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**METHODS OF
FAMILY LIVING STUDIES**

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Methods of Family Living Studies

Income—Expenditure—Consumption

by

ROBERT MORSE WOODBURY

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PREFACE

Enquiries into the living conditions of families, or family budget enquiries as they are often called, are, it is now recognised, one of the most valuable sources of information on many aspects of social life. There has been a considerable development in this form of enquiry in recent years, and the increased interest in problems of nutrition, partly owing to the work of the International Labour Office and the League of Nations on this subject, has furthered this development.

The present study, it is believed, forms the first complete guide to the subject, and it is hoped that it will prove of special value to those countries which are contemplating such enquiries. For its preparation all the chief family budget enquiries conducted during the last 15 years have been examined ; and the methods adopted in the different countries in this field have been of great assistance to the authors. This is especially true in the case of the United States of America, which on two occasions in recent years has conducted more complete and detailed investigations than those made hitherto by any other country ; this accounts for the frequent reference to American experience in this study.

The report, in addition to describing the purpose of such enquiries, the methods of planning and of collecting and analysing the data, pays special attention to the problems of appraisal of the results, and to the extent to which statistics based on a selection of families can be accepted as valid for the whole group of families of which they form a part. It does not give the results obtained by family living enquiries : this has been done recently by the International Labour Office in two articles in the *International Labour Review* for May and June 1939 : "An International Survey of Recent Family Living Studies."

This report was prepared under the general direction of J. W. Nixon, Chief of the Statistical Section, by Robert Morse Woodbury : Walter Kull and Margaret Sawyer Carroll prepared the synopses and assisted in collecting data for other parts of the report. For reading the manuscript of Chapter VI thanks

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INTRODUCTION

Information on the way people spend their incomes, how they feed and clothe themselves, how they are housed, how much is available for the necessities of life and how much, if any, is available for comforts and luxuries has long been recognised as of great importance for all persons and public authorities interested in or concerned with social conditions. Studies of family expenditure are invaluable in throwing light on and giving concrete meaning to standards of living of wage earners and their families and other classes of the population. The earliest studies in this field were undertaken by private investigators, but the collection of information on these subjects has increasingly engaged the attention of public authorities as its importance has been recognised, not only for knowledge of how the people live, but also for formulating policies relating, for instance, to minimum wages, to standards of living and in particular to housing and nutrition—two important items of family expenditure now receiving particular attention.

In 1926 the International Labour Office published a report entitled *Methods of Conducting Family Budget Enquiries*¹ for submission to the Third International Conference of Labour Statisticians. This Conference adopted a series of resolutions to serve as a guide to Governments for conducting such enquiries. These resolutions are given in Appendix II to this report. Since that date, a large number of enquiries of this kind have been held in different countries and interest in the subject has grown. In some cases the scope of the investigations has been widened to include a cross section of the entire population of a country; the number of families covered has been increased; new methods for selecting families for study have been developed; new methods of analysis have been applied; and new types of specialised studies have appeared. The report of 1926 is now out of date, so that the time seemed ripe for a new study of the subject.

¹ Studies and Reports, Series N, No. 9, Geneva, 1926, 100 pp.

Moreover, new interest is being taken in family living enquiries, stimulated to some extent by the work of the International Labour Office and the League of Nations on the subject of nutrition. The increased interest in these topics was shown at the Conference of American Members of the International Labour Organisation held in January 1936 at Santiago de Chile, which adopted a resolution on the possibility of a draft Convention on periodical family living studies in accordance with the plans to be drawn up for the purpose by the International Labour Office. The Inter-American Conference held at Buenos Aires in December 1936 also adopted a resolution asking the Pan-American Union to initiate enquiries into family budgets and cost of living in American countries and the Office has been collaborating with the Union on this subject.¹

In this connection should be mentioned a resolution adopted by the Conference of British Commonwealth Statisticians, representing eight countries, held at Ottawa in 1935, to the effect that family budget enquiries should be undertaken on the lines laid down by the International Conference of Labour Statisticians, 1926. In view of these developments and the many new studies recently undertaken, the conclusions and results of the 1926 report have been supplemented in certain directions and brought up to date in a new report on methods.

Although the general scope of this study is similar to the one published in 1926, the title has been altered from "methods of conducting family budget enquiries" to "methods of family living studies", as it is thought that this title more accurately describes the contents of the study. The term "family living studies" is now currently used in the United States of America. The term "family budgets", or, more correctly, "household budgets", has been in use for a very long period, and there is no suggestion that countries or investigators should cease to use this title. The term, however, grew up chiefly in connection with working-class families whose head was a wage earner, and the "family budget" meant an account of his income and expenditure. As the whole or the greater part of his income was in the form of cash which was spent on the purchase of goods and services, the term "budget" in the sense of an

¹ See Appendix II, p. 119, for the text of these two resolutions.

account of receipts and expenditure is appropriate. It is less applicable, however, to those cases where the enquiry does not resolve itself into an analysis of cash receipts and disbursements. In farm families, a large part of the food requirements may be met by the consumption of their own produce and a study of the living conditions of rural families cannot consist solely of an analysis of cash income and expenditure. Again, some enquiries, as pointed out in one of the chapters, are limited to one special aspect of living, e.g. nutrition, and "dietary surveys" of the food consumption and habits of families have become very important in recent years. Such studies cannot be described as "family budget enquiries", though they form an important aspect of "family living" studies. Some studies again consist of a record limited to "household expenditure", i.e. in general, expenditures known to or made by the housewife, which are not strictly "budgets". Moreover, the uses of enquiries of the nature described in this volume are to measure the cost of *living*, the standard of *living*, levels or planes of *living*, and the term "family living" therefore seems more suitable.

