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## **SUBCONTRACTING OF PRICE COLLECTION: THE SWISS EXPERIENCE**

**Paper submitted by the Swiss Federal Statistical Office\***

### **Summary**

In May 2000, during the revision of the Swiss consumer price index (CPI), decentralized price collection was subcontracted to a private agency, IHA-GfM, which specializes in market research. The reasons for this decision were the dysfunctioning of the previous system and the need to introduce comprehensive quality assurance and management. Prices, of course, are the basis for any CPI compilation. When the new system was being set up, particular attention was paid to the preparation of a guide for price collecting and to training of the new price collectors. Since May 2000, the system has been working rather well, thanks to quality controls and especially to good liaison and collaboration with IHA-GfM. The more transparent and flexible new system certainly yields better-quality data, and it also allows for further development in the long term.

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## **1. The reasons for subcontracting**

### **1.1 The “militia” system before to May 2000**

1. From May 1993 until May 2000, prices were collected by commune officials during the first eight working days of each month. This very poorly paid work was done during the officials' working hours, along with their other activities (fire service, administration of public health or local police force). These officials received training at the very start of their work. Staff of the Federal Statistical Office (OFS) would then visit the communes each year to discuss any problems and to improve their reporting.

2. The quality of the price collecting nevertheless did not meet the expectations of OFS. In many cases, prices were collected not by the commune official himself but by the shop manager. The official in fact served only as an intermediary. Lack of time and the poor remuneration in part account for and excuse these practices. However, the main weaknesses derived essentially from the system itself: poor coordination of procedures (quality adjustments were made differently from one region to another); the non-standardized methodology employed; insufficient checks in the field; and lack of training.

3. This system, as it stood, had little future. The independence of the communes from the federal administration meant that no real pressure could be brought to bear in order to improve the system. And, in view of the increasing need for better management and constant improvement of quality, the system had to be remodelled.

### **1.2 The general context: quality assurance and management**

4. The prices collected serve as the basis of the consumer price index. Poor organization of the price collection system, leading to a lower standard of price observations, adversely affects the overall quality of the CPI, even if other methodological aspects are perfectly adequate. Paramount importance therefore has to be attached to the system of price collection, as the mainstay of the CPI.

5. Quality assurance and management are topical issues today. There is strong external and internal pressure to ensure that the system works flawlessly and that the published data is of good quality. The professionalization of price collection is the first step towards this end.

### **1.3 The advantages of subcontracting over the previous system in a context emphasizing quality**

6. A preliminary analysis helped to identify the expected advantages as follows:

- Centralized management of the 16 reporting regions. The price collecting agency chosen would be asked to coordinate the work of the price collectors, OFS thus being left with only one intermediary for the whole of the country;
- Possible standardization and harmonization of price collecting practices and techniques through training;

- Possible ongoing improvement of the system and techniques over the months and years: the requisite flexibility was, of course, one of the main advantages foreseen;
- Better checking of the prices obtained and possibility of making checks in the field at will;
- Strong leverage on the price collecting agency to maintain the desired quality standard.

## **2. Establishment of the new system**

### **2.1 Apportionment and definition of tasks**

7. There are two kinds of price collection for the Swiss CPI: centralized price collection, which is done by OFS staff, and decentralized price collection by regional price collectors. The distinction made is based on the nature of the groups of products for which prices have to be collected: prices set at regional level are collected by regional price collectors, while prices set at national level are collected by OFS staff. It is decentralized price collection that is being subcontracted to the agency commissioned, IHA-GfM, and not all price collection. OFS thus continues to apply its expertise in the field, using its own system for about a third of the prices needed for the compilation, the rest being collected and submitted by IHA/GfM.

8. At the decentralized level, IHA-GfM has the task of collecting, codifying, validating and checking on prices in the reporting regions. It is also responsible for coordinating the work and training of the price collectors (in close cooperation with OFS) in order to establish a harmonized system for all CPI reporting regions.

