

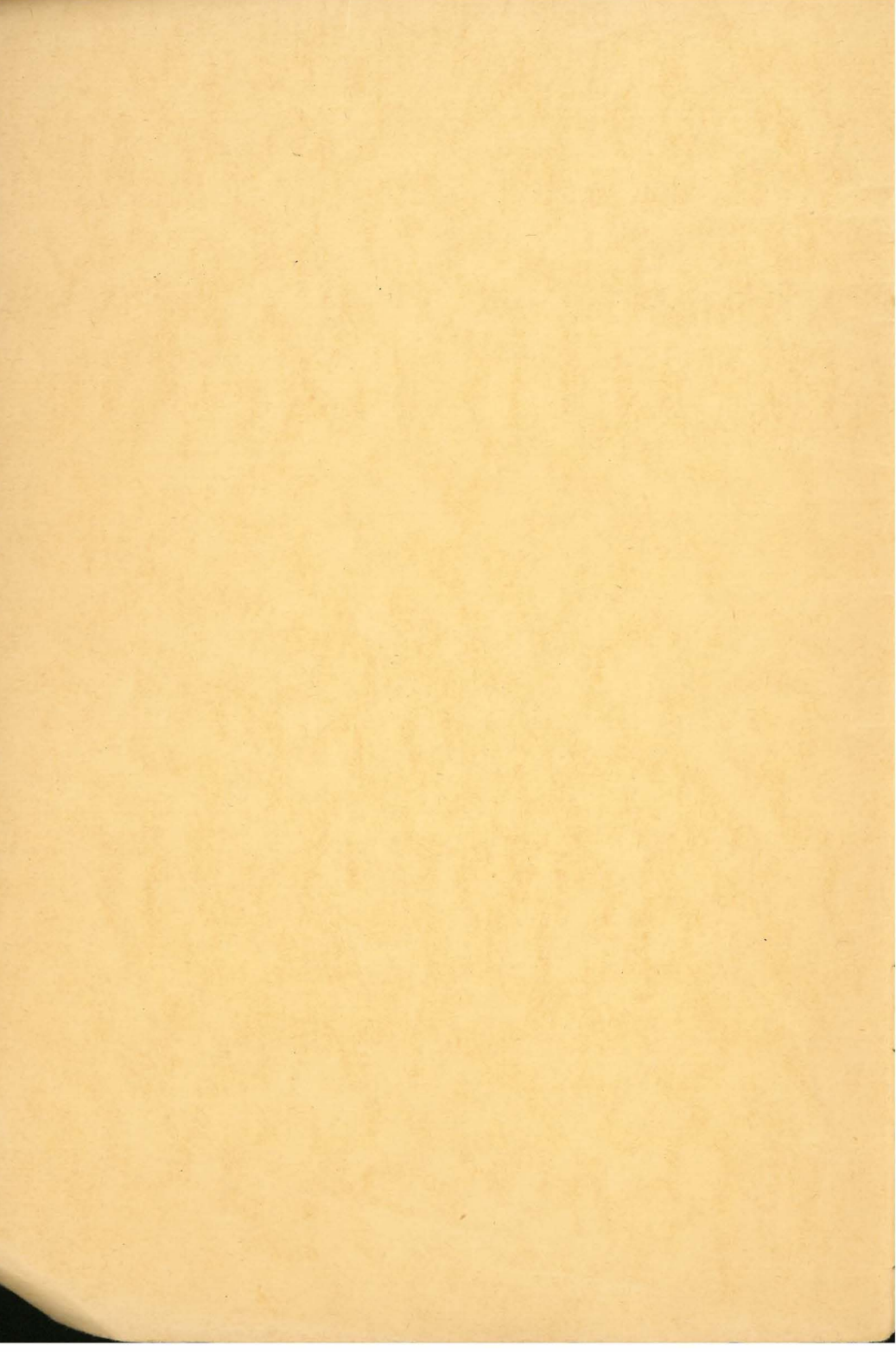
The Official  
Cost of Living Index Number  
and Its Critics

R. C. GEARY, D.Sc.  
*Director, Central Statistics Office*

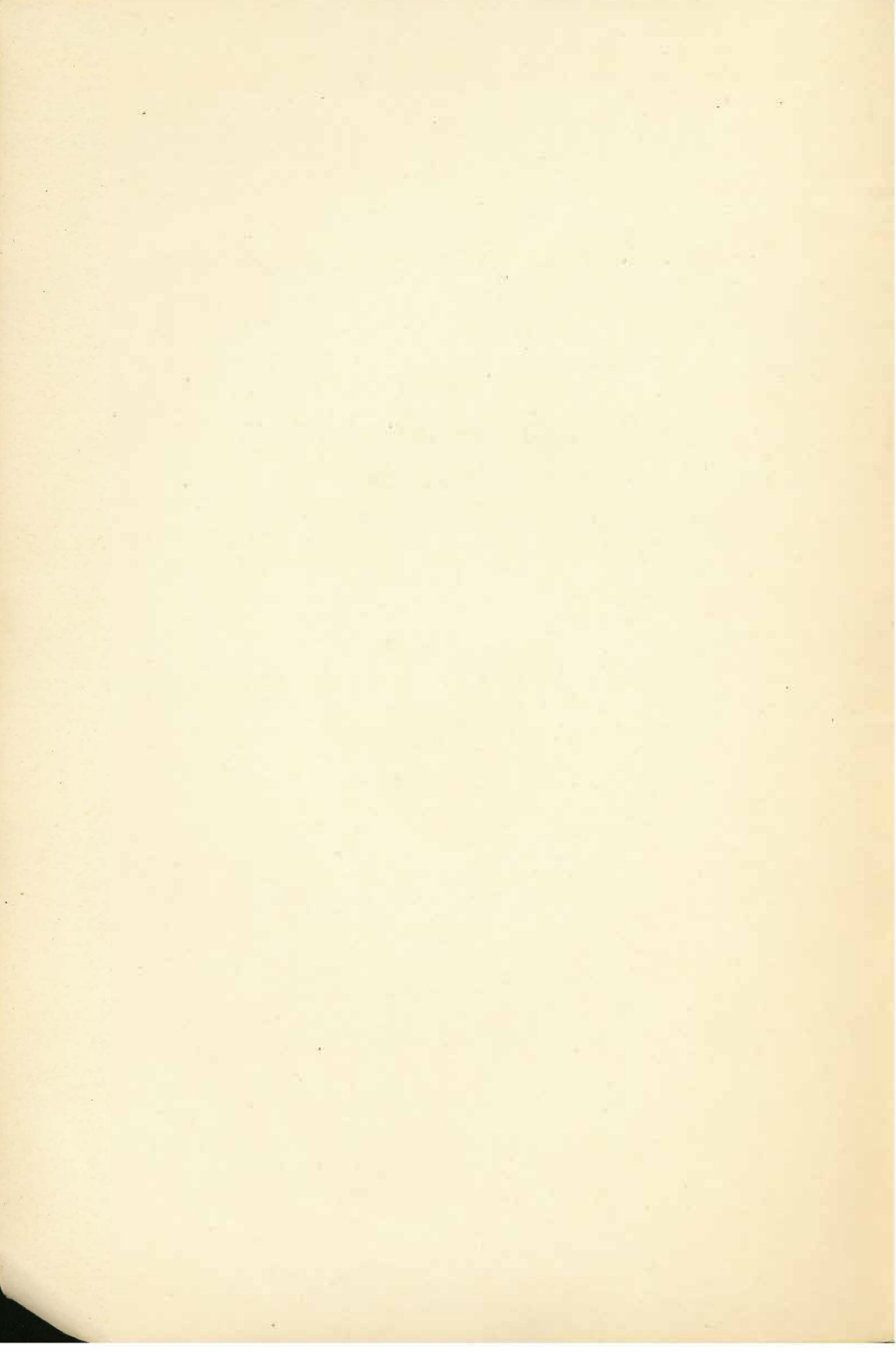


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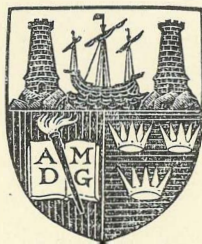
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*and Its Critics*

