on the results should be quantified as far as possible, though standardised indicators cannot be specified for that purpose.

The indicator to be stored in this context is the length, in years, of a time series with comparable data (1).

Discontinuities in time series, e.g. because of changes in classifications, are to be described in qualitative terms. It is necessary, in particular, to also indicate the reasons for a revision. The effects on the results should be quantified as far as possible, though standardised indicators cannot be specified for that purpose.

The description to be given should cover both the discrepancies between different classifications, e.g. between nationally and internationally accepted classifications, and discrepancies caused by different definitions of population (regarding both a universe's spatial and temporal dimension), statistical units, variables or statistical measures. Because of the large variety of possible cases the description should have a verbal form. Standardised indicators cannot be specified.

The resulting deviations in the values should be substantiated, e.g. in terms of differences in data sources, universes, survey methodologies, methods of measuring, and survey and/or processing errors, provisional versus final results, incompatible assignment to classification items, etc. In the quality report, they should be described separately, if that is deemed necessary.

1 Introduction

It goes without saying that quality has always been a major concern of statistics, even though the concept of quality has changed over the time. Today, statistical products must be reliable and accurate and be based on the concepts of relevance and user satisfaction. They must provide current data on a timely basis and information which is clear and easily accessible; they must be coherent and suitable for comparisons. But quality – as we are well aware not least from statistical work – is a phenomenon which it is difficult to measure.

Official statistics play a central part in every society, as they provide objective and impartial information, serving as a basis for taking decisions and discussing problems. To cope with this task, official statistics need to be compiled and disseminated in line with common standards, making sure that the principles of impartiality, reliability, objectivity, scientific independence, cost effectiveness, and statistical confidentiality are adhered to. The major principles governing the production of European Statistics were laid down in a Code of Practice that was accepted by all parties of the European Statistical

System in 2005. These principles are monitored by indicators and peer reviews. The functioning of the Code will be described in the second chapter of this essay. The Code of Practice with its principles and indicators is reproduced in the annex.

Apart from monitoring the system as a whole, a description of data quality is given in special reports providing information to the public at large and the professional world. In the discussion of these presentations, which were often very extensive, it was suggested that it would be desirable to have just a few items of preferably quantitative information for the purpose of documenting data quality. Responding to that request, Eurostat established a Task Force that had the goal of defining indicators that would make it possible to represent the quality of statistical data in an aggregated form and to monitor the evolution of quality in the course of time. In doing so, the Task Force was supposed to rely on the experience that Eurostat and the Member States had already collected and to submit proposals on how these indicators could be made operational. The Task Force elaborated a first proposal on quality indicators. The planned transfer of these proposals into German official statistics is the subject of chapter three.

The last chapter of this contribution introduces a checklist for the assessment of data quality. This self-assessment checklist for survey managers (DESAP) is applicable to all primary and secondary statistics, but not to national accounts. DESAP is a general checklist to be used for systematically assessing the quality of surveys in the European Statistical System (ESS). This list has been developed, first of all, to support survey managers in assessing the quality of their statistics and in taking appropriate action for improvement. It fully corresponds with the ESS quality criteria and includes all of the major aspects that are of importance to the quality of statistics.

2 European Statistics Code of Practice

In spring 2005, the Statistical Programme Committee (SPC) adopted a Code of Practice for the European Statistical System (ESS). The Commission publicised it in May 2005 as a recommendation in the context of a "Communication on the independence, integrity and accountability of the national and Community statistical authorities" (cf. annex 1). A Task Force, interacting with a so-called network of quality managers at the 25 Statistical Offices of the EU, was established to implement the Code in the Member States and at Eurostat.

This Code of Practice has the dual purpose of, on the one hand, improving trust and confidence in statistical authorities by proposing certain institutional and organisational arrangements and, on the other hand, reinforcing the quality of the statistics they produce and disseminate, by promoting the coherent application of best international statistical principles, methods and practices by all European producers of official statistics in Europe.

The first steps in the implementation of the Code of Practice in the ESS are self-assessments by the Statistical Offices of the Member States and Eurostat. At present, the Task Force is developing a common questionnaire for that purpose, which will include specified or open replies for the 15 principles and 75 indicators of the Code. As a second step, it is envisaged to have peer reviews in the various Member States.

3 Quality indicators

To facilitate the determination of selected quantitative quality indicators, a Task Force set up by Eurostat has developed a list of such indicators that can be used, in particular, for external reporting and in the context of in-house controlling arrangements of the Statistical Offices.

The following indicators are intended to be used for such monitoring. The figures in brackets evaluate the importance of a given indicator:

- (1) To be fully included in the quality report.
- (2) To be included in the quality report as a selection.
- (3) For internal information only, not to be included in the quality report.

User involvement (relevance)

User satisfaction data can be obtained, on principle, by way of user satisfaction surveys. But since such surveys are presently scheduled for individual cases only, they cannot be used to derive a standard indicator.

Accuracy

An error calculation of sampling errors (random errors) should be made (as far as possible) in respect of all variables and the size of non-sampling errors should be estimated. The respective technical experts select so-called "core variables", for which the following indicators are to be shown:

- Absolute standard error (2);
- Relative standard error (2).

To estimate the non-sampling error the following data should be ascertained for selected core variables:

- Response rate with regard to the total survey as a whole, in % (1);
- Non-response rates of the variables selected (2);
- Imputation rate of the variables selected (3).

Cases of over coverage and under coverage and other systematic errors are not quantified. What the mentioned data items reveal is anyway but a rough guide for assessing a possible bias. As a rule, the bias itself and, consequently, the overall mean square error cannot be specified exactly so that it is not possible to calculate the quantitative measure needed for that purpose.

For the evaluation of provisional results, the following calculations should be made in respect of selected variables as mean values over the last 24 months or 8 quarters:

- Proportion covered of the units and values of variables, if necessary, broken down by class that contributed to the provisional result (3).

- Arithmetic mean of the revisions observed during the past with and without consideration of the algebraic sign (1):
- Median of the revisions observed during the past with and without consideration of the algebraic sign (3):

Timeliness and punctuality

What can be quantified in this context is the time gap between the period of reference and the time when first results become available (timeliness) as well as occurrence of possible delays in releasing important standard publications (punctuality):

- Number of days between the date of reference or the last day of a period of reference and the planned date of releasing the Federation's results (possibly also Federal States' results) (1).
- Number of days between the date of reference or the last day of a period of reference and the date when the Federation's results (possibly also Federal States' results) are actually released (1).
- Number of days between the planned and the actual date of release of a Federation's result (and possibly also Federal States' results) (3).

Annual averages should be used in monthly and quarterly publications. A qualitative description should be given of the measures envisaged to improve timeliness and punctuality.

Availability and transparency

Availability can be quantitatively measured by the number of accesses to data, above all, by using the following data items:

- Number of accesses to the respective areas of *Genesis-Online* database in a given last year (3).
- Number of releases as a printed or downloaded product (3).
- Lowest regional level of release (1).
- Availability of a quality report (3).

Data such as reference address, terms of contract, contact information as well as supplementary details on the data (methods, concepts, restrictions of accuracy owing to a high sampling error or bias, release media, and more detailed publications on the subject) should be stated on a qualitative basis.

Comparability

- Spatial comparability

Regional distinctions (e.g. between federal states) in definitions, classifications or because of different structures should be described on a qualitative basis. The effects they have on the results should be quantified as far as possible, though standardised indicators cannot be specified for that purpose.

- Chronological comparability

An indicator to be stored is the Length, in years, of a time series with comparable data (1).

