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**SESSION 4: CONFLICTS BETWEEN INNOVATION AND CONTINUITY**

**CONFLICTS BETWEEN INNOVATION AND CONTINUITY: JAPAN'S CASE**

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INTRODUCTION

1. When there are new socioeconomic phenomena which are difficult to interpret from existing statistics, statistical users often complain about insufficiency of official statistics, and ask for changes in official statistics so that they may provide more useful information to interpret the new phenomena better. On the other hand, changing or innovating official statistics involves not only an additional cost but also risks such as causing breaks in time series or abandoning the existing time series. In such a conflicting situation, it is necessary to consider carefully whether changes are truly needed or not, and if so, what kind of changes they should be.

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2. This paper presents a view on how to resolve the conflicts between innovation and continuity in producing official statistics. The authors think that the problem is not necessarily an alternative choice but quite often a matter of balancing between the two options. In this sense, the authors think that, before making a decision, it is important to assess

very carefully the urgency for the change in comparison with the necessity to maintain the existing statistical series and to find out the real causes of users' complaints. In this process, solutions to satisfy the true needs of users may often be found without disturbing the existing statistical series. If changes are considered to be truly needed as a result of the assessment, various measures have to be taken to avoid or minimize discontinuity of statistical series.

3. This paper consists of four sections. In the first section, the authors' general view will be described on the problem of innovation and continuity. The next three sections describe three recent experiences of the Statistics Bureau of Japan as examples of discussions on changes in official statistics. The first example refers to the Consumer Price Index, where some information supplementing the CPI has been additionally provided to help users better understand the current situation of prices, and no methodological change has been introduced in the framework of the CPI. The second example refers to the monthly Family Income and Expenditure Survey, where a new regular survey has been started to supplement the existing survey. The third example refers to the monthly Labor Force Survey, where a plan to redesign the survey is now being considered in order to provide more information concerning the unemployed and underemployed. Finally, concluding remarks will be given.

#### General view on the conflicts between innovation and continuity

4. When rapid changes occur in the society and the economy, statistical users often complain about the official statistics for not describing well the current conditions. They then ask for some changes or innovations in statistics so that they may better reflect the current situation.

5. In such cases, the authors think that first priority should be given to identifying the true needs of statistical users. Decision to change the existing statistics should be made only after very careful consideration of the users' true needs. When the users' complaints on the existing statistics are carefully examined, there may be a better solution to satisfy the users than just changing the statistical series in accordance with the users' requests. In some cases, for example, complaints may be based on users' misunderstanding of statistics. If so, promoting better understanding among users may be the appropriate solution. In other cases, users may be complaining because information needed for certain analyses is not available or because the present statistics are not sufficiently reliable. If so, providing supplementary statistics or improving reliability may be more appropriate solutions. If users are satisfied with the supplementary statistics, it becomes possible to avoid changing and disturbing the existing statistical series.

6. In responding to criticisms or requests from statistical users, it is desirable for official statisticians to provide the appropriate

supplementary data promptly. At the Statistics Bureau of Japan, if supplementary data are considered to be needed, the existing data sources are searched at first, as the data may sometimes be readily available. If the necessary data are not found, they may be collected by adding new data items to an existing survey. For this purpose, the monthly surveys are seldom used because most of the monthly surveys require strict continuity. Instead, the new data items are usually included in a small-scale special survey or a quinquennial survey because continuity is less important in such surveys. Each of the monthly surveys of the Statistics Bureau is accompanied by a quinquennial survey of similar subjects with a larger sample. The latter has an emphasis on detailed cross-sectional data on the current topics rather than time series. For this reason, the new data items are usually collected at first by the quinquennial survey, and if the new data are proved to be useful, they will be collected by the monthly survey.

7. If it is judged that some changes in the existing survey are necessary and discontinuity in the time series data is inevitable, it is necessary to provide some measures to fill the gap between the old and the new series. At the Statistics Bureau, in most cases, the old series are retroactively revised on the same basis as the new series. If resources permit, the old series are continued and published in parallel with the new series for a certain period.