by

R. C. GEARY, D.Sc.

*Director, Central Statistics Office*



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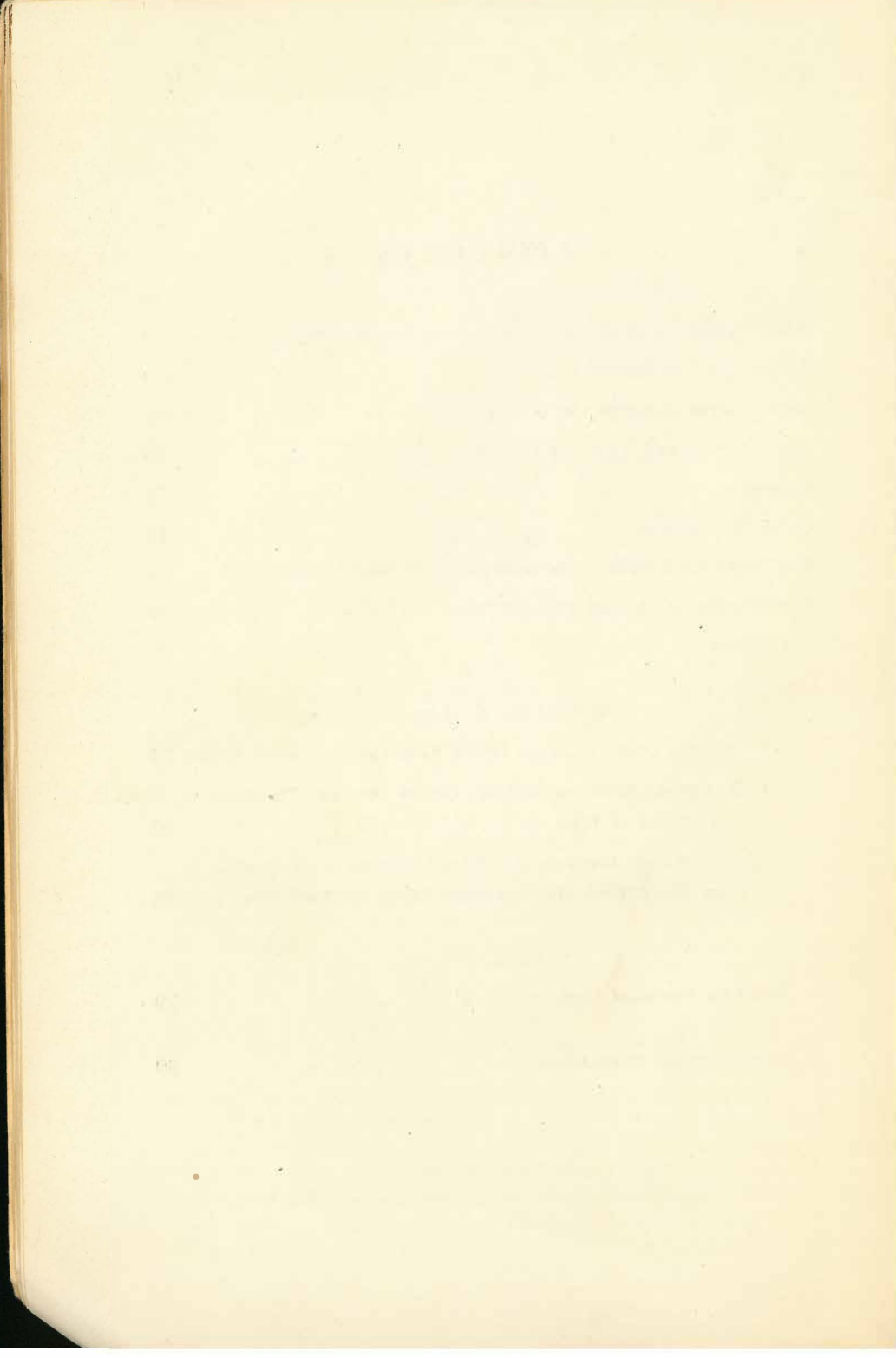
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## *The Official Cost of Living Index Number and Its Critics*

DURING recent months there has been a great public outcry against the official cost of living index. After being fairly stable for the previous three years, some months ago prices generally started to rise, partly because of devaluation in September 1949, on which later were superimposed the effects of the international situation. These effects were reflected in the various published index numbers of internal wholesale prices, and of import and export prices, as well as by the retail price index. The effect on retail prices has heretofore been small in the aggregate though, as will presently be seen, the increase in the retail prices of some individual commodities has been considerable. Partly because of the real rise in prices, partly for other reasons, everybody started to talk and write about the cost of living. The public conceived fantastic ideas of the extent of the general rise in retail prices. The cost of living index gave no sanction to these ideas, so it has had to be repudiated, usually in contemptuous terms. This, of course, is the natural reaction of the Plain Man to any facts which do not flatter his ideas : official statistics usually prove popular ideas to be exaggerated or erroneous. In the archives of the Office we have a thick file of press cuttings of what was said about the index. One or two small voices were raised in support of sanity but they were drowned in the general clamour. By far the greater part of the campaign was irrational, that is to say, no reasons were given for the repudiation of the index. The index was wrong as everyone knew ; my wife could tell the Central Statistics Office something about the cost of living ; the sooner we had a true index the better ; and so on. One provincial newspaper wrote : " That Index : There can be no doubt that the cost of living index is regarded by everyone as a huge fake." The language is vigorous. The main point is, however, that all the evidence in the Office goes to show that, as a piece of reporting on the state of public opinion, the statement is correct.

The principal object of this paper is to deal with valid criticisms of the index. But frankly I do not know how to deal with the great volume of irrational criticism, if this can be termed " criticism." This is the perennial difficulty of the technician. He cannot expect the Plain Man to be knowledgeable and fair in his criticisms ; the Plain Man has too much to do and to think about to be bothered about index numbers. On the other hand, one would have expected

some acquaintance with what they spoke about or wrote about on the part of leaders of opinion. There is a considerable literature on the cost of living index, all readily available—there is a short list of references at the end of the paper. Any of the intending critics could have obtained all the information he wanted by reference to the Office, with little inconvenience to himself or to the Office. It is rather disappointing that a solid body of opinion in defence of the index, or of reasonable criticism, has not become vocal amongst the hundreds of students of economics and statistics who have passed through the universities during the twenty-eight years of the currency of the index and of its predecessor. What is also disappointing is that some sensible people who knew little of the particular point at issue should have known enough to suspect that the Office, responsible for the publication of great masses of official statistics, would not lend itself to the production of statistics which could be dismissed as worthless in such summary fashion.

If the figures are faked, it is necessary, in the first place, to state, beyond any possibility of misunderstanding, that the Central Statistics Office is responsible for the faking. For the cost of living index, as for all the other statistics which it produces, the Office accepts the fullest responsibility. There is no interference with the Office as to the method of compilation, scope or any other aspect of the statistics which it produces. The independence of the official statistics office, the principal medium of publication of facts relating to the nation, and the free publication of these facts for the formulation and criticism of public policy, is one of the greatest privileges and safeguards of a free democracy. Political differences are, of course, normal and natural, but democracy cannot function unless a body of facts is established and generally accepted as unbiassed and reasonably accurate. May it not reasonably be suggested that leaders of public opinion, for their part, have a responsibility towards important classes of official statistics, that without the best reasons they do not undermine public confidence in these statistics? The Irish public are rather unsophisticated in their attitude towards, and in the extent to which they use, statistics, a consequence, perhaps, of the fact that we have had self-government only for just over a quarter of a century. The Office thought it had detected a marked improvement during recent years in the general statistical awareness of the public. We are less sure now. In every country always the cost of living index has been impugned, with greater or lesser intensity from time to time. In Ireland the standard of criticism has deteriorated as compared with twenty years ago when it was the quaint practice to learn something about your subject before you spoke or wrote about it. On the other hand,

as I stated in reference (8): "No praise could be too extravagant for the public-spirited manner in which businessmen and farmers collaborate with official statisticians in providing the country with statistics. Without this collaboration there could be no industrial and agricultural statistics (even with compulsory powers), and the collaboration will be no less necessary in the future than in the past." I might well have added the general public to the list of those to whom the Office is indebted for help in its work, in connection with the Census of Population and other inquiries. While the Office can acquire compulsory powers under the Statistics Act 1926 for the collection of almost any class of statistics, in actual fact a large part of the raw material of the Office (including cost of living statistics) is supplied voluntarily. In any case, even with mandatory powers, the Office could not function without the good-will, or at least without the absence of ill-will, of the public. I confess that it is this aspect which has given us most concern, namely that the condemnation of the index would result in changing the attitude of the public towards the Office with detrimental effects on the supply of raw material for all statistics.

### **Some Observations on the Calculation of the Index**

A description of the method of computation of the official index for this was given in the fullest detail in two issues of the *Irish Trade Journal and Statistical Bulletin*—see references (5) and (6). A short résumé is given later. The cost of living index—or as it should more properly be termed the retail price index—in this as in most countries owes its origin to the great rise in prices during the period 1914-1920, and was designed with a view to the adjustment of wages and salaries. While the Office has always borne this major purpose in mind—the standard of the present index is that of the whole non-agricultural employee class—it has no responsibility for the manner in which the index is used: I will return to this aspect later. From the viewpoint of the Office the cost of living index is one of its five price indices, the others being the wholesale, agricultural, import and export price indices. It is no part of the business of an official statistician to try to interpret the psychological bases of popular attitudes towards statistics or anything else, but it seems to be the case, that, up to two years ago, when average earnings were lagging behind the increase in living costs, the index proved to be a useful, even an essential, instrument in submissions for wage and salary increases. It is no longer regarded as useful for such purposes: therefore it must be discarded. It is less clear why it should be repudiated so contemptuously without producing a shred of evidence in support of this attitude.