Discontinuities in time series, e.g. because of changes in classifications, are to be described on a qualitative basis. It is necessary, in particular, to also indicate the reasons for a revision. The effects on the results should be quantified as far as possible, though standardised indicators cannot be specified for that purpose.

Coherence

The description to be given should cover both the discrepancies between different classifications, e.g. between nationally and internationally accepted classifications, and discrepancies caused by different definitions of population (regarding both a universe's spatial and temporal dimension), statistical units, variables or statistical measures. Because of the large variety of possible cases the description should have a verbal form. Standardised indicators cannot be specified.

The deviations in the values that can be derived from what was said above should be substantiated, e.g. in terms of different data sources, different universes, different survey methodologies, different methods of measuring, survey and/or processing errors, provisional versus final results, incompatible assignment to classification items, etc. In the quality report they should be described separately, if that is deemed necessary.

4 A self-assessment programme for generating quality profiles

A self-assessment programme is one of the most important tools to be used by statistical offices for a critical review of the quality of both their processes and products. In comparison with other evaluation methods (e.g. audits or quality reports), self-assessments have the advantage of causing low expenses and involving a relatively small burden. "Survey managers", who are responsible for conducting a survey, merely complete a simple checklist, containing questions about the quality of statistics and the measures adopted in terms of quality checks and quality safeguards. This raises a person's awareness of the quality criteria adopted and, at the same time, it allows using self-assessment as a basis for drafting a list of possible candidates for improvement. Because of its general nature it can be applied to all single statistics whatever, insofar as they provide for the collection of micro data, which can in fact be done irrespectively of a given subject and a specific survey method.

Finally, we could imagine that it will be possible to store the results of using a checklist in a centralised database to be used as a basis for simple quality comparisons both over time and between different areas of statistics. The structure and the contents of such a checklist take into account the quality criteria of the ESS. The checklist is built in a process-oriented way, so that a survey manager can assign the quality criteria and the goals of quality-improving measures directly to the various stages of operating a survey and reply to them step by step in the sequence of the various processes occurring in each individual statistical survey.

A specific process model, which serves for structuring the checklist, has been developed for DESAP on the basis of the "Statistical Value Chain" of the Office for National Statistics in the United Kingdom and of the process model of the Federal Statistical Office in Germany. It distinguishes seven main processes of statistical surveys, which are subdivided into a total of 24 elements. The checklist includes questions of a different type: so-called "appraising questions" (for example, "How do you appraise the comparability of your statistical product within the European statistical system (ESS)?") propose a simple range of appraisals for a given quality criterion and survey managers are supposed to tick the appropriate reply. On the other hand, there are questions which are supposed to suggest improvements (for example, "Which of the following methods are in place for the questionnaire design?") and which, therefore, list a number of methods that may possibly be of relevance to a given process.

The list was designed so that no time-consuming preparatory work is needed for its completion. Depending on a statistical office's organisational arrangements it might, however, be useful to summon other experts (e.g. a methodology expert) for the assessment procedure. Another possible approach to self-assessment is to complete the checklist together with the team that is responsible for the various aspects of the survey.

The DESAP checklist serves, first of all, as an assessment tool: it can be used to assess a survey's total quality and to compile a quality profile, covering all quality criteria of the ESS. Furthermore, the checklist gives clues on possible action for improvement and it can contribute to appraising the nature of quality problems that may occur. Another function of the list is that it allows simple comparisons of the quality level over time and between various fields (provided that the data items are stored in a centralised way at the statistical office).

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Annex

EUROPEAN STATISTICS CODE OF PRACTICE

adopted by the Statistical Programme Committee on 24 February 2005

Preamble

For the purpose of this document:

European Statistics shall mean Community Statistics as defined in Council regulation (EC) No 322/97 of 17 February 1997 on Community Statistics, produced and disseminated by national statistical authorities and the Community's statistical authority (Eurostat) in conformity with article 285(2) of the Treaty.

Definitions:

The Statistical Authority shall mean, at national level, the National Statistical Institute (NSI) and other statistical bodies in charge of producing and disseminating European Statistics and, at Community level, Eurostat.

The European Statistical System, hereinafter referred to as the ESS, shall mean the partnership comprising Eurostat, National Statistical Institutes and other national statistical bodies responsible in each Member State for producing and disseminating European Statistics.

In coherence with the Treaty establishing the European Community, and in particular Article 285(2) thereof, with the Council regulation (EC) No 322/97 of 17 February 1997 on Community Statistics, and with the Fundamental Principles of Official Statistics adopted by the United Nations Statistical Commission on 14 April 1994, the present Code of Practice has the dual purpose of:

- Improving trust and confidence in the independence, integrity and accountability of both National Statistical Authorities and Eurostat, and in the credibility and quality of the statistics they produce and disseminate (i.e. an external focus);
- Promoting the application of best international statistical principles, methods and practices by all producers of European Statistics to enhance their quality (i.e. an internal focus).

The Code is addressed for implementation to:

- Governance authorities (i.e. Governments, Ministries, Commission, Council): to provide guidelines for them to ensure that their statistical services are professionally organised and resourced to produce credible European Statistics in a manner that guarantees independence, integrity and accountability;
- Statistical authorities and their staff: to provide a benchmark of statistical principles, values and best practices that should help them in producing and disseminating high quality, harmonised European Statistics.

It is addressed for information to:

- Users: to show that European and national statistical authorities are impartial and that the statistics they produce and disseminate are trustworthy, objective and reliable;
- Data providers: to show that the confidentiality of the information they provide is protected, and that excessive demands will not be placed on them.

The Code of Practice is based on 15 Principles. Governance authorities and statistical authorities in the European Union commit themselves to adhering to the principles fixed in this code and to reviewing its implementation periodically by the use of Indicators of Good Practice for each of the 15 Principles, which are to be used as references.

The Statistical Programme Committee established by Council Decision 89/382/EEC of 19 June 1989 will regularly carry out peer review monitoring of the implementation of the present Code.

1 Institutional Environment

Institutional and organisational factors have a significant influence on the effectiveness and credibility of a statistical authority producing and disseminating European Statistics. The relevant issues are professional independence, mandate for data collection, adequacy of resources, quality commitment, statistical confidentiality, impartiality and objectivity.

Principle 1: Professional Independence

The professional independence of statistical authorities from other policy, regulatory or administrative departments and bodies, as well as from private sector operators, ensures the credibility of European Statistics.

Indicators:

- The independence of the statistical authority from political and other external interference in producing and disseminating official statistics is specified in law.
- The head of the statistical authority has sufficiently high hierarchical standing to ensure senior level access to policy authorities and administrative public bodies. He/She should be of the highest professional calibre.
- The head of the statistical authority and, where appropriate, the heads of its statistical bodies have responsibility for ensuring that European Statistics are produced and disseminated in an independent manner.
- The head of the statistical authority and, where appropriate, the heads of its statistical bodies have the sole responsibility for deciding on statistical methods, standards and procedures, and on the content and timing of statistical releases.
- The statistical work programmes are published and periodic reports describe progress made.

- Statistical releases are clearly distinguished and issued separately from political/policy statements.
- The statistical authority, when appropriate, comments publicly on statistical issues, including criticisms and misuses of official statistics.

Principle 2: Mandate for Data Collection

Statistical authorities must have a clear legal mandate to collect information for European statistical purposes. Administrations, enterprises and households, and the public at large may be compelled by law to allow access to or deliver data for European statistical purposes at the request of statistical authorities.

