

Impact of Incentives to Traders on Price Data Collection

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1. Introduction

Every National Statistical Office (NSO) collects price data on monthly basis for the calculation of the Consumer Price Indices (CPI) and subsequently the inflation rates. While some do that once in a month, others do that twice in a month. In Ghana, where data collection is undertaken twice in a month there have always been problems with respondent fatigue, that is, market/shop owners that complain regularly about the visits of price collectors and the frequency of the visits.

This problem has been aggravated by the advent of the International Comparison Program (ICP). The respondents who complained about the frequency of the CPI market reading are now faced with a more detailed prices reading whereas districts or regions staffs involved with the price readings also complained about pressure in terms of the sheer increase in amount of work.

The data quality reduces because of what happens in the field. Market women easily become irritated when they see data collectors and would give them incorrect prices. Field staffs become tired and would resort to filling the questionnaires hiding under trees and in certain parts of the market instead of going to the field to read the prices.

The increase in the number of price collection staffs and market regular supervision helped to minimize interviewers' fatigue and improved data quality respectively. The problem that remained was how to minimize interviewee's (respondents) fatigue. The trader did not think there was anything to gain from her efforts in contributing to the

process. Was the attitude to change if she made some immediate gains through incentives? What type and level of incentives might be given to traders to correct optimal results?

This work is based on a case study of the problem faced by the Ghana Statistical Service and how the problem was solved by way of incentives. The paper discusses what **improvements** have come into price data collection through incentives to traders.

2. Price data collection in Ghana

The CPI covers the whole country, both the urban and rural areas and in all nine regions. Forty (40) markets, made up of 9 urban and 31 rural markets have been sampled throughout the country from where market prices are collected. Within the price collection centres (markets), price collection takes place in outlets (point of sales) such as shops, stalls, stores, supermarkets, departmental stores, open and covered markets etc. The CPI basket is made up of 242 items (goods and services) that represent the total expenditures of households.

Data collection for the calculation of the CPI is undertaken by staff of the Regional and District Offices of the Statistical Service. A single questionnaire is used for all the products at all the points of sale. For each item (except those with fixed prices, such as postage stamps), six price readings are taken in the urban market centres and three in the rural market centers. Price collection is undertaken twice every month, during the first and third week of the month, and the purpose is to collect enough observations for used in the index calculations. About forty thousand price quotations are collected every month for calculating the CPI.

The ICP started in Ghana in 2007. The ICP also covers the whole country, both the urban and rural areas and in all the ten regions. The ICP basket has 740 goods and services which are priced in forty two (42) markets.

The ICP and CPI have the same basic data (market prices) requirement even though they differ in terms of the scope and emphasis. Although 149 products are common to both CPI and ICP, price collection is undertaken separately and independently because of differences in product descriptions and specifications. However, in our earlier paper delivered at the **Consumer Price Index Conference, jointly organised by UNECE and ILO in Geneva, May 7-9, 2008**, we illustrated how to integrate both the CPI and ICP price data collection to reduce both interviewer and interviewee fatigue.

3. Problems of Price data collection in Ghana.

The price data collection for the computation of CPI is one of the most important activities of Ghana Statistical Service. The quality of data collected directly determines the quality of the statistics produced from them. Because of this a lot of programmes and efforts are put in place to ensure problem free data collection at all levels of activities of GSS in order to ensure that the data collected are of the highest accuracy.

To achieve high level CPI accuracy (high precision, low bias) the products whose prices are collected and compared in successive time periods should ideally be perfectly matched; that is, they should be identical in respect of their physical and economic characteristics. Additionally price data collection needed to be undertaken from the same shops or stalls and at the same time each month. Market reading must be quick since the price collection must be completed by the end of the collection week.

Prices in Ghana like in most developing countries are taken from mainly individual shop owners or market women in open and covered markets and stalls. The prices are not displayed and so the trader has to stop all that she is doing to respond to the price collector who will need to ask for the price of the item one after the other and record in his notebook. Some of the items (especially food product that are mostly sold in non-standard units) have to be weighed on scale to measure their true quantities or weights accurately.

All this takes much of the time of the trader and was a big problem for her because she needs time for her customers. This in the course of time generated displeasure among the traders. With the introduction of the 2007 round of ICP, the situation became worse for both the price collectors and the traders which aggravated the problems of fatigue and disillusion among the traders.

To solve the problems the price collectors were provided with money to buy the fresh meat and vegetables they weigh to measure the quantities or weight. Purchasing of products took place in all nine regional capital markets. Nearly one hundred and twenty Ghana cedis (approximately 90 US dollars) were used to purchase products in each of the nine regional capital cities every month. No purchases of products are made in the rural areas where there are few traders and price collectors usually became acquainted with sellers and are able to collect the prices without any difficulty.