The first index was inaugurated in June 1922 based on a household budget inquiry conducted about this period, though the original base of the series was taken as July 1914 (i.e. the price base taken as 100). The standard then established remained unchanged up to and including August 1947. The present Interim Index was inaugurated in November 1947, the weighting standard being based, as regards food and rent, on the results of the National Nutrition Survey conducted by the Department of Health in 1946-48, supplemented as regards clothing, fuel and light from data in regard to national expenditure. The National Nutrition Survey is internationally regarded as one of the best of its kind in any country and, because of its excellence, the present Interim Index is one of the most up-to-date in its weighting and generally one of the most reliable in the world. Persons interested in the former index will find a full description in reference (1). Readers are also referred to the Report of the Committee (reference (2)) under the chairmanship of Mr. Thomas Johnson on the Cost of Living Index Figure of May 1933. This Committee examined complaints by "organisations representative of persons employed in Government Service whose remuneration is regulated, in whole or in part, by the cost of living index figure as to the principles and methods according to which that figure is computed." The Committee found that the complaints were unjustified. A notable recommendation was that the weighting system should be revised every ten years. It was not possible to give effect to this recommendation until August 1947, after the first series had had a currency of a quarter-century, which was far too long. A Household Budget Inquiry—of very wide scope—designed primarily for the determination of a revised series of weights, has just begun. The new series of index numbers will probably be inaugurated in 1952; this will mean that on the next occasion the interval of revision will be about five years. The Johnson Committee also recommended that the index should be corrected for seasonal fluctuations in prices to which it was markedly prone. Effect was given to this recommendation in regard to eggs, milk and potatoes in the construction of the present index.

Following is a brief summary of the method of computation of the present index described as the "Interim Cost of Living Index (Essential Items)." Items deemed "essential" are all those in the groups Food, Clothing, Fuel and Light and Rent, Sundries being excluded. The justification for, and the arithmetical effect of, the exclusion of Sundries, are dealt with in this paper. For full details of the computation see references (5) and (6) in which the methods used are also fairly fully discussed.

The computation of a cost of living index number, which is really a retail price index number, involves :—

- (1) the determination of a standard of living, i.e., a fixed weighting system ;
- (2) the periodic determination of average retail prices and rents.

The standard of living signifies the quantities of the different goods and services consumed by the class of family to which the index relates. The standard of the present index is taken as that of the whole class of which the head of the family is a non-agricultural employee, whether gainfully occupied or pensioned. In 1946 the average income of such families was estimated at 147/- per week : it should be noted that earners average nearly two persons per family. By a regression method described in reference (6), the proportion of this sum spent on food was estimated at 44.17 per cent. of total expenditure, so that the total basic family expenditure on food averaged 64/10d. per week. This sum was distributed amongst the various articles of the Food group according to the proportions ascertained for towns at the National Nutrition Survey. Expenditure on Clothing as a whole was estimated from the proportionate expenditure for the country as a whole in the year 1944, namely 9.3 per cent., so that the weekly expenditure in 1946 was estimated at 13/8 per week ; this sum was distributed amongst the various articles of clothing according to the proportions ruling in the year 1938. Each item of the Fuel and Light group was estimated as for towns as a whole ; the total per family per week in 1946 was estimated at 8/1. The average weekly expenditure on Rent was estimated from the National Nutrition Survey at 8/10 per week. The various items, as estimated for an average week in 1946, were adjusted to the new base, namely August 1947, by allowing for *pro rata* changes in retail prices and rents between 1946 and 1947. The estimated expenditure weights as at mid-August 1947 for the different items are given as percentages of total expenditure in Table 3 of Appendix A.

As for the Monday nearest the middle of each of the months February, May, August and November, 164 returns of retail prices are received from Local Offices of the Department of Social Welfare situated in 120 towns and villages. Prices of each article are classified into five groups of towns : (1) Dublin City and Dún Laoghaire Borough ; (2) other towns over 10,000 population ; (3) towns 5,000—10,000 population ; (4) towns 1,500—5,000 population ; and (5) towns and villages under 1,500 population.

Simple average prices for each item are computed for each group of towns, and national average prices are computed therefrom using as weights the relative commercial importance of the different groups as determined from the total value of retail sales in these areas as returned at the Census of Distribution. For a few priced items of lesser importance and for the determination of the price trend of residual items in each main group, special inquiries are made from other sources.

The Rent Inquiry is made at mid-November ; since 1935 this inquiry has been an annual one. In the course of the inquiry, which is conducted through the Department of Local Government, returns showing the annual rents (including rates payable by tenant in addition to rent) which are paid by wage-earning classes in the district are obtained from the County Borough Councils, Borough Councils, Urban District Councils and Town Commissioners throughout the country. In addition, the Secretaries to the County Councils furnish returns of rents paid in a number (from 2—10) of representative towns within their jurisdiction. The returns from the various towns are divided into five groups of towns : (1) Dublin City and Dún Laoghaire Borough ; (2) other towns over 10,000 population ; (3) towns 5,000—10,000 population ; (4) towns 1,500—5,000 population ; (5) towns and villages under 1,500 population. The simple percentage increase or decrease in each group is calculated and a suitably weighted average of these percentages is obtained.

Prices of eggs, milk and potatoes are corrected for seasonality, to which they are markedly prone, by dividing the national average prices at each price inquiry by the correction factors shown in the following table :—

	<i>Mid-February</i>	<i>Mid-May</i>	<i>Mid-August</i>	<i>Mid-November</i>
Eggs .....	0.9678	0.8130	1	1.1921
Milk .....	1.1492	0.9062	1	1.1492
Potatoes .....	0.9865	1.0690	1	0.9318

These factors have been determined on the principle that normally the same sum of money is spent on each of the three items at

each of the four pricing dates throughout the year, i.e., it is assumed that when prices are high, smaller quantities are bought, and *vice versa*. The discussion on this point is resumed later.

The index for e.g. mid-November 1950 was found as  $100 \times S(vP_1/P_0)/Sv$  where  $S$  indicates summation over all items,  $v$  is the expenditure weight in August 1947, and  $P_1$  and  $P_0$  are the national average prices in mid-November 1950 and mid-August 1947, using seasonally corrected prices for eggs, milk and potatoes. It will be noted that only the  $P_1$  change at each quarterly inquiry.

Critics of the index might do well to remember that the official index number is based on about 13,000 individual price quotations furnished by 160 experienced price reporters from 120 towns, and that the national average prices are computed having regard to the populations affected in the different sizes of towns. The experience of individual householders (though even here the critics have not given any details of their individual experience) should not lightly be adduced against such an overwhelming mass of evidence. This evidence is not accepted uncritically in the Central Statistics Office. Immediately on receipt each return is closely scrutinised at the Office and any prices which appear discrepant to the expert staff of the Office are queried and not accepted unless and until a satisfactory explanation is furnished by the price reporters.

Regularly each quarter for twenty-five years the national average retail prices of food and the group indices for clothing, fuel and light, and rent have been published in the *Irish Trade Journal and Statistical Bulletin* with references in each issue to the basic articles. This data was published in detail mainly to establish public confidence in the index and to furnish material for rational criticism. I repeat that in recent criticisms little attempt has been made to impugn the methods used or to question the validity of the basic data. The index is absurd: that is all, or nearly all, that has been said.

Attention is now directed to the three tables in Appendix A. Tables 1 and 2 reproduce data already published. Have people who were so critical about the November 1950 index of 98 for Food tended to forget about the substantial reductions, by subsidies, in the prices of tea, sugar, bread and flour? The sometimes substantial reductions in the prices of other foods will also be observed. Bearing in mind that the prices do not relate to Dublin alone but are national averages, can any of the prices of any of the articles in, say, November 1950, be traversed, except perhaps as regards unrationed prices with which I deal later? Table 2 also shows how the correction for seasonality affects prices of eggs, milk and potatoes: in every case it brings prices in November 1950 more into line with those for August.

Table 3 shows the percentage changes as between: (a) August 1947 and November 1950 and (b) August 1950 and November 1950 for every item included in the calculation of the official index, five quotations for beef, two for mutton and three for bacon (shown individually in Table 2) being telescoped into the first three items in Table 3. This table will perhaps dispose of the notion that there is any stereotyping of the prices of individual items though the aggregate index for November was only 102. The table will also perhaps disabuse the mind of one critic of the idea that the index is the result of "a decision of a group of civil servants" and convince another critic (who was under the impression that clothing was excluded) that in fact quite a number of essential items (apart from Sundries, to which I come presently) are included in the computation.