Indicators:

- The mandate to collect information for the production and dissemination of official statistics is specified in law.
- The statistical authority is allowed by national legislation to use administrative records for statistical purposes.
- On the basis of a legal act, the statistical authority may compel response to statistical surveys.

Principle 3: Adequacy of Resources

The resources available to statistical authorities must be sufficient to meet European Statistics requirements.

Indicators:

- Staff, financial, and computing resources, adequate both in magnitude and in quality, are available to meet current European Statistics needs.
- The scope, detail and cost of European Statistics are commensurate with needs.
- Procedures exist to assess and justify demands for new European Statistics against their cost.
- Procedures exist to assess the continuing need for all European Statistics, to see if any can be discontinued or curtailed to free up resources.

Principle 4: Quality Commitment

All ESS members commit themselves to work and co-operate according to the principles fixed in the Quality Declaration of the European Statistical System.

Indicators:

- Product quality is regularly monitored according to the ESS quality components.
- Processes are in place to monitor the quality of the collection, processing and dissemination of statistics.
- Processes are in place to deal with quality considerations, including tradeoffs within quality, and to guide planning for existing and emerging surveys.

- Quality guidelines are documented and staffs are well trained. These guidelines are spelled out in writing and made known to the public.
- There is a regular and thorough review of the key statistical outputs using external experts where appropriate.

Principle 5: Statistical Confidentiality

The privacy of data providers (households, enterprises, administrations and other respondents), the confidentiality of the information they provide and its use only for statistical purposes must be absolutely guaranteed.

Indicators:

- Statistical confidentiality is guaranteed in law.
- Statistical authority staffs sign legal confidentiality commitments on appointment.
- Substantial penalties are prescribed for any wilful breaches of statistical confidentiality.
- Instructions and guidelines are provided on the protection of statistical confidentiality in the production and dissemination processes. These guidelines are spelled out in writing and made known to the public.
- Physical and technological provisions are in place to protect the security and integrity of statistical databases.
- Strict protocols apply to external users accessing statistical micro data for research purposes.

Principle 6: Impartiality and Objectivity

Statistical authorities must produce and disseminate European Statistics respecting scientific independence and in an objective, professional and transparent manner in which all users are treated equitably.

Indicators:

- Statistics are compiled on an objective basis determined by statistical considerations.
- Choices of sources and statistical techniques are informed by statistical considerations.
- Errors discovered in published statistics are corrected at the earliest possible date and publicised.
- Information on the methods and procedures used by the statistical authority is publicly available.
- Statistical release dates and times are pre-announced.
- All users have equal access to statistical releases at the same time and any privileged pre-release access to any outside user is limited, controlled and publicised. In

the event that leaks occur, pre-release arrangements should be revised so as to ensure impartiality.

- Statistical releases and statements made in Press Conferences are objective and non-partisan.

2 Statistical Processes

European and other international standards, guidelines and good practices must be fully observed in the processes used by the statistical authorities to organise, collect, process and disseminate official statistics. The credibility of the statistics is enhanced by a reputation for good management and efficiency. The relevant aspects are sound methodology, appropriate statistical procedures, non-excessive burden on respondents and cost effectiveness.

Principle 7: Sound Methodology

Sound methodology must underpin quality statistics. This requires adequate tools, procedures and expertise.

Indicators:

- The overall methodological framework of the statistical authority follows European and other international standards, guidelines, and good practices.
- Procedures are in place to ensure that standard concepts, definitions and classifications are consistently applied throughout the statistical authority.
- The business register and the frame for population surveys are regularly evaluated and adjusted if necessary in order to ensure high quality.
- Detailed concordance exists between national classifications and sectorisation systems and the corresponding European systems.
- Graduates in the relevant academic disciplines are recruited.
- Staff attend international relevant training courses and conferences, and liaise with statistician colleagues at international level in order to learn from the best and to improve their expertise.
- Co-operation with the scientific community to improve methodology is organised and external reviews assess the quality and effectiveness of the methods implemented and promote better tools, when feasible.

Principle 8: Appropriate Statistical Procedures

Appropriate statistical procedures, implemented from data collection to data validation, must underpin quality statistics.

Indicators:

- Where European Statistics are based on administrative data, the definitions and concepts used for the administrative purpose must be a good approximation to those required for statistical purposes.

- In case of statistical surveys, questionnaires are systematically tested prior to the data collection.
- Survey designs, sample selections, and sample weights are well based and regularly reviewed, revised or updated as required.
- Field operations, data entry, and coding are routinely monitored and revised as required.
- Appropriate editing and imputation computer systems are used and regularly reviewed, revised or updated as required.
- Revisions follow standard, well-established and transparent procedures.

Principle 9: Non-Excessive Burden on Respondents

The reporting burden should be proportionate to the needs of the users and should not be excessive for respondents. The statistical authority monitors the response burden and sets targets for its reduction over time.

Indicators:

- The range and detail of European Statistics demands is limited to what is absolutely necessary.
- The reporting burden is spread as widely as possible over survey populations through appropriate sampling techniques.
- The information sought from businesses is, as far as possible, readily available from their accounts and electronic means are used where possible to facilitate its return.
- Best estimates and approximations are accepted when exact details are not readily available.
- Administrative sources are used whenever possible to avoid duplicating requests for information.
- Data sharing within statistical authorities is generalised in order to avoid multiplication of surveys.

Principle 10: Cost Effectiveness

Resources must be effectively used.

Indicators:

- Internal and independent external measures monitor the statistical authority's use of resources.
- Routine clerical operations (e.g. data capture, coding, and validation) are automated to the extent possible.
- The productivity potential of information and communications technology is being optimised for data collection, processing and dissemination.
- Proactive efforts are being made to improve the statistical potential of administrative records and avoid costly direct surveys.

3 Statistical Output

Available statistics must meet users' needs. Statistics comply with the European quality standards and serve the needs of European institutions, governments, research institutions, business concerns and the public generally. The important issues concern the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comparable across regions and countries, and readily accessible by users.

Principle 11: Relevance

European Statistics must meet the needs of users.

Indicators:

- Processes are in place to consult users, monitor the relevance and practical utility of existing statistics in meeting their needs, and advise on their emerging needs and priorities.
- Priority needs are being met and reflected in the work programme.
- User satisfaction surveys are undertaken periodically.

Principle 12: Accuracy and Reliability

European Statistics must accurately and reliably portray reality.

Indicators:

- Source data, intermediate results and statistical outputs are assessed and validated.
- Sampling errors and non-sampling errors are measured and systematically documented according to the framework of the ESS quality components.
- Studies and analyses of revisions are carried out routinely and used internally to inform statistical processes.

Principle 13: Timeliness and Punctuality

European Statistics must be disseminated in a timely and punctual manner.

Indicators:

- Timeliness meets the highest European and international dissemination standards.
- A standard daily time is set for the release of European Statistics.
- Periodicity of European Statistics takes into account user requirements as much as possible.
- Any divergence from the dissemination time schedule is publicised in advance, explained and a new release date set.
- Preliminary results of acceptable aggregate quality can be disseminated when considered useful.

Principle 14: Coherence and Comparability

European Statistics should be consistent internally, over time and comparable between regions and countries; it should be possible to combine and make joint use of related data from different sources.

Indicators:

- Statistics are internally coherent and consistent (e.g. arithmetic and accounting identities observed).
- Statistics are coherent or reconcilable over a reasonable period of time.
- Statistics are compiled on the basis of common standards with respect to scope, definitions, units and classifications in the different surveys and sources.
- Statistics from the different surveys and sources are compared and reconciled.
- Cross-national comparability of the data is ensured through periodical exchanges between the European Statistical System and other statistical systems; methodological studies are carried out in close co-operation between the Member States and Eurostat.