However, there were problems with the purchase of product from the markets. Apart from the huge amount of money required, a related problem to the purchase of items was how the purchased products were disposed of. There was always acrimony with the sharing. Initially, price collectors shared whatever was purchased and so most staff lobbied to become price collectors. Later on there was a decision to expand sharing to include all staff which only brought more problems. Who was eligible to receive what part of the booty, and, should the sharing be equal or according to rank?

Irrespective of the amount of training given to the price collectors, it became clear over the years that price collectors were increasingly losing the attention of the traders. Market women easily become irritated when they saw data collectors and would either not respond to them at all or give them any prices at all. All these reduced data quality.

The importance of high quality data for the computation of CPI cannot be over emphasized. National Statistical Offices employ different techniques to maintain highest data quality at all times. Over the years regular training has become one of the methods we had relied on to help price collectors to perform their job properly and to bring quality

data from the field. We realized that the benefits of regular training would be more favorable if, like in the developed countries, a lot of the retail trade were in the formal sector, four or five mega stores command more than 80 percent of household purchases of goods and services and most prices are displayed at any point in time. The situation became dire and something innovative needed to be done if GSS was to continue with this ritual of monthly data collection.

4. Provision of Incentives to Traders

The situation that the market readers were made to buy products at a huge cost to the GSS was ineffective and unsustainable. GSS needed to be more effective in communication with traders to get them respond to its need. Several methods and procedures were tried:

- First traders were threatened with the use of Statistical Service Law to send defaulting traders to court for prosecution but this did not achieve the needed result.
- Second, we organized a stakeholders' meeting with the leadership of the Traders' Associations to explain the concept of CPI and what the CPI is used for. They were taken through the concept, computation and the interpretation of inflation and how the inflation affects everybody in the country. They were asked to convince their members' to cooperate with the price collectors.
- Third, together with the leadership of the Traders' Associations, we organized series of forum for sellers to educate them on the importance of the data collection exercise and the need for their continued cooperation.
- Fourth, GSS also organized a half-day seminar for personnel from both print and electronic media on the importance of CPI to national development and urged them to assist the Service to educate the traders on the need for their cooperation to data collection.

In spite of all these attempts GSS did not succeed to ensure the necessary cooperation with the traders.

There was, therefore, the need to find an innovative way of getting the continued cooperation of the traders in responding positively to the price collectors. The GSS decided to offer some incentives to the traders in the latter part of 2006:

- In the first place, leaders of various traders' associations were engaged in some discussions in the presence of media and major TV stations. The management of GSS together with the print and electronic media visited the market women from whom prices are taken and interacted with them. The traders were very happy seeing themselves on the TV. They felt important and part of activities that contribute to the national development.
- In the second place, some of the photographs taken during the visits were also used to print calendars which were also distributed to them.
- In the third place, at the end of each year, GSS gave customized T-shirts and other souvenirs such as cups, plates and clocks to these traders.
- The leadership of the Traders' Association together with some of the traders was frequently invited to GSS data producer/user workshops and other national and regional functions where they were given first-class treatment.

These interventions have now become routine activities of GSS every year.

5. Effect of Incentives to Traders on GSS data collection

Giving incentives evoked full cooperation between shop owners and traders and price collectors. As a result, GSS is no more buying the fresh meat and vegetables. This saves GSS a total of about \$850 per month countrywide. The feed backs from price collectors are positive and encouraging. The traders do not complain any longer and GSS receives all data it requires on time and the costs are reduced to the products distributed to the traders.

Since the time GSS started giving incentives to traders, the phenomena where price collectors recorded unchanged prices for a number of products have reduced considerably. Our suspicion may be one or all of the following:

- Price collectors might not have been recording the prices quoted by the trader if she suspected that the prices were given out of frustration.
- Price collectors anticipating the type of reception and cooperation she was getting from the trader would not go to her at all but just record no change in price..
- Trader in an uncompromising manner would just quote the same price she quoted in the previous price reading for some or all of her products,

Data quality is now ensured, as far as possible, because the traders are more than willing to participate in the price collection. Even neighboring traders are complaining why the price collectors do not read prices from them. They also want to have the end-of-year parcels GSS gives to their traders. This is good news as it gives the price collectors encouragement to go for price reading. In fact, it makes the work of the monitoring officer very easy as traders are eager to indicate whether or not the price collector has been to her during the period of price reading.

Conclusion

Experience in Ghana over the years has revealed that regular motivation (however minimal) to shop owners and traders in the form of customized calendar, t-shirts, and other souvenirs is very important and one of the most efficient ways to help price collectors and achieve high data quality.