As regards articles other than food, national average prices are also computed but, as the variation in quality of e.g. articles of clothing, with resultant variation in prices, is considerable throughout the country, the national average prices are less significant than in the case of articles of food, so we have not judged it expedient to publish them. We will make them available, however, to any students who want them for research purposes. I should point out that, for the purpose of the general or group index numbers, it is not necessary that the national average prices should be accurate (i.e. that they should lie within the random sampling limits from the true national averages, which are the averages which would result from taking into account every one of the transactions in the country on the mid-Monday of November). It is not even necessary that the trend (i.e. the percentage changes compared to the base date) for *individual* commodities should be meticulously accurate. It is essential only that the trend *in the aggregate* for all commodities should be reliable. Having regard to the fact that 96 articles\* are priced from 160 places, can there be any reasonable doubt, having regard to Table 3, that the resulting index is close to the truth?

Attention is also directed to the column of basic expenditure weights in Table 3. The *change* in the index to November 1950 from 100 in 1947 is found by multiplying the figures in this column by the percentage changes in price since August 1947 (having regard, of course, to + or - sign) and dividing the result by the proportion of total expenditure included, namely 0.6596. Persons interested may experiment with this table by using alternative weights, based on their individual or group experience. They will, I think, satisfy themselves thereby that quite wide variations in

\* Excluding the 12 items listed at the foot of Table 3 of Appendix A according to which the trend of "Other food" prices are regulated.



expenditure weights (provided these are reasonable) will not affect the result of their calculations appreciably, i.e. that for food and clothing their answers will be close to 98 and 119 respectively. They may cavil at the low weight accorded to rent. If they give it a higher weight they will arrive at a lower index than 102 for all items: this by way of a warning against adventures in index number making for special purposes.

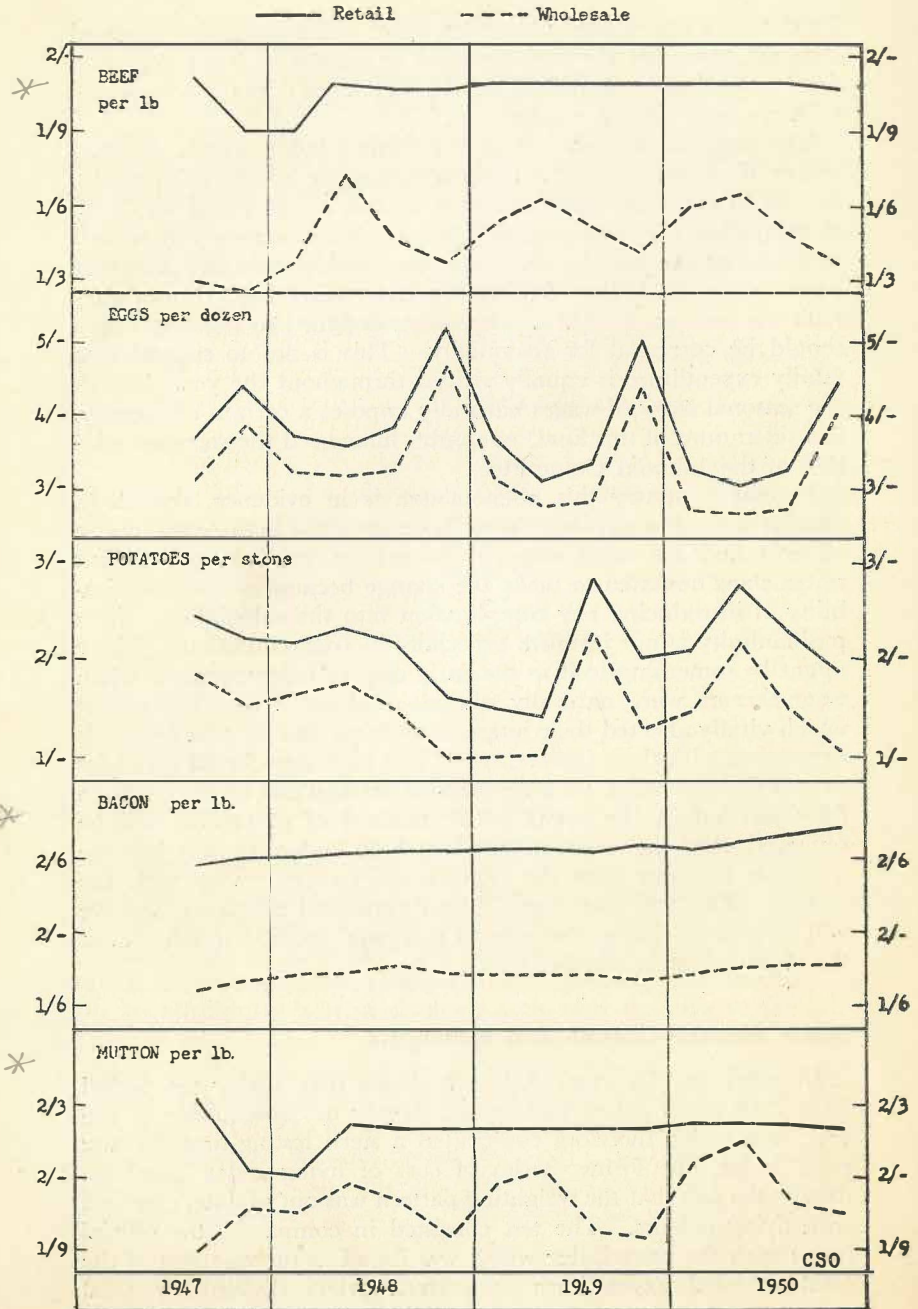
It ironically happens that the statistics of retail prices and the index based on them have given the Office far less trouble than any other statistics. As far as they go—and they go far—they are about as perfect as we can make them. The theoretical problems to which the construction of the index give rise are relatively simple. This, of course, is deliberate policy since it is obviously desirable that the index should be understood by every wage and salary earner. There is no reason why the construction of the index in its broad lines should not be understood by an intelligent schoolboy with a knowledge of elementary arithmetic. Statistical offices avoid, in making cost of living index numbers, the esoteric practices adopted in the making of other index numbers when the offices are satisfied that the complications, even if theoretically desirable, would have but little effect on the result of the calculation. I am afraid that the critics of the index who took so pejorative a line cannot find an excuse for their attitude in the inherent difficulty of the subject, not indeed that they have done so.

### **Correction for Seasonality**

For reasons which will presently be given, we have introduced, as indicated above, a small complication in correcting a few prices for the seasonal fluctuations to which they are markedly prone, in the construction of the present official index. As explained in the basic article (reference (6) ) this correction was realistic: for example, it merely assumed that when eggs are dear they are scarce (i.e. they are accorded a lower weight in November and higher weights in February and May than in August) which surely can be accepted and understood by anyone. The procedure has justified itself in practice. The index now exhibits no appreciable seasonal fluctuation—see Appendix A, Table 1. Quarter by quarter, it shows the underlying trend of retail prices generally, whereas the former figures, uncorrected for seasonality, regularly were high in February and November and low in May and August, so that the real trend could only be computed for *annual* intervals, e.g. by comparing August with August, etc., or by comparing the annual averages.

CHART I

RETAIL AND WHOLESALE PRICES



national expenditure at fixed (1938) prices. The test was a stringent one indeed, for the weighting pattern of the latter index was that of each year separately: for students I will state that it was a Paasche index, the official index being a Laspeyres to effective base year 1922. If anything, the official index somewhat exaggerated the true rise in retail prices. It is now possible to make the same test, based on the statistics of national expenditure. These show that in the year 1949 the national expenditure price index (to base 1938 as 100) was 183 which is almost identical with the showing of the official series found by linking the former series at August 1947 to the present official series. To 1947 taken as 100 the national expenditure price index is 102 as compared with 100, the average of the four official index numbers for 1949, part of the small difference being due to the fact that the former index was based on the year 1947 and the latter on mid-August 1947 as 100. The data used were independent as regards more than four-fifths of national expenditure; as regards most of the food items, the data used for national expenditure were the cost of living national average prices which, I hope, by reference to Tables 2 and 3 will have now been found acceptable.

I would also like to direct your attention to Chart I in which wholesale and retail price trends for a few important articles of food are compared. The data on which the averages are based are entirely independent, even as regards the places from which agricultural (wholesale) and retail prices are obtained. It will perhaps be conceded that the chart gives convincing proof of the substantial accuracy of both series. As regards fresh meat, the trend of both is closely similar but the victuallers smooth out, in the prices they charge, the marked seasonality in wholesale prices.