Principle 15: Accessibility and Clarity

European Statistics should be presented in a clear and understandable form, disseminated in a suitable and convenient manner, available and accessible on an impartial basis with supporting metadata and guidance.

Indicators:

- Statistics are presented in a form that facilitates proper interpretation and meaningful comparisons.
- Dissemination services use modern information and communication technology and, if appropriate, traditional hard copy.
- Custom-designed analyses are provided when feasible and are made public.
- Access to micro data can be allowed for research purposes. This access is subject to strict protocols.
- Metadata are documented according to standardised metadata systems.
- Users are kept informed on the methodology of statistical processes and the quality of statistical outputs with respect to the ESS quality criteria.

Statistical analysis and forecast: Indispensable function of official statistics agencies

Should an official statistics agency (OSA) conduct statistical analysis and forecasting work? When the answer is yes, how to do it? Those questions are still under debate now. Based upon theoretical analysis and some case studies, we have found that the official statistics agency should conduct statistical analysis and forecasting bravely and shall contribute to the society by playing a very important role in this area.

I Limitations of Traditional Views

Traditionally, the main reason for some people against statistical analysis and forecasting by the OSA is that the basic function or core function of the OSA is to collect and process data. They worry that if the OSA conducts statistical analysis and forecasting, there will be some negative impacts: Some people or organizations will no longer cooperate with the OSA when the conclusions of the OSA are different from their views. That might cause some budgetary and/or political problems when the conclusions of OSA do not consist with other government agencies. When the OSA conducts both functions of data collection and analysis, the function of data collection tends to get weakened as the work of data analysis is like to make a name easier. It may influence the quality of statistical data when the OSA collects data with some preset views. In some sense these worries are reasonable, but they are not necessarily decisive to stop statistical analysis and forecasting by the OSA.

First, there is a demand from the society. The general public are not professional statisticians and do not have sufficient knowledge of statistics, and therefore they need help from some specialized agencies to explain the released statistical data. The OSA is the suitable agency from the points of view of both its knowledge and official background. Some analyses related to confidential statistics by Statistics Law have to be dealt with by the OSA. Other analyses which are of the interest of the society are very costly and need to be done by the OSA.

Second, the OSA involved in analysis and forecasting will not weaken the function of data collection and processing. As a matter of fact, it will encourage the OSA to improve its data collection and processing if the OSA could follow some basic principles when making analysis and forecasting. It helps the OSA to find problems with their statistical products and new demands from the changing society, to accept the suggestions made by its own staff with regard to improving the production of statistics, and to achieve more efficient and economic results by combining data collection and analysis together.

Third, the possibility exists that the OSA may collect data to meet some preset views which will influence the quality of statistics data. However, such a possibility is not a certainty and it cannot become the main stream. The fact that we cannot rule out this possibility does not mean that the OSA shall not work with analysis and forecasting as if doc-

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tors, biologists and other scientists shall not be prevented from their research work though there are cases that some of them may fabricate data to achieve honors and cheat people.

In addition, the OSA needs to expand its influence by making analysis and forecasting. Otherwise, official statistical information will get inundated in the ocean of information at this information-bombing era.

II Natural Advantages of Official Statistics Agency

First, statisticians in the OSA are familiar with statistics data and the methods to collect data which are essentially important for data analysis.

Second, most OSAs are in a neutral position with policy issues, which allows statisticians to conduct analysis in an objective and impartial manner without any prejudice of the agencies they represent.

Third, as statisticians of the OSA are sensitive to changes that occur in statistics data, they are more conscious of early symptoms of changes in social and economic phenomena, and are able to propose relevant preventive measures.

III Principles of Statistical Analysis and Forecasting

Principle of data quality: To get high quality data is the basic and core function of the OSA and quality data is fundamental for making statistical analysis and forecasting.

Principle of objectivity: The OSA cannot collect data and make analysis for the purpose of meeting preset views.

Principle of data sharing: This requires a timely dissemination of statistics data collected by the OSA without reservation so as to enable the fullest utilization of statistics. The monopoly of statistics data in whatever forms shall be prohibited. It also calls for wide cooperation with the outside institutions (other government agencies, universities and research institutions).

Principle of social benefits: The statistical analysis and forecasting made by the OSA should focus on costly projects which no other governmental or non-governmental institutions are willing or able to do.

Principle of flexibility: When statisticians have conclusions from their analysis that differ from those of government agencies, they could, while holding on their own views, resort to more flexible ways of presentation and wording that are easier to be accepted by those other than statisticians. This will ensure that the objective of data analysis is realized.

Principle of public participation.

1 Limitations of conventional understanding

By statistical analysis, we mean that studies to be made on subjects that can be quantified to find out pattern (or process) of development, through our knowledge on science of statistics and on the related subjects, and by using appropriate methodology, based on scientifically collected statistical data. Statistical analysis can be categorized according to subject of study. Analysis on medical experiment statistics can be termed as medical statistical analysis; Analysis on biological statistics can be termed as biological statistical analysis; Analysis on engineering and production quality control statistics can be termed as quality (or quality control) statistical analysis; Analysis on social and economic development statistics can be termed as social-economic statistical analysis.

Statistical analysis referred to in this paper is social-economic statistical analysis. It is a study on social and economic phenomenon, with a focus on macro social and economic issues, based on scientifically collected social and economic statistical information, and using sciences of statistics, economics, econometrics, and sociology. This study is designed to cast light on the inherent laws of development (or procedures. While statistical forecast is a study designed to make projections on trend of development of social and economic indicators (or problems) based on the above statistical analysis, and use of forecasting instruments and theories.

Conventionally, objections to statistical analysis and forecast undertaken by OSA are based on the arguments that the central role (both absolutely and solely) of OSA is to collect, process and disseminate statistical data (also referred as providing data), that it is not important whether or not for OSA to undertake statistical analysis and forecast, that OSA involvement could have a negative impact on statistical data collection, processing and dissemination. Those who hold these arguments fear that: 1, Conclusion by OSA might run counter to that by the public or interest groups. This may give rise to uncooperative actions of the public and interest groups, like refusal of submitting report and concealing of data; 2, OSA conclusion might run counter to position held by government, which may bring about funding or political trouble; 3, OSA may make fewer efforts on providing statistical data if they undertake statistical analysis and forecast, due to the fact that statistical analysis and forecast is an undertaking that is more profitable than data service. It is more likely to gain both fame and fortune. As a result, it will be inevitable for them to take data service as less important. Quality of statistical data would be in jeopardy; 4, OSA may collect statistical data with preconceived ideas, which may have a negative impact on the objectiveness of statistical data. All fears or worries described above hold grounds in a certain manner though, they overstate the issues and negative impact when OSA undertake statistical analysis and forecast. It is not convincing that it not proper for OSA to undertake statistical analysis and forecast, based on such fears or worries.

It is a social demand for OSA to undertake statistical analysis and forecast:

- Understanding of the public on statistical data and statistical methodology is not unprofessional (it is impossible for them to be professional). Explanation on statistical data and forecast on development trend of statistical indicators by authoritative organizations are required. An example in case is the seasonally adjusted economic

growth rate. It is only natural and duty-bound for OSA, which are statistical data producers and government organizations at the same time, to undertake statistical analysis and forecast;

- Analysis and forecast on statistical data that are of private in nature and their secrecy shall be kept according to Statistical Law and that are required by the public can only be done by OSA. An example in case is analysis and forecast on statistical data of business operational behaviours of a sector, or household consumption behaviours. Such data can not be made public. While OSA can make access to and do processing and analysis on such data, and produce statistical products to meet social demands.
- For statistical analysis and forecast that requires big investment and have no profit to make should be undertaken by OSA. Private organizations and individuals usually have no interest in such statistical analysis and forecast.