9. OFS oversees the work done by the IHA-GfM price collectors, in particular carrying out checks in the field and validating the results. It is also responsible for the price collection system as a whole, for improving the price collection guide and for introducing the new methods and techniques of reporting. Playing an active role in the process, it participates fully in the training of the price collectors.

### **2.2 Transfer of information to IHA-GfM**

10. The new system was put in place in four months, only just enough time within which to set up such a complex organization. Firstly, all the necessary information had to be transmitted to IHA-GfM: apportionment of tasks, estimation of the number of prices and outlets to be covered per reporting month, detailed description of the price collectors' task administration of the data providers, management of the database (transmittal of prices and validation of the data), common documentation, quality controls, establishment of a hotline, protection of the data and reporting by OFS and by IHA-GfM, which at the same time had to put in place an entire system and computer programme to manage and check about 30,000 prices each month.

### **2.3 Preparation of the price collection guide**

11. Before the introduction of the new system, instructions on the techniques and particularities of price collection for each product were already available to commune price collectors and data providers. What was lacking, however, was a complete and detailed document covering all the stages and intricacies of price collection, a kind of reference document for price collectors, namely the guide to price collection.

12. This guide was prepared not only as a means of bringing together in a single document all the information necessary for good price collecting, but also with a view to updating existing techniques and suggesting possible improvements. The contents of the guide include the following:

- A definition of the Swiss consumer price index, its importance and its uses for price collectors to be able to explain this tool to data providers;
- The role and tasks of price collectors;
- The handling of sales outlets: how to choose and contact or replace them;
- The rules relating to price collection: choice of products, description of the items and techniques for their replacement;
- Special rules covering, inter alia, seasonal products and clothing;
- Computer transmission of data: how to load or enter and transfer the data;
- Other practical information: detailed contents of the standard basket and number of products desired, and periodicity of reporting by product group;
- This guide to price collection is adapted and modified frequently in the light of technical developments and comments from price collectors. It is thus regularly updated. The guide is not only useful for price collectors, but also serves as a training tool for new OFS staff.

### **2.4 Training of price collectors and the pilot survey**

13. In February 2000, the price collectors received their first training. The purpose of that training session was to prepare them for the March pilot survey and to provide the necessary basic information for them to begin their work.

14. During the pilot survey, which was also combined with the collection of base prices, the price collectors were accompanied by OFS and IHA-GfM supervisors. This exercise had three main purposes: to carry on the training in the field, to support the price collectors during their initial reporting, and to deal quickly and efficiently with uncooperative sales outlets (many data providers, taking advantage of the change of price collectors and their relative inexperience, refused to participate). It is mainly by observing the price collectors in the field that one can

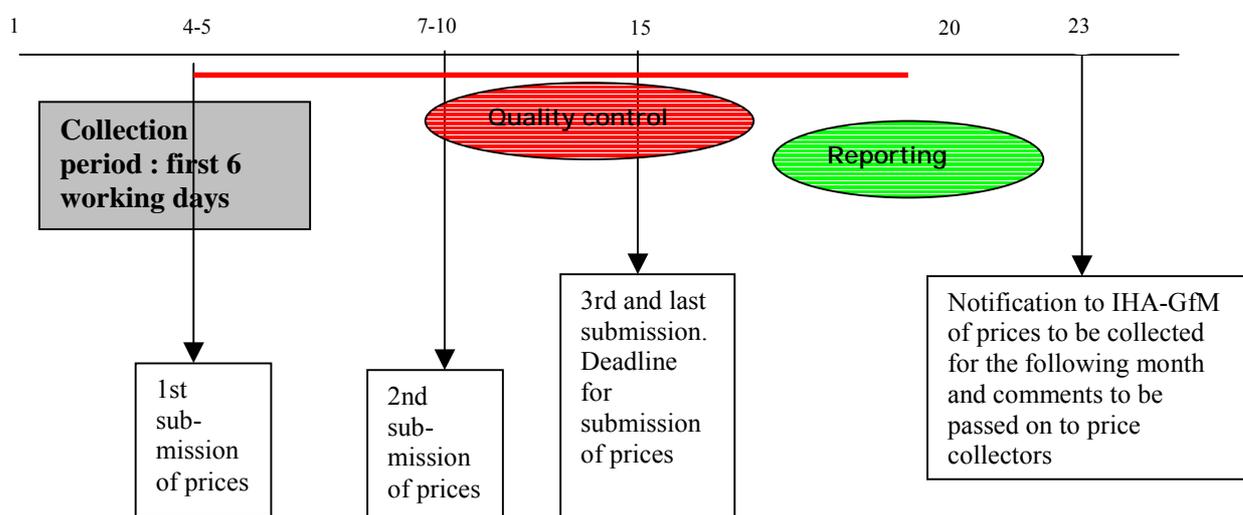
appreciate the difficulty of collecting prices and the number of rules that have to be followed. This support was very important for the introduction of the system, making it possible to assess quite rapidly the capabilities of the price collectors and to respond promptly whenever the quality of the price observations might be threatened.