On a more general issue, your attention is directed to Chart II which compares the general retail and wholesale price trends in this country and in Great Britain, to base August 1947 as 100, which is the base of the official index. The chart shows in the first place that retail prices in Britain have increased more than in this country. In the second place it shows that in both countries the rise in wholesale prices has been far greater than the rise in retail prices. To base August 1947 as 100 the indices of retail and wholesale prices in November 1950 were 102 and 114.3 respectively in Ireland, and 116 and 148.5 in Great Britain. The ratio ( $\times 100$ ) of the wholesale to the retail prices index in November 1950 was therefore 112 in this country, significantly less than the figure of 128 for Britain.

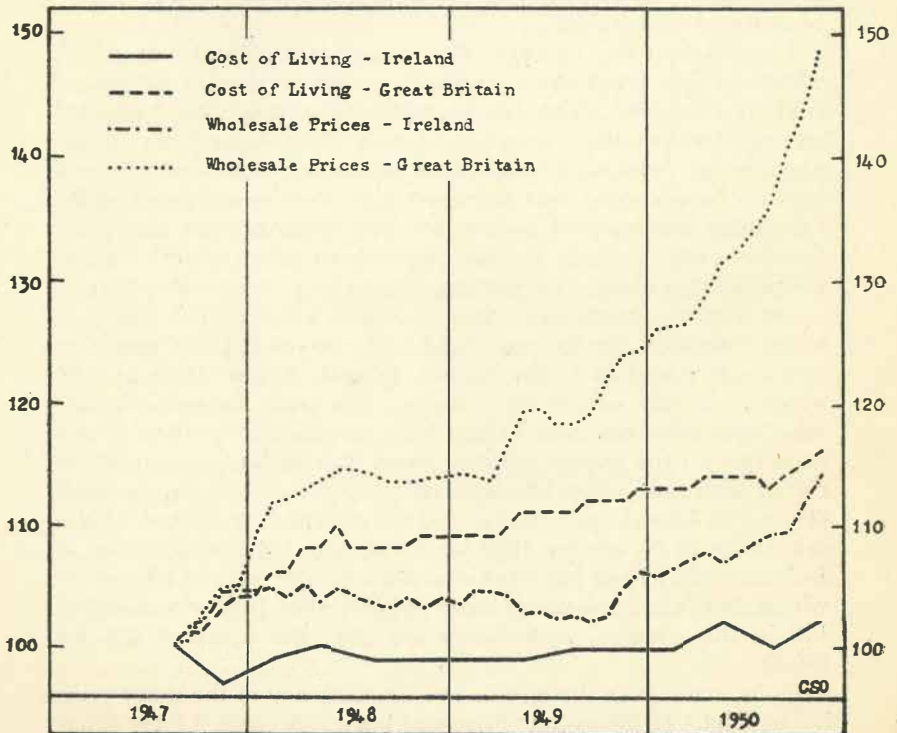
Quite apart from the question of the accuracy of the retail price index, Chart II shows that there was but small cause for the situa-

tion of crisis which was much in evidence recently about the general course of prices during the past year, though one must view the future with apprehension. The inflationary tendency is due mainly to the international situation and there is not much we can do about that, except keep our nerve in economic matters and discourage uninformed discussion. Nothing is more conducive to the aggravation of an inflationary situation than talking about it. Inflation, like love, grows on what it feeds on. Can the critic, a businessman, who alleged that prices of clothing had doubled since 1947 (the real increase being one-fifth) be greatly surprised if his hosier and his tailor take him at his word?

CHART II.

COST OF LIVING AND WHOLESALE PRICES IN IRELAND AND GREAT BRITAIN

(Base, August, 1947—100)



**"My Wife Could Tell the Office"**

I would like to deal briefly with the argument : " My Wife could tell the Office."

The Office has a vital interest in making its peace with the housewife since the Household Budget Inquiry, which has just begun, will depend for its success on her co-operation. The housewife will tell the Office, we hope, this time with far greater accuracy and objectivity without the intervention of Himself. For the immediate purpose, I would also like to address the argument direct to housewives in the confident hope that they will understand a simple point which after twenty-eight years plugging by the Office has eluded the comprehension of their husbands, brothers and fathers. The point is this : when the housewife in a recent week has spent more on her housekeeping than in a week in, say, 1947, it is partly because prices have increased and partly because she is purchasing more goods and services. The index measures only the increase in prices : it gives no indication whatever as to the increases in the quantities of goods she purchases so she must not blame the index if it fails to measure her total expenditure. It was not designed to do this. The cost of living index is, I repeat, a price index : it is the aggregate cost of maintaining a given standard of living (so many lbs. of beef, so many loaves of bread, so many pairs of stockings, etc.), at the national average prices ruling each quarter.

There can be no question that in the last few years the quantities of goods and services consumed have increased substantially in the aggregate. The increase between 1944 (when purchases were low because of shortages) and 1949 amounted to 29 per cent. and between 1938 and 1949 by 18 per cent., and there has been a further increase in 1950. The increase is not appreciably affected by change in population. Note that these are increases in quantities not in values. The increase is partly due to the substantial increase in the income of the agricultural community from the very low pre-war level ; but it is also due to increased purchases by townfolk, for the *average* earnings of workers in manufacturing industry will now buy 9 per cent. more goods and services than in 1938. The quantitative aspect has been completely ignored in this controversy. These figures show that it is important.

The following table, based on Table 3 as regards Essential Items, but also including the Sundries items, will go some distance towards explaining, and even condoning, the complaints of housewives.

Change in price between mid-August 1947 and mid-November 1950	Number of Items	Percentage of total expenditure in mid-August 1947
Decrease .....	40	34.0
No appreciable change .....	29	17.1
Increase—		
Less than 5% .....	9	13.0
5% or less than 10% .....	16	10.4
10% or less than 20% .....	25	13.8
20% or more .....	28	11.7
<i>Total</i> .....	147*	100.—

\* This number differs from the 152 (96 for the official index plus 56 for Sundries) because a few items of Sundries have been grouped for the purpose of establishing the individual percentages.

It will be seen that of the 147 items included in the special calculation for last November, no fewer than 78 have increased in price. The fact of the increase in price would accordingly have been brought to the notice of housewives more frequently than in the case of commodities which decreased in price. The table also shows, however, that the latter category accounted for 34 per cent. of total expenditure so that, in relation to the *number* of items, they bore so large a weight as almost to nullify the substantial increase in the more numerous category of other items.

There is one aspect of the "My Wife could tell the Office" argument which is quite reasonable, namely in as much as it implies that the price experience of the individual household or of groups of households for a particular class or in a particular area may be different from that shown by the general index, which, as an average of averages, must at first sight be regarded as a Procrustean affair, typical of a democracy, designed (we hope) to do the greater good to the greater number. Human nature being what it is, the paeans of praise of those with a relatively favourable price and wage experience do not noticeably mitigate the complaints of the rest. Depending on the pattern of consumption, some groups will have a less favourable and some a more favourable price experience. It will never be possible to produce an index ideally suited to each individual householder: the mitigation of his personal difficulties is a matter for children's allowances and social welfare generally. If the Household Budget Inquiry yields a suffi-

cient number of budgets, the Office intends to produce a limited number of index numbers for different classes. The number of such indices must be limited because it would be undesirable to have, so to speak, competing figures, to enable interested groups to pick and choose. It is probable that in wage negotiations all parties could agree to use the general index for the reason that, except where the price movement is considerable and disparate as between the individual commodities, the difference between the different broad group indices will not be large. To illustrate this important point, the following table shows what the index (including Sundries—see next section) would be for four different consumption patterns as at mid-November, 1950:—

GROUP	Group price index Base mid-August 1947 = 100	Stand-ard I	Stand-ard II (actual)	Stand-ard III	Stand-ard IV
		Percentage of expenditure (mid-August 1947)			
Food .....	98	60	45.7	35	30
Clothing .....	119	9	9.0	11	11
Fuel and Light .....	104	8	5.4	5	4
Rent .....	109	6	5.9	6	7
Sundries .....	105	17	34.0	43	48
<i>Total</i> .....	—	100	100	100	100
<i>Resulting index in mid-November, 1950)</i> .....		102	103	104	105

It should be emphasised that, for this calculation, the commodity group indices are assumed to be the same for all four standards. While proportionate expenditure on the different articles will vary for different social groups within each commodity group, thus affecting the group price index, it is believed that the effect would not be appreciable.

In the table Standard II is that of the official index, i.e. pertaining to the whole non-agricultural employee class. The others are hypothetical and are appropriate to a rising household expenditure.

It will be seen that, including Sundries, the variation in the aggregate index (last line) is only from 102 for Standard I to 105 for Standard IV. The test is not a trivial one because the variation as between the commodity group indices was considerable in November last.