If guided by a certain set of principles, statistical analysis and forecast undertaken by OSA would not weaken data service. Instead, it can be a mutual promotion. For the set of principles that OSA should follow shall be described in Part III. And this section shall be focused on mutual promotion between statistical analysis and forecast, and data service when OSA undertake statistical analysis and forecast:

- It could help to identify problems in statistical data production and ever changing social demands, or user demands. It is like "information receiver" for errors in statistical demands and production fixed in OSA. Statistical analysis can also help to define (or redefine) technical terms. For example, it is an easy way to find errors in statistical products by statistical analysis. Only repeated use of a product could tell well from bad. Another example: statistical analysis helped to define in a timely manner the statistical terms of information industrialization, information application, and E-commerce. In recent years, definition of "workers from rural areas", a newly-emerged statistical concept, and data collection in relation to it, is another example in case;
- Proposals OSA put forward on renovation of statistical production can be adopted more likely. Statistical errors and changing demands on statistical data identified by OSA staff can be a direct feedback to statistical data producers. It could be more effective than that done by data users other than OSA in terms of timeliness, operation cost, understanding and acceptability. This is just as described by the old saying: The easiest way to capture a fortress is from within. Practice of China is but another proof. Chinese government decided to open up and reform in 1978. National Bureau of Statistics of China (NBS) took only 7 years to complete initial a transition from MPS practiced in planned economic era to SNA as proposed by UN in a big country that is economically and culturally backward. By 1996, framework of national accounts system was initial built up at national and provincial level. Preparation on a trial basis of National GDP accounting table, input-output table, balance of international payment, financial flow table, and revolving accounts of national economy were all successful. Methodology of statistical survey has been increasingly perfected from a mono-form of reporting table to a comprehensive statistical survey system that incorporates all-inclusive reporting table, sample survey, regular census, and major survey;

- In terms of resources allocation, a vertical integration of production process for statistical production and statistical analysis is more beneficial economically, due to reduced two links. It is just like the integration of steel melting with steel rolling to save energy. It can also save transaction cost, because cost of internal transaction is lower than transaction outside. In addition, statistical data market is in nature not a perfect one, and its price "signal" is unable to mirror marginal cost of statistical data production and marginal cost of consumption.

It is less convincing to ban OSA in statistical analysis and forecast due to fear that OSA might conduction statistical data collection with preconceived ideas. We are not in a position to guarantee that no statistician of OSA can do in that way. But we can assert it is neither a mainstream nor an inevitable trend. That is just like a few dishonest researchers in the sector of medical and biological science who may fabricate data to gain honor. But it is absolute improper to assert that all research institutions and all researchers are dishonest, and that doctors, biologists and scientists of natural science are banned from research in medical, biological and other natural science, based such fears.

Statistical analysis and forecast should be dully taken as an important function of OSA, in consideration of the need to enhance its impact. Human society currently is in age of information explosion. There is no parallel in history in terms of volume of information, transmission speed, and range of dissemination, and in particular, capacity of data processing and application of digit technology, which have made it possible to collect statistical information through routine administrative records and business records. Examples in case are import and export statistical data, basic data of business organizations, and business operation records of retail sale business. If to limit OSA to data provision only in such a fast changing era, OSA might be drowned in the ocean of information shortly, and OSA's impact could be greatly reduced. Furthermore, outcome from statistical analysis is more perceivable in the public than statistical data, and thus it is a statistical knowledge more accessible for the public than statistical data.

2 Inherent advantage of OSA

In fact, OSA can up-grade statistical data service and improve statistical data quality while undertaking statistical analysis and forecast. In addition, OSA possesses a number of advantages that no other organization or individual has in undertaking statistical analysis and forecast.

The OSA statisticians have more knowledge on statistical data production and statistical information. Undertaking statistical analysis and forecast needs to know specifics for statistical data collection, processing, and production process (knowing how to "produce" it), such as indicator standards, statistical standards and statistical methodology, reliability of essential data. Such knowledge is necessary for avoidance of misuse of statistical data, and for casting light on inherent law of a subject. This is truer in developing countries where modern statistical knowledge is less popular. OSA has inherent advantage in all these aspects. Statistical analysis is a natural link in statistical data production.

The OSA has no direct departmental interest in statistical analysis and forecast and can work on it in an objective, detached and impartial manner. OSA has neither responsibility in policy-making, nor works on behalf of any other department, and is free from prejudice. Therefore OSA efforts in this aspect can be more objective and impartial, more welcome by the public than that by organizations, companies, or individuals. The public, and the governments of China and France, and of countries where OSA undertake statistical analysis and forecast all believe that statistical analysis done by OSA are more reliable, more transparent, and more objective and impartial.

Statisticians are more expert in identifying problems and symptom of trend in particular, in social and economic development, and hence can put forward foresighted and clear-aimed suggestions. Statisticians work on data and thus are more sensitive to change in statistical data.

3 Principles for OSA to follow in statistical analysis and forecast

The foregoing analysis shows that it is both necessary and feasible for OSA to undertake statistical analysis and forecast. The reality is that Statistical Law of France, Holland, North European countries, China, ex-Soviet Union, and countries in east Europe all stipulates clearly that statistical analysis and forecast is a OSA function, which has long been done and done successfully. Article 2 of Chapter One of the Statistical Law of the People's Republic of China provides that the fundamental task of statistical work is to make statistical investigation and analysis of national economic and social development, to provide statistical data and advice and to exercise statistical supervision. China's OSA has done statistical analysis since 1950s. With efforts made in the last 50 years, and efforts made in the last 27 years in particular, since opening up and reform, statistical analysis has been standardized. Organizations of the government statistical system have been set up and staff assigned specifically for statistical analysis. Take the NBS for example, it established the department of Comprehensive Statistics, a functional department under the NBS, to undertake statistical analysis. For major subjects, the Director-General of the department will take the lead and organize the whole staff of the department in related statistical analysis and studies. Its statistical analysis covers a wide range of subjects in area of economy, social affairs, science and technology, and population, and also reform and opening-up, and development.

Many up-to-date statistical methodologies, such as macro monitoring models, econometric models, input-output models, are adopted in such analysis. Statistical analysis reports are of great variety. There are both progress statistical analysis report (monthly, quarterly, half-yearly, and yearly) and statistical analysis report on specific subjects. There are both essays and monographs of statistical analysis. Statistical analysis has played a significant role in China's economic development and social progress. An example in case is that, in 1990, the second year when the central government implemented resolutely a policy of retrenchment in a hope to solve problems brought about by inflation in 1988, which resulted an insufficiency in demands ever experienced since the founding of the People's Republic of China. Then, in the beginning of the year, NBS statisticians suggested bravely that China had broken away from an economy of scarcity, that overall social demands was insufficient. If to avert a serious economic reces-

sion, it was imperative to increase social demands. Input and output model was used in the calculation of 40 billion Yuan of investment that should be made in the year. The central government on the basis of comments solicited from all sectors, adopted the suggestion by statisticians, and a serious economic recession was averted. Another example was from April 2004. Starting from the second half of 2003, and the first quarter of 2004 in particular, there saw a fast increase in iron and steel, cement, electrolyte aluminium production and investment, and in total social fixed assets investment. Under such a background, the central government put forward a series of policies and measures to enhance and improve macro control and policies and measures for structural reform in a short period of time. That had a negative impact on the benefits of quite a number of local governments and enterprises, and thus gave rise to controversies over the necessity of the policies and measures, and to worries if more retrenchment policies to be put forward, and worries on the trend of economic development. The NBS of China took the matter in all seriousness, and released a paper titled "Understanding on China's current economic development" in the name of the head of the NBS at a press conference. The paper carried explanations by the NBS on all controversial issues. The objectiveness and authoritativeness of this paper helped to solve controversies in an effective way, and thus played a significant role in effecting a steady and fast economic development of China.