8. Preserving continuity is not necessarily incompatible with introducing innovations. Whether to change the existing surveys or not should be decided after assessing the balance between the gains of information additionally obtained by the innovation and the loss of the existing statistical series. In the following sections, three recent examples are given to illustrate the above discussion.

#### Example 1: Consumer Price Index

##### (1) Criticisms to the CPI

9. Since mid-1980's, Japan's price level has remained quite stable for more than a decade. In the decade from 1985, the CPI rose by 14.4%, which is an annual rate of 1.4%. Two main factors contributed to this stability. One is the rapid appreciation of yen which kept down the prices of imported goods. The other is the cost-cutting efforts by retailers, which has been often called "price collapse". Price collapse appeared in various forms, such as low-priced private-brand goods, rigorous inventory controls, specialized discount shops, etc.

10. In the first half of 1990's, criticisms on the CPI often appeared in the press. Some economists and journalists criticized that the CPI did not reflect the real changes of the price level. They believed that the CPI overstated the price increase rate and, as a result, the economic growth rate is underestimated. They, therefore, claimed that the CPI

should be changed in two respects: (a) the specifications of the retail price survey should be changed so that the new private-brand goods, which became popular recently, could be included; (b) more price data should be collected from newly emerging "discount shops" so that more of discount prices could be included.

(2) Measures taken by the Statistics Bureau

11. The criticisms were examined at the Statistics Bureau, and it was found that they were mostly based on a mistaken assumption that the CPI should reflect the prices of the goods and services which were prevailing in the market at the time of the survey. This assumption is not right because the CPI should measure the pure price changes excluding the effect of changes in quality and quantity. If the price survey did not trace the prices of the same products or equivalent ones, the changes of the prices would reflect the quality changes as well. As for the treatment of "discount shops," it has been confirmed that they were already represented in the sample to some extent. It was, however, difficult to measure the exact share of such shops because the definition of "discount shops" was not yet well established. For this reason, the scheme of store selection has been maintained as before.

12. The Statistics Bureau then publicized its views described above as far as possible. In this connection, the concepts and the methods of the CPI were fully explained with an emphasis on the difference between the pure price change and the change caused by the quality difference. The explanations were made easy to understand for those who were not used to statistics.

13. Two kinds of supplementary data illustrating the explanations were also given to help users understand the CPI better. One kind of data referred to the changes in the purchase prices taken from the Family Income and Expenditure Survey. They were compared with the changes in prices collected for the CPI to show that the purchase prices reflected not only the pure price changes but also the changes in the quality of products. The other kind was the decomposition of the CPI into goods and services. While the over-all CPI rose mainly because the component of services kept rising, the CPI for goods remained quite stable. The CPI of durable goods such as electric appliances even showed a slight decrease. Although it took some time to convince the critics of the proper interpretation of the CPI, the criticisms eventually subsided. The publicity campaign on the methods and the interpretation of the CPI has been continued until now.

14. In coping with the criticisms to the CPI, the experience of the similar criticisms in the past was helpful. The severest criticisms occurred during the first oil crisis of 1973 when the CPI rose more than 20% annually. Some economists claimed that the CPI's rate of increase was

lower than the "real" inflation rate based on their subjective perception and that the methodology of the CPI should be changed. Although the inflationary economic condition of those days was completely opposite to the present deflationary condition, the basic nature of the criticisms was quite the same.

15. The root of the criticisms was the gap between the CPI and the public perception. So, the Statistics Bureau made a research on the public perception of inflation in order to reveal the causes of the gap between the CPI and the public perception. For this purpose, opinion polls were taken successively to find out what factors would influence the public perception on prices. As a result, it was found that the public perception was mainly influenced by the price increase of the goods and services which were frequently purchased or which had a sharp price increase. During the first oil crisis, while the prices of basic commodities did rise sharply, the prices of durable goods rose relatively slowly, which deterred the CPI from rising too sharply. It was, therefore, theoretically incorrect to change the methodology of the CPI merely to make it match with the public perception. After the Statistics Bureau published the analysis of the opinion polls, criticisms to the CPI based on misunderstanding became very rare.