### **Sundries**

By far the most valid criticism of the official index is that Sundries (i.e. all items except food, clothing, fuel and light, and rent) are not included in it. In 1947, Sundries accounted for about one-third of the expenditure of the non-agricultural employee class. I may say, at once, that, on balance of argument, the view of the Office is that these items should be included, and they will be included in the next series of index numbers. The argument in favour of their inclusion is not so overwhelming as critics commonly suppose, for the following reasons:—

1. As a proportion of the total expenditure *included in the computation*, food, clothing, fuel and light, and rent account effectively for 69 per cent., 14 per cent., 8 per cent. and 9 per cent. respectively, sundries, of course, being nil. These percentages will be recognised as applicable to the lower income groups of the population. Without prejudice to any views which may be held as to the automatic regulation of employee remuneration by the retail price index, it will generally be conceded that, in equity, this principle is valid in its application to the lower income earners. Accordingly the Essential Items Index is appropriate for this purpose.
2. As regards other groups, the Just Employer might take the view that he would compensate his employees only for their essential expenditure leaving Sundries as a matter for negotiation. The official index would be relevant in such a context.
3. Sundries presents the statistical authority with more difficult problems than do the other groups because of: (i) difficulties of pricing and (ii) the great variability in expenditure on the multitude of items in this group as between individual households and the different economic groups. In regard to (i), it is possible only to include in the pricing scheme the articles which, during the period of currency of the index, remain more or less unchanged in quality and specification, though, within limits, provision is made for changes in quality in the calculation of the present index. We cannot



get down to brass tacks unless brass tacks can be priced for unchanged quality from inquiry to inquiry. For this reason the omission of certain items is necessary but is not important because these items fortunately do not account for an appreciable fraction of total expenditure. Still the problem is there. As regards (ii), the problem is more serious. The imposition of an average standard for Sundries will not do justice to wide classes of the population. For instance, no less than one-eighth of the national expenditure is on drink and tobacco, which one-eighth is equivalent to three-eighths of expenditure on Sundries. What about the model households whose members neither drink nor smoke? It does not necessarily follow that they will be adversely affected: quite the contrary in regard to a recent rise in prices whereof it has been said that the rise in the cost of living for certain worthy citizens has been 2d. per glass.

For the purpose of this paper we have, however, computed a special index for Sundries as at mid-November, 1950, including in the computation the 56 items listed in Appendix B, weighted according to the estimated national expenditure on the individual items. The retail price index for this group of Sundries to base mid-August, 1947 as 100 was 105. If Sundries were included in the calculation the general index in mid-November, 1950, would be 103 instead of the official 102. More precisely, the effect of including Sundries would be to increase the official index by 1.15 points. In this calculation only rationed prices were included for the items concerned. If, on the basis explained in the next section of the paper, off-ration prices were included as well as Sundries, the index would still be 103, the effect of including both Sundries and off-ration prices being to increase the official index by 1.39 points. The effect of including Sundries is seen to be slight.

### **Off-ration Prices**

Critics have also a point in regard to the treatment of off-ration purchases in compiling the index number, and I would like to deal in some detail with this aspect. The commodities concerned are bread, flour, tea, sugar and butter. The policy of the Central Statistics Office, since the cost of living index was instituted in 1922, has been to use the *predominant* prices in the different towns ruling for each of the commodities priced, which number 96 in the present index. The number of cases in which enumerators (local officers of the Department of Social Welfare) have returned off-ration prices has been insignificant and their inclusion would have no appreciable

effect on the result of the calculation. The matter cannot, however, be allowed to rest here. The view taken by the Office has been that, if the rations were ample, even though off-ration supplies at enhanced prices were available, it is right to regard the ration prices as the appropriate prices, while recognising that if any administration decided to reduce the existing rations, so that the public would have to buy a large proportion of its essential requirements off the ration, a situation would be created in which it would be necessary to take the off-ration prices into account. This is not the situation at the moment. The weighting is that of 1946/47 and, in the case of the five commodities in question, the rations are now in all five cases at least equal to those of 1946/47. From this point of view the off-ration purchases are in a sense non-essential, though I do not want to press this point too far because there is room here for a genuine difference of opinion. I do insist that the rations, taking the all-over view, are reasonably adequate. If you have any doubts on the point I would refer you to the published reports of the National Nutrition Survey.

If a different view be taken, however, as it legitimately may, of this difficult problem, there remains the statistical difficulty of making suitable allowance in the calculation for off-ration purchases. The budgetary standard adopted for the Interim Index is that of the non-agricultural employee class, in which wage earners predominate. Until we have the results of the new Household Budget Inquiry, we will not know how much off-ration purchases are made in shops by the wage-earning class. We can simplify the problem a little by leaving bread and flour out of account because the rations here are ample and off-ration purchases are of white bread and flour which are really different commodities from the darker, rationed varieties. Off-ration purchases up to July last—there have been abnormally large purchases of tea in recent months due probably to the international situation—constituted approximately 10 per cent. for tea, 60 per cent. for sugar and 7 per cent. for butter, of total consumption. The difficulty is that off-ration purchases include purchases by hotels and other catering establishments, purchases by industries as materials for further production in the case of sugar, and data are not available to make adequate allowance for the quantities involved. It might be reasonable to suggest that off-ration purchases in shops by the non-agricultural employee class amount to about 4 per cent. in the case of tea and butter and 20 per cent. in the case of sugar. (In regard to sugar, might I point out that chocolate and boiled sweets are included in the computation of the index.) Accepting tentatively these percentages and using them to compute national average prices, including both ration and

off-ration prices, the effect would be to increase the published index (excluding Sundries) by 0.36 of a point, which would make no difference in the published figure of 102 in mid-November last. I must not be understood to admit the validity of this approach, i.e. that with adequate rations it is proper to include off-ration prices, but, if the contrary view be taken, that is what the result would be. As matters stand, therefore, the question of the propriety of including or excluding off-ration prices may remain a moot point since the effect on the index is small.

### **The Index as a Regulator of Wages**

In wage negotiations more factors should be taken into account than the index. In fact the index, together with wage rates and earnings, are the only statistics which, until recently, were considered in this connection. If a century ago the wage-earning classes had linked the wage level rigidly to a cost of living index, wages would have been about one-third what they are to-day. There are literally dozens of other major statistics which should be taken into account in considering wage levels. Latterly in Ireland there has, it is true, been a welcome tendency to consider wages and salaries in relation to the general standard of living within the framework of the national accounts of income and expenditure, which encompass all the statistical factors which should be considered. In this general connection, I would like to mention, but barely to mention, that the summary accounts for the years 1944 to 1950 inclusive have now become available, with a flash-back to 1938: I would strongly urge the desirability of a discussion in the near future of the inferences to be drawn from these statistics, and I do not want to anticipate such a discussion now. These statistics provide a comprehensive framework for the consideration of employee remuneration. The national accounts involve implicitly or explicitly the standards of living, capital formation and savings, national output in its different sectors, productivity, the level of retail and other prices and, perhaps most important of all because it is largely outside the control of the economy, the balance of payments; all these, of course, in addition to the main constituents of the national income, profits, rents, employee remuneration and income from abroad. The level of retail prices has a great social, but far less economic, importance in the general context of the national economy. So far from being linked to the retail price index, employee remuneration in a healthily developing economy should move in the opposite direction, prices remaining stable with a downward tendency and employee remuneration going up. I think that employees might well be concerned about the level of

the present national income (though it is showing a tendency to expand), of national savings and of capital formation. One can imagine wage-earners taking an enlightened view and being concerned about the inadequacy of the increase in profits in recent years because this indicates inadequate capitalization with deleterious effects on productivity. Increase in productivity, or of output per man-week, will be the main source of increase in real earnings. As I said, I do not want to anticipate a discussion on these vitally important aspects of the national economy. I mention them in passing, just to make the point that there is more to the wage level than the cost of living index.

Many people have been appealing for a True Index (the official Cost of Living Index being regarded as false), presumably for the ideal regulation of employee remuneration. The True Index is a myth. It cannot be computed from the tables of national income and expenditure or from any other statistics.

### **The Household Budget Inquiry**

It is necessary to remove one important misconception about this inquiry, which has just begun. As already indicated its principal purpose is to establish weights for a revised series of index numbers. If there is a sufficient response on the part of the public it will be possible to prepare index numbers for a limited number of broad occupational classes, income groups and areas. The point I wish to emphasise particularly is that the revised series will not involve a repudiation of the existing series. In theory every index should be weighted according to the current pattern of consumption; effect is given to this ideal in practice by having new household inquiries at intervals of years, the shorter the interval the better. During the currency of the index the most recent consumption standard will be deemed to apply. Thus it would be as incorrect to assume that the consumption standard of the existing index (namely that of 1946-47) applied to, say, the year 1929, as it would be to assume that the standard of the former index (that of the year 1922) applied in the year 1951. As already stated, the first series had too long a lifetime but even in its old age it did its work well, though as I stated in reference (8) "admittedly partly by accident," being aided by that good fortune which favours the virtuous. At each new inquiry, of course, statistical improvements are introduced, and we hope that the new inquiry will not be an exception. There is no question of the new inquiry disproving the previous series. The next series will, no doubt, be based on the year 1952 as 100. There will be no statistical difficulty about linking the next series to the present, just as the present series may be linked to its predecessor.