As a matter of fact, an increasing number of OSA understands that statistical analysis and forecast, those that can be decisive in particular, and analysis and forecast on trend of economic development are important functions of OSA. While the fears and worries shared in theoretical circles and the public on whether statistical analysis and forecast should be undertaken by OSA indicate that if OSA is to do a better job, they should followed some cardinal principles.

Principle 1:

Data quality is central. Data collection, processing and dissemination are fundamental and central functions of OSA, and are also a prerequisite for OSA to give full play to statistical analysis and forecast. Without high quality statistical data, there will be no solid and reliable foundation for statistical analysis and forecast. It will like water without a source and tree without roots. And there will be no way to make explanations to the society and the public. In this sense, it is of first importance for OSA to secure high quality statistical data. However, it is necessary to make it clear that statistical analysis and forecast undertaken by OSA will not have negative impact on statistical data quality. On the contrary, it will enhance statistical quality, by mutual supplement and mutual promotion.

Principle 2:

Objectivity and impartiality, It is required that statistical analysis and forecast should be done in a scientific manner and based on facts. Findings and conclusions should be arrived through scientific research and can stand test of reality. It is absolutely impermissible to do it with preconceived ideas, collect data with preset point of view, and use data that are modified according to preset views. 2, It is required that statistical analysis and forecast should be done carefully, cast light on inherent laws of development, and prepare statistical analysis report based on facts without any prejudice.

Principle 3:

Data sharing with the public. OSA statistical products, including statistical analysis and forecast, are products in the public domain. The principle of data sharing with the public must be upheld. Statistical data under the control of statistical authorities should be released in a timely manner without reservation. Monopolization of statistical data in any manner should be stopped. Statistical data should be used in the largest possible extent. When OSA is involved in statistical analysis and forecast, precautions should be taken against any form of monopolization that are designed to strike an impression that statistical analysis and forecast undertaken by OSA are superior than any others. Findings in statistical analysis and forecast by OSA should be shared with the public in line with principle of objectivity and impartiality.

Principle 4:

Gaining social benefits. Due to its social attribute and limited resources, OSA should focus its efforts on areas that other organizations, and private organizations in particular, are not interested in due to big input, and areas that are in the interest of the whole society and of enormous social benefits, in terms of statistical analysis and forecast. Statistical analysis and forecast in area of macro economic analysis and forecast, price index, quantity of economy, foreign trade, employment and unemployment, and any others that are closely related to policy making and implementation fall in this category.

Principle 5:

Flexibility. It is a frequent occurrence that conclusions arrived in statistical analysis run counter to policy-making government departments, and to competent authority. It should be beyond any doubt that statisticians should hold firmly to the truth at such an instance. What is critical is that care should be taken in the way of explanation that should be easily acceptable to government departments, and let them understand the role of statistical analysis. For instance, the findings of analysis could be submitted in the capacity of a statistician, or in the capacity of a joint operation unit, but not by OSA; Release of the findings to be limited to certain organizations, and in the form of informal paper at internal discussions (forum). OSA undertaking statistical analysis and forecast and making more exchanges and cooperation with other organizations (other government departments, universities and colleges, science academies and institutions, and economists) are good to flexible release of analysis findings, to mutual supplement, to broadening the vision of statisticians, and good to raising statistical analysis to a higher standing.

Principle 6:

Public supervision. Statistical product, due to its public attribute, involves a wide range of public life. OSA views and analysis papers could easily arouse debate, comment and criticism from the public. A peace of mind is required when it comes. One should take as is told by a Chinese maxim: "Blame not the speaker, but be warned by his words".

Present necessary explanations if it is possible. In fact, criticism and comment on analysis findings is an easy way for the public to gain knowledge of statistics, statistical analysis and methodology.

4 Conclusion

As described at the beginning of this paper that to this day there has been no authoritative opinion whether OSA should undertake statistical analysis and forecast and how to do. OSA does encounter problems in statistical analysis. However, practice of China and practice of France have all indicated that it is necessary and well worth doing for OSA to undertake statistical analysis and forecast, on the condition that OSA does it following a proper set of principles, and making use of its advantage and avoiding weakness.

We hope that OSA statisticians of all countries should continue their efforts, summing up experience, making exchanges so as to make OSA play an increasingly significant role in statistical analysis. We believe that in an era when ideas of economics are increasingly finding expression in statistical quantification and mathematics formulas, it is an inevitable trend for OSA to undertake statistical analysis and forecast.

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Peter Bauer *)

Research data centres as service facilities for science and research

Dear Ladies and Gentlemen,

Today I am going to introduce you to two new institutions in German official statistics, the research data centres of the statistical offices of the Federation and the Länder. These two research data centres are service institutions for the scientific community and have specifically been created to improve the data infrastructure and facilitate the scientific community's access to data. The bodies of German official statistics have thus reacted to the data requirements of an important user group and to altered information requirements in the rapidly changing knowledge society.

In the following, I shall describe in detail the underlying reasons which led to the establishment of the research data centres, and the goals and tasks of the research data centres. Then I shall explain to you the ways in which the scientific community can gain access to the data, outline the stock of data we presently offer to science, and describe how the research data centres have been used by the scientific community in the last 1.5 years.

The underlying reason for setting up the two research data centres of official statistics was the expert opinion entitled "Ways towards an Improved Informational Infrastructure" of the year 2001. It had been prepared by the Commission to Improve the Informational Infrastructure set up by the Federal Ministry of Education and Research. The Commission studied which data are collected by official data producers in Germany, whether or not, and if so, how these data are made available for scientific research projects in micro data form. Also, existing legal regulations and their implementation were compared with the situation in other European countries. International comparison showed that the scientific community in Germany has fewer possibilities to access micro data of public data producers than their counterparts in other countries. In the opinion of the Commission, this considerably reduces the competitiveness of the German scientific community. For that reason, the Commission made a number of recommendations on how to improve the informational infrastructure and data access for the scientific community.

For the bodies of official statistics, the institutional recommendations of the Commission on how to improve the informational infrastructure were of particular importance. For example, the Commission had suggested that research data centres be set up at the public data producers'. In addition to improving the data infrastructure, the central task of the research data centres is to facilitate access to public data producers' micro data. Of central importance is, on the one hand, the development of scientific use files and public use files. On the other, the research data centres also are to open up possibilities for using data which are anonymised to a lesser degree or only formally anonymised. As a result of this recommendation, a total of four research data centres were set up in

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Germany at the four large public data producers' – the Federal Statistical Office, the statistical offices of the Länder, the Federal Employment Agency and the Association of German Pension Insurance Funds.

The data offered by the public research data centres is to be supplemented by a range of advisory services provided by service centres to be established within the scientific community. At present, there are two service centres, one at the Centre for Survey Research and Methodology (ZUMA) and the other at the Institute for the Study of Labor (IZA).