15. A thorough check was made on the data for March and April 2000 and a second training session was then organized in April 2000 to prepare for the collection of base prices for May 2000 (the reference month of the Swiss CPI). Aside from a few teething problems, the system worked rather well.

### 3. Functioning of the new price collection system since May 2000

#### 3.1 Description of the system

**Diagram 1: Stages of price collection in a given month**

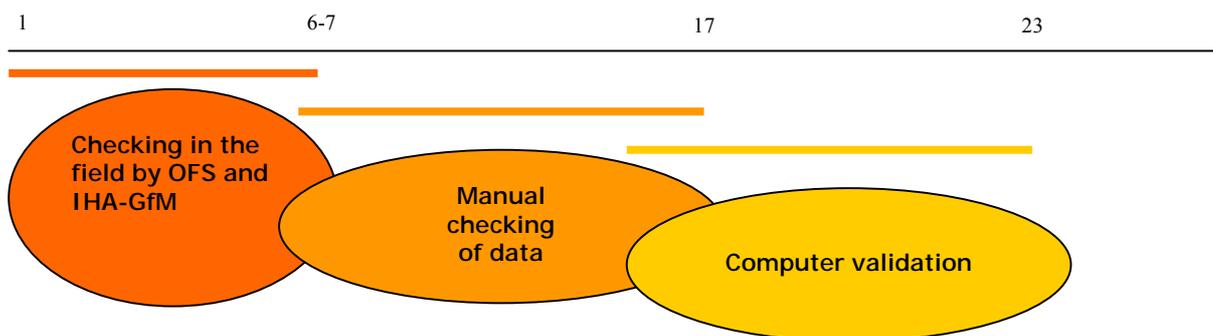


- **Collection period:** Prices are collected in the field during the first six working days of each month. Subcontracting has helped to shorten this period significantly. With the new system, three price collectors per region are assigned to this work, as against one or two under the old system. Prices are still collected on paper, using forms that the price collectors were able to print out themselves. The price collectors are all supplied with a laptop computer and printer. Once the prices have all been collected at the sales outlet, the price collectors enter the data on their laptops and transmit the data directly via the Internet to IHA-GfM. A first partial check of the data is made at the time of data entry. The computer program was designed with built-in safeguards for signalling certain errors to the price collectors, who can then correct them immediately or return to the sales outlet in question to obtain the information wanted;
- **Submission of prices:** The prices are submitted via the Internet in three stages up to the 15th of the current month. They are validated by IHA-GfM, with a check on all

the products and sales outlets, study of likely variations and a check on new products. This three-stage process helps to apportion the producing team's tasks of checking and correcting efficiently;

- **Quality control:** Quality controls are performed at several levels, during and after the price collection period. This is how the controls are planned for a given month:

