Hermann Remsperger: The evolution of inflation measurement: a central banker's view

Address by Professor Hermann Remsperger, Member of the Directorate of the Deutsche Bundesbank, at the symposium “Hedonic Methods in Price Statistics” held in Wiesbaden, 21 June 2001.

* * *

I

Five years ago, the Boskin Commission reminded us that inflation measurement is anything but simple. Although experts had known many of the problems for quite a long time, it took the Boskin Report to reawaken public awareness. This forced statistical offices – and, of course, also central banks – to sit up and take note of the situation in their countries. The Boskin Report prompted the Bundesbank, too, to devote more attention again to the problems of inflation measurement.

In the mid-sixties, the Bundesbank submitted a report to the Federal Fiscal Court in which the following opinion was reached: “In general, it should not be considered a reduction in the value of money if the cost-of-living index rises by, say, 1 per cent per annum; and an annual increase of between 1 and 2 per cent in the index can be regarded as indicating a deterioration in the value of money only with certain reservations.” In the Bundesbank’s annual derivation of its monetary target, this factor was reflected in a medium-term price assumption of 1½ to 2% per year.

In 1998, our Research group arrived at the conclusion that the range of uncertainty in measuring inflation in western Germany is clearly below 1 per cent. There were hardly any thorough empirical studies on that topic for Germany at that time. And not very much has changed in the meantime.

Yet this is exactly the reason why problems with measuring German prices will remain on our research agenda. We certainly do not wish to take the easy way out by doctoring inflation figures downward, nor do we wish to overstate Germany’s real economic performance. Instead, it is our duty to run reality checks on statistical methods, and to analyse their implications for economic policy in general and their importance for monetary policy in particular.

This work is also important for the calculation of real aggregates in the national accounts. In our May 2001 Monthly Report, we presented the results of a new study on this topic. It shows how real growth would have developed in the second half of the nineties if US methods of calculating the national accounts had been applied in Germany. The quantitative outcome of hedonic pricing and the use of chained indices increased Germany’s statistical growth in the second half of the 90’s by nearly ½ percentage point per annum.

We presented this result of our research together with the Federal Statistical Office to the press. And this is just but one indication how excellently the Federal Statistical Office and the Deutsche Bundesbank have been cooperating, in the field of German economic statistics in general and price statistics in particular. And let me point out that the Bundesbank’s inflation study in 1998 would not have been possible without the generous support and the helpful comments given to us by members of the staff at the Federal Statistical Office. Our joint sponsorship of this conference, which is so brilliantly organised and chaired by Wolfgang Brachinger, is another example of good and close cooperation.

II

I do know, however, that central bank research papers which take a critical look at statistical methods are not always welcomed with open arms by statistical offices. For instance, it is often argued that studies oriented towards the ideal world of a cost-of-living index are hardly relevant to official statistics since price statistics are founded on the principle of pure price comparisons.

I do not want to go into details of this rather fundamental discussion at this stage. However, I believe that from an economic policy perspective it is not possible to generate a meaningful consumer price index without taking recourse to economic criteria. The minute one encounters the problem of adjusting for quality changes, which is a centrepiece of this conference, there is no getting around drawing a picture of consumer assessments and consumers’ and sellers’ behaviour on the market.

By the same token, I don't think it would be desirable to look for the perfect "cost-of-living" index, meaning an index based on the sophisticated theoretical structure of microeconomics, without taking into account the feasibility aspect. For all these reasons it is necessary to have an open dialogue between statistical practitioners, researchers and users.

If we look at it that way, price statistics can never be static. Some years ago, Alan Greenspan delivered a speech in Frankfurt, quoting an official in the US government who once compared a nation's statistical system to a tailor, measuring the economy much as a tailor measures a person for a suit – with the difference that the "person" we are measuring is running while we try to measure him. The only way the statistical system can succeed, the US official said, is to be just as fast and twice as flexible. That is the challenge that lies ahead, and it is, indeed, a large one.

III

Now, five years after publication of the Boskin study, we are certainly allowed to ask the following two questions: What lessons have we actually learned? And what were the practical implications for price statistics?

The first thing we've learned is that the statistical distortion which can occur at the uppermost level of price aggregation when using a fixed basket of goods is generally quite insignificant, if the indices are changed to new, more up-to-date baskets of goods in a timely manner. This condition is sufficiently fulfilled for the Harmonised Index of Consumer Prices. And this is the indicator of inflation used by the European Central Bank to define its stability target.

As for the lowest level of aggregation, Ernst Diewert has reminded us of something already preached by Irving Fisher: We should at all costs avoid calculating the arithmetical mean of unweighted rates of price change. And that is exactly the reason, why the HICP is based exclusively on the geometric mean or on rates of change from average prices. So the European way of calculating the figures fulfills a second important condition for proper price measurement.

However, a big challenge arises with the vast field of new products, new types of products and new channels of distribution. This poses a whole set of problems for official price statistics, and it has not yet been possible to solve them all in a fully satisfactory manner. For instance, it is hardly feasible to take due account of new goods and new types of outlets in "real time" when measuring inflation. In the HICP, therefore, we turn to a uniform threshold value: if the share of a new product exceeds 0.1 per cent of total expenditure, this product should be included in the price index. It is true that this method fails to capture the increase in consumer surplus generated by a new product and early price decreases. However, I see no other way to solve this problem. Incidentally, the remaining measurement bias is not likely to be very large, since fundamental product innovations tend to be rare. All in all the just mentioned 0.1 per cent provision seems to be adequate.

The major problem of new product variants, and thus of adjusting for quality differences when replacing obsolete items remains. And this is a big issue in an environment marked by rapid product innovations. And here I do not envy the statistical offices their jobs. Our research for Germany has shown that, in practice, even uniform quality adjustment methods lead to diverging results depending on the individual "price collector". Therefore, centralisation of quality adjustment is the path often proposed. However, this is out of reach at the European level for the time being. Another way is to eliminate unreliable methods for quality adjustments so that the applied methods by individual "price collectors" will on balance result in unbiased estimates of the true price change. This is how Germany has been trying to solve the problem, and this has also been Eurostat's method so far.

In my view, the pragmatic approach should be carried out very carefully with all relevant parties cooperating in a network of experts. What I mean here – among other things – is accompanying research on a permanent basis. Official methods have to be checked against potential alternatives. Hedonic price indices should be thoroughly developed and assessed.

At the end of the conference, we may be better able to answer the question as to how far hedonics can be used to generate indices in a timely manner. At any rate, there is much to be done regarding quality adjustment in price statistics.

But before you go back to addressing the quality of price statistics tomorrow, it is now a pleasure for me to invite you to test the quality of our buffet. Unlike in the use of hedonics, here "there is a free lunch".