On the recommendation of the Commission, the Council for Economic and Social Data was set up to which representatives of both the scientific community and the public data producers belong. The Council is intended as a steering body entrusted with developing the data infrastructure further and making recommendations for the establishment of other research data and service centres.

As has been mentioned, two research data centres have been set up in the sphere of official statistics, one at the Federal Statistical Office and another one at the statistical offices of the Länder. The fact that two research data centres were established for official statistics results from the federative organisation of German official statistics. According to that structure, the statistical offices of the Länder have been entrusted with the organisational implementation of data collection and the processing work up to the level of Länder and regional results, while the Federal Statistical Office ensures the methodological and technical preparation of the statistics and the production of federal results.

The research data centre of the Federal Statistical Office was founded in 2001 and has three locations. The research data centre of the statistical offices of the Länder is a working group of all statistical offices of the Länder set up in 2002. With its 16 locations, this research data centre's special feature is its local presence which enables almost every scientist to use the data of official statistics in the proximity of his/her workplace and make use of the advisory services of the research data centres. The tasks of the two research data centres are supplementary so that through close co-operation a joint comprehensive range of services can be offered which is available to the scientific community at each of the locations. The two research data centres are presently supported by the Federal Ministry of Education and Research during a pilot phase of two/three years.

With the establishment of the two research data centres, the statistical offices of the Federation and the Länder basically pursue four goals:

The first goal is improving decisively the data infrastructure for advisory services provided to politicians and for scientific research. In order to attain that goal, two central tasks were defined. First, the micro data of official statistics for the individual Länder have to be concentrated at one place. This is necessary because micro data are as a rule stored decentrally due to the federative character of German official statistics. This means that each statistical office of a Land has only those micro data at its disposal which it has collected for its Land. However, scientific analyses usually refer to one or several Länder so that concentrating the data at a central place is an essential prerequisite for improving the informational infrastructure. The second task area is directly

linked with the first and concerns the documentation of the concentrated microdata by means of extensive metadata. By that we understand not only the technical description of the data record structures but also all methodological information on data collection, data processing and data quality indispensable for a sound interpretation of analysis results. These metadata shall be made available as part of an information system to which all scientists will have free access via the internet.

The second goal is facilitating the scientific community's access to these microdata by creating controlled ways of access. A total of three different access ways are offered especially for the scientific community. These are scientific use files for off-site use, scientific use files for on-site use, and controlled teleprocessing of data. I shall come back to them later.

The third goal is offering extensive advisory services to users. They concern on the one hand general advice provided on access ways and the range of data offered by the research data centre. On the other, the individual locations specialise in selected subject areas so that intensive guidance is also possible on the use of these statistics.

The fourth goal is carrying out subject-matter related and methodological research projects in co-operation with the scientific community. These aim at improving the analysis potential and at developing new statistical methods.

The three ways of access mentioned are derived from the legal framework conditions on the basis of which the bodies of German official statistics have been authorised to let the scientific community access individual data. Both informational self-determination and the freedom of science are fundamental rights in Germany which were either formulated by the Federal Constitutional Court as part of its judicial decisions concerning the 1987 Population Census or had already been laid down in the Basic Law. Consequently, the legislator is called upon to ensure that these rights are reasonably balanced. This was accounted for when the Federal Statistics Law was amended in 1987: Article 16 provides that data may be transferred to the scientific community whose deanonymisation cannot be ruled out completely but which can be allocated to the respective persons by the data recipient only with an excessive amount of time, expenses and manpower. This "privilege of science" is a prerequisite for the scientific community using "de facto anonymised micro data" provided via the research data centre for a specified research project.

From the viewpoint of the scientific community, it is most convenient and simple to use micro data at one's own workplace. Therefore, that option is preferred by the scientific community. As a consequence, the bodies of German official statistics develop scientific use files for off-site use whose transmission to scientific institutions is permitted. These are standardised products with a determined range of variables. Such products are already available for a number of household and person-related statistics. However, first data sets have been compiled also for economic statistics.

To ensure the anonymity of the data, for off-site use the scientific use files have to be made coarser with regard to the regional breakdown and partly also the subject-matter breakdown. Therefore, the preparation of scientific use files requires much effort and always entails an often considerable loss of information. As a consequence, they are not sufficient for a number of scientific problems.

This is why the research data centres offer two other ways of access, namely safe scientific workstations and controlled teleprocessing. Safe scientific workstations are located in protected rooms at the statistical offices. There the scientist gains access to the anonymised micro data provided for his/her research project while it is made sure that there is no access to the respective intranet and no opportunity to transfer data elsewhere.

The scientist can initiate the output of the results only at the statistical office where he presently works. There the evaluations are checked for confidentiality before release. The scientist is supported by the specialised staff of the statistical office and he is bound to observe statistical confidentiality.

Another option is controlled teleprocessing. For that purpose, scientists prepare an analysis program for their research project. Locations of the research data centre concerned check the program, apply it to the formally anonymised micro data and perform the analysis. Thus the scientists do not have direct access to the micro data to be protected which consequently need not be anonymised. Before the results are passed on to the scientists, it is checked if the confidentiality is safeguarded, and the results are transmitted to the scientist only if there are no objections. This procedure is altogether quite an effort. It requires on the one hand EDP experts who are able to analyse and run the programs delivered and on the other an intensive co-ordination between the staff of the research data centre and the requesting scientist.

Meanwhile, scientists may use a complex range of data at the research data centres. The structure of the data supply is based on the results of a user enquiry conducted in 2002. Taking into account the results of that enquiry, a broad supply of data was compiled in terms of subject matter, meeting the data requirements of different scientific disciplines. At the present time, some 20 different sets of statistics are available for purposes of scientific analysis, which are rather diverse as regards the subject matter. In addition to a number of household and person-related data records, data of economic, environmental and tax statistics are provided. The data supply of the research data centres is being extended continuously so that further sets of statistics will be added on an ongoing basis.

This data supply is already used intensively by the scientific community. Since the beginning of 2004, more than 130 requests have been made for the use of micro data. The demand is rather diverse as regards the subject matter. Data requirements centre on household and person-related micro census data and on data of tax statistics. However, data of economic statistics are also used intensively already. The high share of the "other" category points to the high diversity of data requests as those stocks of data are cumulated here which are requested only seldom.

The topics dealt with also vary considerably: In the focus there are analyses of the employment behaviour and the familial situation. Other issues are tax justice and distributive effects of different tax regulations on the structural change in the economy and fields of statistical methodology.

Another interesting aspect is the regional reference of the projects and the time they relate to. Here, on the one hand, scientists focus on the comparison of countries in the

European and/or international context. On the other, a demand for data has been expressed especially for small-area analyses. These range from a comparison of selected Länder or structurally different regions to analyses of administrative districts and municipalities and scientists' own regional aggregations. As regards the time the data refer to, current data sets are requested most often. At the same time, however, there is the necessity to place the current results in the correct time perspective. Therefore, the research data centres have initiated a project to make sets of older data usable. At present, this processing work centres on older micro census data and data from the sample surveys of income and expenditure dating back to the sixties and seventies. Furthermore, there is a great demand for panel data. To meet this demand, the research data centres are on the one hand implementing a project to process micro census data so as to obtain longitudinal data records in co-operation with the scientific community. On the other, a project is scheduled on the processing of economic statistics in longitudinal form.

To implement the above research projects, the scientific community uses the various ways of access. Scientific use files for off-site use are used most frequently, followed by work at safe scientific workstations and controlled teleprocessing. It can thus be stated that all three access ways established specifically for the scientific community have been accepted by the scientists.