16. In the above cases, the criticisms to the CPI were based on misunderstanding. The Statistics Bureau, therefore, made efforts to gain proper understanding of the CPI by providing various explanations and supplementary data. In this kind of case, it is not an appropriate solution to manipulate the statistical methods on the basis of the claims from users. Users' complaints about statistics usually show that they need better explanations or supplementary information to interpret the current situation. So, it is very important for the producers of official statistics to resolve the misunderstanding and to provide the supplementary data that the users truly need.

### 3 Example 2: Family Income and Expenditure Survey (FIES)

#### (1) Criticisms to FIES

17. The Family Income and Expenditure Survey (FIES) is a monthly survey which collects and compiles the data of family account books kept daily by about 8,000 sample households. The data of FIES are published about one and half months after the survey month. FIES provides the data on income and expenditure of households in detailed breakdown. It is one of the most important data sources for both macroeconomic and microeconomic analyses.

18. Although the FIES data and the national accounts data on household consumption expenditure usually move almost parallel to each other, they sometimes showed different movements in the past. Since 1980's, when the difference became apparently large, economists often cast doubts on the

reliability of the FIES data, and claimed that the methodology should be somehow improved.

19. In early 1990's, two kinds of criticisms were made by some economists. One was that the household expenditure of FIES showed too low a growth compared with the private final consumption expenditure of the national accounts. The other was that the savings rate of FIES was too high in comparison with that of the national accounts. These criticisms had been observed from time to time in the past, although they had not been so conspicuous.

#### (2) Measures taken by the Statistics Bureau

20. The Statistics Bureau tried to identify the causes of the gaps between FIES and the national accounts as a step for improving FIES. As a result, the following factors were found as the explanation of the gaps.

##### (i) population vs. households

The national accounts figures refer to the total population, while the FIES figures refer to the average per household. As the size of the households is becoming smaller these days, the household expenditures of FIES tend to give lower growth rates in comparison with the counterpart of the national accounts.

##### (ii) sampling errors

Although the sample size of FIES is quite large for this type of survey, the estimates are subject to a relatively large sampling error. For example, the estimate of the average household expenditure is influenced by a few percent, if the number of sample households that purchased expensive durable goods such as automobiles happened to have increased abruptly due to random sample fluctuation.

##### (iii) difference in concepts and definitions

The concepts and definitions of household expenditure are different between FIES and the national accounts. The former includes all the monetary expenses in the ordinary sense, while the latter additionally includes the expenses not directly incurred to the households, such as imputed rents of owner-occupied houses, government contribution to health care, etc.

##### (iv) difference in coverage

The FIES covers only non-agricultural households with two or more members. While the percentage of agricultural households in Japan is decreasing to less than 5%, one-person households are increasing rapidly, reaching 24% of the total household. As one-person households are mainly composed of the young and the elderly, both of whom have high propensity to consume, omission of such households from the coverage of FIES gives a large influence on the estimate of household expenditure.

21. With all the above factors taken into account, it was concluded that there was no methodological problem in FIES which might have caused the gaps between FIES and the national accounts. As the Statistics Bureau published the above reasons for the gaps, statistical users became more aware of necessity to use other related statistics when they interpreted the FIES data.

22. Besides clarifying the causes of the gap, the Statistics Bureau decided to start a new survey covering one-person households from 1995 on. The Statistics Bureau had kept the idea of such a survey for nearly ten years, but the resources had not been available before. The new survey has a sample size of 670 households. It employs the same enumerators as FIES, but the sample allocation method is slightly changed from FIES because one-person households are generally more difficult to approach than multi-person households. The results of the new survey are tabulated separately from FIES because one-person households may not be able to provide income and expenditure data in as good quality as multi-person households do and it is expected to be difficult to produce reliable estimates covering both one-person and multi-person households together. In this way, possibility of introducing unknown non-sampling errors to the existing survey has been avoided.