**Conclusion**

The cost of living index number is quite reliable as a price index : if it were not, the Office, its own sternest critic, would be the first to say so. The index or any other statistics should not be rejected to-day for they may serve well to-morrow. In the long run Truth is on the side of everyone.

*February, 1951.*

## APPENDIX A

Table 1

Interim Cost of Living Index Numbers (Essential Items)

(Base: Mid-August, 1947 = 100)

Mid-month	All Items	Food	Clothing	Fuel and Light	Rent
November, 1947	97	96	100	101	100
February, 1948	99	97	101	103	100
May, 1948	100	100	102	102	100
August, 1948	99	98	102	101	100
November, 1948	99	97	103	100	105
February, 1949	99	97	103	101	105
May, 1949	99	97	102	99	105
August, 1949	100	99	102	99	105
November, 1949	100	98	102	99	109
February, 1950	100	98	106	101	109
May, 1950	102	100	108	102	109
August, 1950	100	96	111	102	109
November, 1950	102	98	119	104	109

Table 2

## National Average Retail Prices of the Principal Articles of Food

ARTICLE	Per	Average price to nearest $\frac{1}{4}$ d.					
		Mid-Aug. 1947		Mid-Aug. 1950		Mid-Nov. 1950	
		s.	d.	s.	d.	s.	d.
Beef—Sirloin .....	lb.	2	3 $\frac{3}{4}$	2	4 $\frac{1}{2}$	2	4 $\frac{1}{2}$
shoulder .....	„	1	9	1	8	1	7 $\frac{1}{2}$
corned brisket .....	„	1	6 $\frac{1}{2}$	1	4 $\frac{3}{4}$	1	4 $\frac{3}{4}$
neck .....	„	1	6	1	5 $\frac{1}{4}$	1	5 $\frac{1}{4}$
liver .....	„	1	6	1	7 $\frac{1}{2}$	1	7 $\frac{1}{2}$
Mutton—leg .....	„	2	7 $\frac{1}{2}$	2	5 $\frac{3}{4}$	2	5 $\frac{3}{4}$
neck .....	„	1	9 $\frac{1}{4}$	1	8 $\frac{1}{2}$	1	8 $\frac{1}{4}$
Bacon—streaky .....	„	2	10 $\frac{3}{4}$	3	1 $\frac{1}{2}$	3	2 $\frac{1}{2}$
shoulder .....	„	1	6 $\frac{1}{2}$	1	10 $\frac{3}{4}$	1	11
pigs' heads .....	„	1	2 $\frac{1}{2}$	1	1 $\frac{1}{4}$	1	1
Fresh pork—shoulder .....	„	1	11	2	0	1	11 $\frac{1}{2}$
Pork sausages .....	„	1	11 $\frac{3}{4}$	2	2	2	3 $\frac{1}{2}$
Fish—kippered herring .....	doz.	3	9 $\frac{1}{2}$	4	2 $\frac{1}{4}$	4	1 $\frac{3}{4}$
fresh herring .....	lb.	0	9	0	9	0	9
cod steak .....	„	2	0 $\frac{1}{2}$	2	2 $\frac{1}{2}$	2	2 $\frac{1}{2}$
Eggs—actual price .....	doz.	3	8	3	3 $\frac{1}{2}$	4	5 $\frac{3}{4}$
<i>corrected for seasonality</i> .....	„	3	8	3	3 $\frac{1}{2}$	3	9
Butter, creamery .....	lb.	2	8	2	8	2	8
Cheese .....	„	2	1	2	1 $\frac{3}{4}$	2	1 $\frac{3}{4}$
Margarine .....	„	1	6	1	6	1	6
Lard .....	„	1	2	1	2	1	2
Fresh milk—actual price .....	quart	0	6 $\frac{3}{4}$	0	7 $\frac{1}{4}$	0	9 $\frac{1}{4}$
<i>corrected for seasonality</i> .....	„	0	6 $\frac{3}{4}$	0	7 $\frac{1}{4}$	0	8
Bread .....	2 lb.	0	6 $\frac{3}{4}$	0	6 $\frac{1}{4}$	0	6 $\frac{1}{4}$
Flour—household .....	14 lb.	3	10 $\frac{1}{4}$	2	10 $\frac{1}{4}$	2	10 $\frac{1}{4}$
Oatmeal .....	„	6	9	7	8 $\frac{3}{4}$	8	9 $\frac{1}{4}$
Potatoes—actual price .....	„	2	5 $\frac{1}{4}$	2	3 $\frac{1}{4}$	1	10 $\frac{1}{2}$
<i>corrected for seasonality</i> .....	„	2	5 $\frac{1}{4}$	2	3 $\frac{1}{4}$	2	0 $\frac{1}{4}$
Tea .....	lb.	4	9 $\frac{3}{4}$	2	8	2	8
Sugar .....	„	0	6	0	4	0	4
Jam—strawberry .....	„	1	6 $\frac{1}{4}$	1	8 $\frac{1}{2}$	1	8 $\frac{1}{2}$

Table 3

Percentage Changes in Retail Prices and Rents of all Items included in the Official Cost of Living Index between (a) mid-August, 1950 and mid-November, 1950 and (b) mid-August, 1947 and mid-November, 1950.

ARTICLE	Percentage of total expenditure in mid-August, 1947 (i.e. expenditure weights)	Percentage Change	
		mid-August, 1950 and mid-November, 1950	mid-August, 1947 and mid-November, 1950
<i>Food:—</i>	%	%	%
Beef .....	5.71	— 0.8	— 1.7
Mutton .....	2.31	— 0.7	— 5.0
Bacon and pigs' heads .....	2.62	+ 1.6	+ 10.7
Fresh pork, shoulder .....	0.37	— 2.0	+ 3.2
Pork sausages .....	1.10	+ 6.0	+ 15.8
Fish			
Kipperd herring .....	0.26	— 1.2	+ 9.1
Fresh herring .....	0.31	No change	No change
Cod steak .....	0.26	— 0.1	+ 9.2
Eggs* .....	3.51	+ 13.9	+ 2.6
Butter, creamery .....	3.62	No change	No change
Margarine .....	0.26		
Cheese .....	0.52	+ 0.2	+ 3.8
Lard .....	0.26	No change	No change
Fresh milk* .....	3.98	+ 9.6	+ 18.2
Condensed milk .....	0.21	— 0.2	+ 5.1
Bread .....	5.03	No change	— 8.4
Flour .....	0.73	+ 0.1	— 26.0
Oatmeal .....	0.37	+ 13.2	+ 30.1
Rice .....	0.05	+ 1.2	— 30.4
Potatoes* .....	3.14	— 11.0	— 17.1
Tea .....	1.42	No change	— 44.7
Sugar .....	1.31	No change	— 33.3
Jam, strawberry .....	1.21	No change	+ 12.5
Coffee .....	0.26	+ 7.1	+ 76.2
Macaroni .....	0.10	+ 5.4	+ 12.3
Beans .....	0.16	No change	— 2.7
Cabbage .....	0.68	+ 1.6	— 11.5
Cooking apples .....	0.31	— 20.0	— 44.9
Tomatoes .....	0.52	+ 3.5	— 37.3

\* Corrected for seasonality.

*continued on next page*



Table 3—Contd.