**Diagram 2: Quality controls**



- **Field checks:** Each month, one or two reporting regions are chosen for quality controls in the field. Since it has direct access to the IHA-GfM database, OFS can print out the forms as soon as the data is transmitted by the price collectors. A number of outlets are selected and checked. These quality controls help us to make an objective assessment of the quality of the data, check indirectly on IHA-GfM's work and pinpoint any weaknesses of the price collectors, i.e. the most common errors. All of this information is very useful for training;
- **Manual checking of the data:** All the price collection forms are checked manually. Most of the errors we find here are connected with the introduction of new products or the use of substitution codes. IHA-GfM is informed of any systematic errors and must then inform the price collector concerned;
- **Computer validation:** These checks with reference to predefined benchmarks (variations relative to the lower and upper limits, and to average prices) are the last checks made on the data;
- **Reporting:** The reports produced by IHA-GfM and OFS help us to collate the information and detect any problems or difficulties. There are two types of reports:
  - A monthly report: conduct of the survey and checks; description of the kinds of errors committed; statistics on the number of prices, sales outlets and codes for changing the assortment, and results of the computer validation;
  - An annual report: performance of the system in general, possible improvements, adjustments needed, etc.

### 3.2 Training and accompaniment of the price collectors in the field

16. The price collectors receive training three times a year. These sessions focus on the main price collection problems encountered, and include a series of practical exercises. The training session offers an opportunity for the price collectors to meet each other, exchange the results of their experience and talk about their own individual difficulties. A problem encountered by any one person, more often than not becomes everyone's problem. This approach creates a team spirit for work that is essentially done by each individual alone. It helps generally to increase motivation and productivity.

17. As part of their training, the price collectors are frequently accompanied in the field by OFS and IHA-GfM supervisors. The supervisors can thus carry on the training in the field and provide guidance to the price collectors in the event of any difficulties.

### 4. Summing-up of a year's experience and conclusion

18. The questions most frequently asked are as follows: is the data collected and the CPI itself of better quality; and are the results more relevant and a closer approximation of the real situation? Costs of decentralized price collection that are six times higher than with the old system certainly have to be justified by a significant improvement in price reporting and the quality of the data obtained.

19. In general terms, it is difficult to *quantify* the improvement brought about by the new system. That would have required establishing objective criteria for comparison applicable both to the old and to the new system, such criteria including, for example, the number of corrections needing to be made. It would also have been necessary to carry out quality checks in the field under the old system. Showing that the investment is worthwhile, in the same way as an industry or enterprise might seek to justify its higher costs by an increase in its turnover, is hardly feasible for the price collection exercise.

20. Some conclusions can, however, be drawn regarding the performance of the system and its practical advantages:

- **Better checking of data and greater control of the system.** First of all, the data is checked at three levels (price collectors, IHA-GfM and OFS), thereby significantly reducing the risk of errors or inaccuracies. Checks in the field then help to make an objective assessment of the quality of the price collectors' work. Lastly, the reports give detailed information about what happened during the price collection exercise: the information made available guarantees the transparency of the system. We can manage the system better because we see perfectly well its limitations and the weaknesses and strengths of the price collectors. With excellent coordination and cooperation and a willingness to improve, failings can be quickly detected and remedied. The interchange of information and transparency are among the most important advantages that we have noted after a year's experience. Subcontracting,

of course, offers no respite for the main contracting party, which has to provide guidance, participate actively in certain processes (such as training) and ensure regular follow-up.

- **Greater flexibility.** Through training and feedback, the price collection techniques can be refined easily and quickly. The system has in the process lost its former relative rigidity.
- **Standardization and harmonization of practices.** The price collectors are all “from the same mould”. They have learnt together, following the common instructions in the price collection guide, the techniques and practices for collecting prices.
- **Possible ongoing improvement in the medium and long term.** The price collection system developed in 2000 is certainly not yet in its final form. Thanks to the good cooperation established with IHA-GfM, we can move forward: to develop new price collection techniques, including data entry in the field using pocket computers; to improve feedback and communication; and even to readjust the “centralized/decentralized” mix of the price collection system.

21. Has the subcontracting of price collection been the engine for the implementation of a comprehensive quality management system? We can unhesitatingly answer in the affirmative. This change of system, as well as the fact of working with a certified ISO research institution, has enabled us to put quality control and management processes in place and to document thoroughly each stage and production process associated with price collection. We have thus laid a sound basis for the monthly compilation of the Swiss consumer price index.

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