23. The first annual result of the one-person household survey was compiled and published in April 1996. The results attracted much attention of the users of the FIES data. In the near future, the one-person household survey is planned to be merged to FIES, if the problem of possible non-sampling errors is resolved and more resources become available.

#### 4 Example 3: Labor Force Survey

##### (1) Criticisms to the Labor Force Survey

24. The Labor Force Survey (LFS) is conducted every month to obtain the data on employment and unemployment of the population. Among the statistics produced from LFS, the unemployment rate attracts much public attention. Since 1992, Japan's unemployment rate has been going up steadily, and reached 3.5% in May 1996, which was the highest level in Japan. Although this level is still low compared with other countries, there are strong concerns that Japan may suffer a chronically high

unemployment because of the economic downturn and rigidity of the labor market.

25. In 1995, some economists and journalists began to criticize the unemployment rate of Japan for underestimating the real situation. Their criticisms were based on an unofficial estimate of U7, a subsidiary indicator on unemployment which gave a higher rate than the official rate. They claimed that it was not right for LFS to exclude so-called "discouraged workers" from the unemployed and that it was necessary to change the definition of unemployment and the method of LFS to match with the counterparts in foreign countries.

(2) Measures taken by the Statistics Bureau

26. As the criticisms were based on misunderstanding of the definition of unemployment, the first task of the Statistics Bureau was to provide the correct information. The same kind of criticisms had occurred from time to time in the past. The truth is that LFS's definition of unemployment strictly adheres to the international standard definition recommended by ILO. It is not appropriate to include discouraged workers in official unemployment because they are not so strongly attached to the labor market as the unemployed and because the international definition of unemployment excludes discouraged workers.

27. Just refuting the criticisms was not sufficient to satisfy the users' true needs. The criticisms seemed to have occurred not because users really wanted the existing statistics to be changed but because they felt the employment and unemployment statistics were not sufficient for their own analyses. The Statistics Bureau, therefore, provided supplementary data which users would need for further analysis. The data were taken from the annual Special Labor Force Survey (SLFS) and the quinquennial Employment Structure Survey (ESS). Both surveys were designed to cover a wider range of topics in comparison with LFS. The two surveys and the monthly LFS have been designed to complement among themselves. Although the data of SLFS and ESS had already been published before, they were presented again in order to draw more attention in the current context.

27. In addition, the Statistics Bureau has recently started to review the relationship among the three surveys on labor. The data items of the present LFS are limited to the most basic ones, while SLFS and ESS include more detailed data items regarding unemployment and underemployment. As the labor condition in Japan is rapidly changing, the Statistics Bureau now considers that detailed labor statistics are needed on a monthly basis. It is, therefore, preferable for the Statistics Bureau to provide more frequently the detailed data covered by SLFS and ESS. According to the current plan, LFS is to be expanded to include more items so that the data which have been available only once a year or every five years could be provided every month. SLFS and ESS are also to be redesigned

accordingly. As the availability of resources is not yet known, the plan is not yet determined in detail.

#### CONCLUSION

28. When an unfavorable economic condition prevails, criticisms to statistics increase as well as criticisms to the public policy. But quite often, the criticisms are based on misunderstanding. Official statisticians have to make sure that statistics are properly interpreted so that the decisions may be made on the basis of correct understanding of the reality.

29. In spite of occasional claims given by some critics to change the existing statistics, the authors think that users are generally good at discovering the problems in statistics but not necessarily good at finding the solutions. It is the role of official statisticians to provide the appropriate solutions based on their expertise. In this process, it is important for statisticians to utilize the existing data sources as far as possible because the available resources are usually quite limited.

30. The Statistics Bureau of Japan has so far placed a relatively stronger emphasis on continuity than on innovation. The authors believe that preserving continuity is important because the accumulated data series are important databases which help interpret the current economic and social changes. As the statistical environment is different from country to country, it may not be possible to generalize the experience of Japan. But the authors believe that some points can be shared with other countries.

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