ARTICLE	Percentage of total expenditure in mid-August, 1947 (i.e. expenditure weights)	Percentage Change	
		mid-August, 1950 and mid-November, 1950	mid-August, 1947 and mid-November, 1950
	%	%	%
Bar of chocolate .....	0.31	No change	+ 18.6
Boiled sweets .....	0.31	— 0.4	— 7.6
Peas* .....	0.16	No change	— 4.6
Onions* .....	0.31	„	No change
Oranges* .....	0.26	„	+ 12.5
Prunes* .....	0.37	„	— 26.3
Biscuits* .....	1.05	„	+ 17.2
Cocoa* .....	0.10	„	No change
Cornflour * .....	0.58	„	— 9.8
Bovril* .....	0.05	„	No change
Ham* .....	0.42	+ 5.1	+ 5.1
Other Food † .....	1.19	— 9.4	— 9.9
<i>Total Food</i> .....	45.70	+ 2.1	— 2.0
<i>Clothing :—</i>			
Men's suits, ready-made .....	0.37	+ 7.8	+ 19.6
do. tailor-made .....	0.37	+ 6.9	+ 22.4
Boys' suits .....	0.16	+ 6.2	+ 14.8
Men's overcoats, ready-made .....	0.16	+ 6.3	+ 17.6
do. tailor-made .....	0.16	+ 6.9	+ 17.7
Boy's overcoats .....	0.10	+ 6.2	+ 13.2
Singlets .....	0.16	+ 14.0	+ 32.7
Drawers .....	0.16	+ 13.5	+ 31.5
Shirts .....	0.31	+ 3.3	— 0.2
Socks .....	0.10	+ 17.6	+ 31.2
Boots, men's .....	0.58	+ 5.8	+ 27.3
Boots, boys .....	0.16	+ 6.3	+ 26.8
Women's light coats .....	0.31	+ 10.5	+ 29.2
„ heavy coats .....	0.31	+ 5.4	+ 12.8
Girls' coats .....	0.10	+ 8.1	+ 19.9
Costumes .....	0.16	+ 5.3	+ 14.9
Blouses .....	0.10	+ 3.3	+ 5.2
Skirts .....	0.05	+ 9.0	+ 25.7
Stockings, women's .....	0.31	+ 2.2	+ 13.4
Stockings, girls' .....	0.05	+ 18.0	+ 22.6

continued on next page

\* Prices used are based on special inquiries in the Office. All other prices are derived from returns received from local officers of the Department of Social Welfare.

† Deemed to fluctuate according to prices of carrots, parsnips, turnips, beetroot, lettuce, celery, parsley, bottled fruit, sauces, fruit drinks, patent drinks, condiments.

Table 3—Contd.

ARTICLE	Percentage of total expenditure in mid-August, 1947 (i.e. expenditure weights)	Percentage Change	
		mid-August, 1950 and mid-November, 1950	mid-August, 1947 and mid-November, 1950
	%	%	%
Shoes, women's	0.47	+ 4.2	+ 26.2
Shoes, girls'	0.16	+ 7.7	+ 28.2
Dresses, girls'	0.05	+ 8.3	+ 19.3
Dresses, women's (woollen)	0.05	+ 12.9	+ 27.9
Men's flannel trousers	0.26	+ 4.1	+ 21.0
Men's sportscoats	0.10	+ 2.1	+ 10.1
Men's overcoats, proofed	0.10	+ 2.9	+ 5.3
Men's hats	0.10	No change	+ 6.3
Men's pyjamas	0.05	+ 5.9	+ 1.6
Silk or rayon dresses	0.16	+ 2.7	+ 9.2
Women's hats	0.16	+ 3.1	+ 8.1
Cardigans	0.31	+ 14.1	+ 29.8
Slips	0.05	+ 1.7	— 0.4
Knickers	0.05	+ 3.5	+ 1.0
Brassieres	0.05	+ 1.7	+ 3.9
Corsets	0.05	+ 2.5	+ 6.8
Cotton piece goods	0.84	+ 3.0	+ 3.7
Woollen piece goods	0.47	+ 12.7	+ 32.2
Knitting wool	0.05	+ 24.5	+ 77.3
Other Clothing	1.28	+ 6.8	+ 18.7
<i>Total Clothing</i>	8.99	+ 7.2	+ 19.0
<i>Rent</i>	5.87	No change	+ 9.0
<i>Fuel and Light :—</i>			
Candles	.10	No change	— 6.2
Paraffin oil	.21	"	+ 26.7
Gas	1.00	+ 0.2	— 4.4
Turf	1.71	+ 2.3	+ 9.9
Coal	0.86	+ 3.5	+ 4.0
Firewood blocks	.26	+ 7.9	— 0.3
Electricity	1.26	No change	No change
<i>Total Fuel and Light</i>	5.40	+ 2.0	+ 4.0
<i>Total Essential Items</i>	65.96	+ 2.0	+ 2.0

## APPENDIX B

List of Items used in the Special Calculation of the Index for  
Sundries for mid-November, 1950, quoted in the Text.

*Drink :*

Stout, porter and ale  
Spirits  
Wine

*Tobacco :*

Cigarettes  
Pipe tobacco

*Household Goods :*

Cups  
Saucers  
Enamelled hollow-ware  
Domestic glassware  
Table knives  
Table forks  
Hair mattress  
Kitchen chairs  
Three-piece suite, upholstered  
Blanket, woollen  
Carpet  
Linoleum  
Boot polish  
Floor polish  
Sweeping brush  
Scrubbing brush  
Matches  
Envelopes and notepaper  
Newspapers  
Printed books  
Magazines and periodicals  
Manuscript books

*Household goods—contd. :*

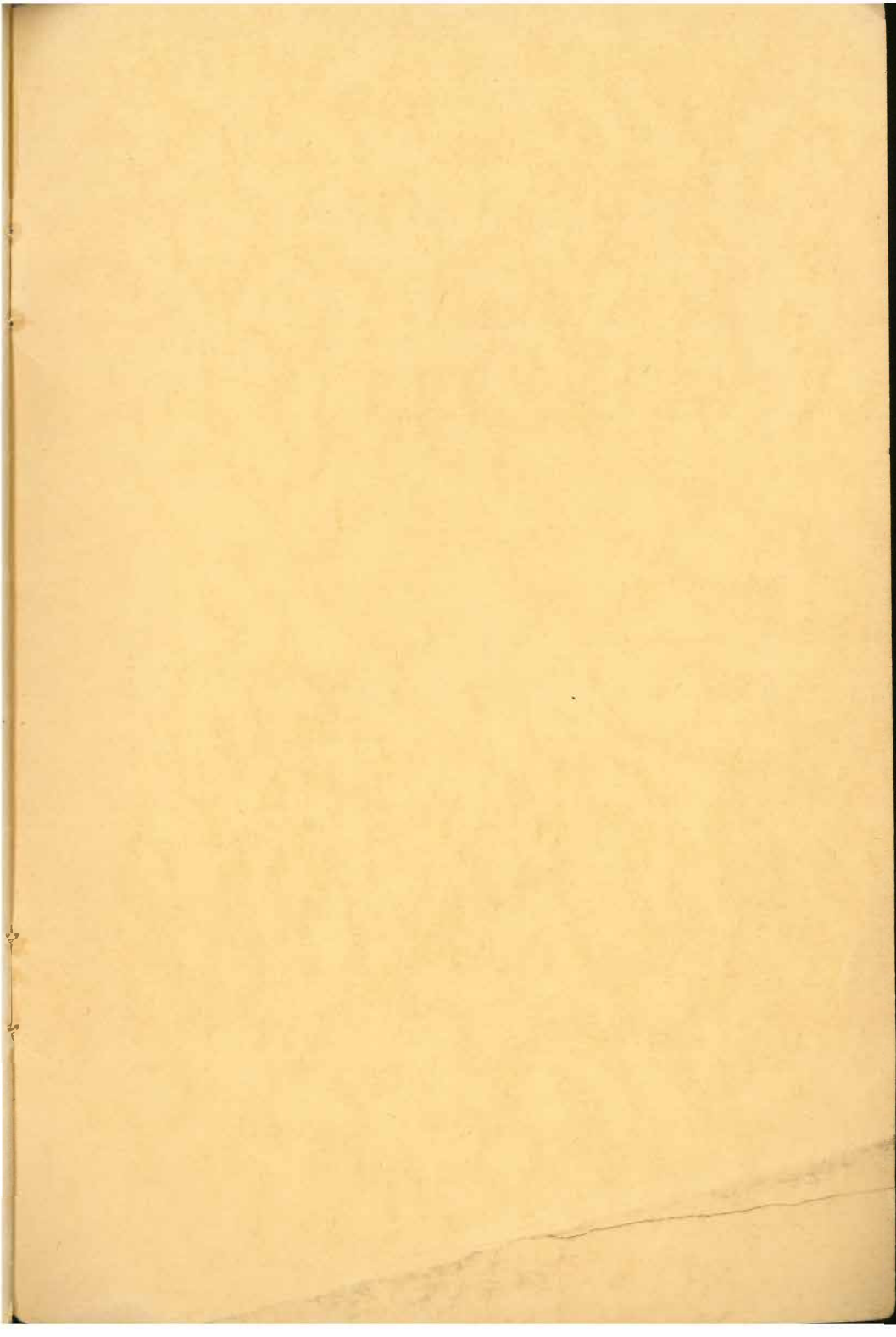
Soap and soap powders  
Soda crystals  
Bicarbonâte of soda  
Aspirin  
Quinine  
Face powder  
Lipstick  
Bicycles  
Perambulators  
Cycle covers  
Toys and games  
Musical instruments  
Wireless set  
Clocks and watches  
Electric lamps  
Wall and ceiling paper  
Shoe repairs  
Fancy goods

*Services, etc. :*

Travelling  
National Health and  
Unemployment Insurance  
Other Insurance  
Education  
Other professional service  
Private domestic service  
Postage  
Laundry  
Hairdressing  
Income Tax  
Amusements

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