As the new range of services offered by the research data centres has meanwhile been used intensively by the scientific community, the question is how content scientists are with this new supply of data and services. The research data centre of the statistical offices of the Länder has therefore developed a special questionnaire to record user satisfaction and in the weeks to come is going to send that questionnaire to those scientists who have already used the new range of services offered by the research data centre.

Summing up I should like to state that the two research data centres have successfully started their work, and the data offered have been used in numerous projects after a very short time already. As a consequence, much better use is made of the official data supply, and findings are produced which could not be obtained in that form without the new facilities. The research data centres are going to extend the data supply successively by integrating other survey years and statistics, with users' interests being of decisive importance here. As a result, it will be possible to use the data supply of official statistics even more intensively for the different scientific projects.

The statistical offices set great store by the further development of the research data centres. The research data centres are an essential prerequisite for establishing a fruitful dialogue between the scientific community and the bodies of official statistics, for improving data analysis and advisory services for politicians in terms of both quality and quantity, for advancing statistical and methodological research and making it possible for German empirical economic and social research to catch up with international developments.

Thank you very much for your attention.

Summary of seminar results

The papers presented yesterday and today have clearly shown that the statistical offices of our three countries face similar challenges, although the framework conditions are different. Germany, China and Korea are global players in the world economy. The economy and the society in all three countries are undergoing transformation processes: Globalisation, the rapidly growing importance of the service sector (tertiarisation), the immense information demand of the knowledge society, and the dramatic demographic change have a major impact on the future tasks of the statistical offices. In addition to the traditional public users and customers, a broad range of users have established themselves in businesses, the scientific community and the society and they clearly articulate their requirements. What must also be taken into account is the demand, voiced especially by businesses, for a reduction of statistical response burdens. In order to meet such requirements, our statistical systems have developed strategies, some of which are quite similar between countries, while others refer to specific problems. In all three countries, increased efforts are made to improve timeliness, relevance, conceptual coherence, and the representativity of results. Also, by offering more metadata, the statistical offices are improving the transparency of the methods and procedures they apply. Such quality enhancement is accompanied by improvements of efficiency, wider use of administrative data and data from business accounting systems as well as registers to disburden the respondents, and by more intensive use of new information and communication technologies for statistical surveys and for data dissemination. Another very important contribution to the efficiency of official statistics and to its ability to adjust to new information requirements is made by priority-setting in the statistical work programme, which creates scope for new current tasks, as the Director-General of Eurostat, Mr. Hanreich, showed in his paper.

Commissioner LI Deshui was absolutely right to emphasise in the final remark of his paper that the system of official statistics will be able to survive only if its services are considered as important by the society, that is if it adjusts to its users, and Commissioner OH Kab Won underlined in his paper that accuracy and efficiency are major quality characteristics for official statistics. This describes the conflicting goals faced by official statistics in our countries: Growing demands of various user groups on the one hand, and the demand for reducing burdens on respondents and for more efficient use of funds on the other hand. In view of these challenges, the exchange of experience between our statistical offices is useful and highly welcome, because we have to learn from each other or develop solutions together.

Also, the representatives of the users, Ms. Gross of the Federation of German Industries, Prof. Hütther, Director of the Cologne Institute for Business Research, Prof. WANG Tongshan, Director-General of the Institute of Quantitative and Technical Economics at the Chinese Academy of Social Sciences, and Dr. JEONG Insoo of the Korea Labor Institute pointed out in their papers of Session 2 that official statistics must consider itself as a service provider for its customers and the users from the political, economic, and scientific ar-

*) Johann Hahlen, President of the Federal Statistical Office of Germany, Wiesbaden.

eas. In their statements, they clearly showed their future-oriented need for information and spoke frankly about the deficits they think official statistics still has to overcome. What should be mentioned here is better access to micro data for researchers, better representation of the rapidly advancing structural change in the economy and of current social phenomena such as employment, unemployment, poverty, and a stronger inclusion of analytical requirements when providing conceptually coherent data with short periodicities. In that sense, the users demand informative indicators and the application of innovative methods and procedures to monitor new economic phenomena, such as the trade with intangibles or with electronic and financial services.

The business representatives also demand that the efficiency of data collection be improved, which can contribute to improving the up-to-date ness of statistical data and to reducing the burdens on respondents. What is also important from their point of view is an improvement of the infrastructural and legal framework conditions towards more flexibility and better efficiency of data collection and dissemination. This is of particular importance to the German representatives of the users from the business and scientific areas. The Chinese and Korean representatives of the scientific community put the emphasis more on the growing demand for data bases for the reform and Labor market policies in their countries and called on the statistical offices to intensify their efforts in that area, as did the German representatives of the users. From the point of view of a government representative, the head of the department of policy and fiscal affairs at the Chinese Ministry of Finance, Mr. YUAN Guangrui, the government, too, has an unmet demand especially for complex data on public finance and budgets. Such results are an important information basis for decision-making in terms of economic policy of the government within the scope of the transformation process.

Today's papers focused on the efforts made to reduce the burden on respondents; in this context, Professor Stäglin presented our study on the burden placed on businesses, whose results we will be pleased to transmit to our friends from the Chinese and Korean offices. Mr. SONG Il-Kyu of the Korea National Statistical Office explained the innovative and internet-based solutions to reduce the burden on households in the coming census.

With the papers presented in Session 3, an attempt was made by means of case studies to show solution approaches to meeting future information demand – approaches as they are applied in the statistical systems of Korea, Germany and China.

Prof. Stäglin and Mr. Song shed light on the important issue of burdens placed on respondents by official statistics. The first paper dealt with the issue of determining the burden placed on businesses by statistics in the context of the envisaged reduction of bureaucracy, while the second focused on the implementation through internet use in the population census in Korea. Both items are important. First of all, we have to determine the actual burden – rather than the subjectively perceived burden – and its causes, so that we will be able to make concrete proposals for reducing the burdens and to offer appropriate tools. Using electronic questionnaires on the internet, as is envisaged in Korea, is a highly promising way towards reduced burdens on the citizens and, at the same time, it ensures efficient use of funds and takes account of statistical confidentiality.

Dr. Ehling presented a concept of reporting on the quality of statistical results. In my paper, I emphasised the importance of quality assurance. Using so-called quality indicators to assess the accuracy, up-to-date ness and availability as well as comparability in terms of time and space is an important element of comprehensive quality management.

Our colleague Mr. ZHENG Jingping covered an issue which has been a matter of worldwide controversial discussion for a long time already and which has a particular impact on the future orientation of the work of the statistical offices: "Should statistical offices perform analyses and forecasts?" Mr. ZHENG Jingping disagrees with the more traditional opinion which says that in-depth analysis and forecasting are not part of the tasks of official statistics because this would endanger the commitment to objectivity and impartiality. He rather thinks that the very professionalism of official statisticians in dealing with statistical data is the basis for well-founded political consulting while taking account of the basic principles of objectivity and impartiality.

My colleague Dr. Bauer presented two new facilities of German official statistics, which we are particularly proud of – the research data centres of the Federation and the Länder. There is one goal of those service facilities which I would like to mention in particular, that is the improvement of the data infrastructure for political consultation and for scientific research. Prof. Hüther already pointed out that it is necessary to make major progress in those fields. Both research data centres have taken up their work and they will gradually extend their range of data offered and their consultation service for scientific institutions. I entirely agree with Dr. Bauer in that this is something by which we statisticians make a major contribution to enabling the German empirical economic and social researchers to catch up with international standards.

List of speakers *)

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