The present report is not intended to cover all aspects of family living, but only those investigations which have as their object the collection of information which can be tabulated and analysed, as to how families satisfy their material wants, how much they receive in cash or kind, how much they spend or consume, and on what items or services. Other aspects, such as the social and religious, the methods of marketing, household management, etc., are not covered.

Such enquiries are necessarily of an *ad hoc* character, that is, they must be specially planned and organised; the information cannot be obtained as the result of administration of some legislation or as a by-product of other information. In this sense they differ fundamentally from other branches of labour statistics such as wages, hours of work, employment and accidents, which are regularly available in most countries. They are not therefore *current* statistics and in fact are only available in most countries at long intervals. Secondly, such enquiries are expensive: special appropriations are usually required before they can be begun, and special staff must be engaged and trained. Thirdly, they are often of long duration, and the results may finally appear several years after the date to which they relate.

Again, it is obvious that the smaller the number of families covered, the greater the detail in which the information can be asked and the results published ; the information so obtained, however, may not be representative. On the other hand, a wide and comprehensive enquiry may be so long and expensive that while it may be representative of actual conditions, only summary information can be given, or the information, when ultimately analysed, may be out of date. The value of family living studies is therefore to be found in a happy medium : the number of families should be large enough to be representative of the groups covered by the enquiry, but not so large that the enquiry becomes too long or too expensive, nor so small that the results are not of general application.

It is not difficult to draw up on paper a scheme which would cover in great detail all the information which the enquirer would like to know concerning family living or which he thinks ought to be obtained. It must not be forgotten, however, that family living enquiries are voluntary enquiries, the accuracy of the information cannot in all cases be checked and no means exist for compelling families to disclose accurate details of their family life. Certain items of uneconomic expenditure may be understated and families may not render a truthful account of their total income. Enquiries are usually, for practical reasons, limited to workers' families and to the better-paid and more intelligent of these : very low incomes and high incomes are usually omitted or under-represented.

In the following report, therefore, an ideal scheme of investigation has not been drawn up. An empiric method has been adopted. What has been done is to draw on the practical experience of those countries and persons which have carried on such enquiries. A series of tabular statements or synoptic tables has been compiled showing, for all important recent enquiries, the nature of the information asked for, the scope of the enquiries and the nature of the information analysed and published. The object of this study being primarily a guide for use in planning future enquiries, it seemed preferable to base this study on what experience has shown can be accomplished, rather than to describe objectives which, however desirable, are beyond the range of practical possibilities.

In some cases, it is doubtless true that the value of recent enquiries would have been enhanced, especially from the point of view of international comparability, if there had existed

greater uniformity in definitions and in methods of classification and analysis. The formulating of rules on these matters is difficult and no attempt is made here to lay down specific rules. Nevertheless, the review of the studies made in different countries in their investigations undertaken within the past ten years suggests the advantages of certain methods and procedures and the conclusions of this report are based primarily on the examination of these studies. It is hoped, therefore, that the report will be of use to those responsible for organising enquiries of this kind.

The report deals first with the purpose of family living studies and the uses to which their results may be put, then with the problems of planning the enquiry and problems of method. The following chapters treat of data to be collected and the methods of analysing and appraising the results. Finally, a chapter discusses the special problem of dietary surveys and food consumption. As already indicated, these have attracted a great deal of attention lately, especially in connection with studies on nutrition which have been made in different countries and through the activities of the League of Nations and the International Labour Office ; and in view of their importance and the special problems which such surveys raise both as to methods and analysis of results, a special chapter is devoted to them.

Though the present report covers in a general way all the various types of surveys of family living, the discussion of methods and the principal illustrative materials are drawn from what may be termed the most general type of enquiry, i.e. those covering families of industrial employees. Special enquiries such as those into farm family living or into families whose heads or principal members are unemployed or in receipt of relief are not dealt with here in detail where these require special methods, although at many points attention is called to the particular problems which the special types of study present.

Finally, it should be added that the present report is limited to the subject of methods ; the actual results of family living studies are not given except to illustrate points of method. Various short national monographs of recent enquiries have been published from time to time in the *International Labour Review*, and an international survey of the results obtained in all the chief studies made during the past ten years has been

published in two articles in the *International Labour Review* for May and June 1939.¹ A list of sources of family living studies used in the preparation of this report is given in Appendix I (p. 115).

¹ "An International Survey of Recent Family Living Studies. I. Income and Expenditure; II. Food Expenditure and Consumption Habits." *International Labour Review*, Vol. XXXIX, Nos. 5 and 6, May and June 1939, pp. 662-705 and 814-846.

CHAPTER I

PURPOSES OF FAMILY LIVING STUDIES

A great part of the information regularly available on social conditions, earnings, hours of work, employment and unemployment, and sickness and health, relates to individuals rather than to families. For family groups some information is available in many countries from the population censuses, for example, in regard to size of families and of dwellings and of number of rooms occupied. But to obtain a satisfactory idea of how families live, what the family income is, how it is spent and how the expenditure varies for families of different sizes, in different localities, and with different incomes, special studies of family living are required.

The principal object of such studies is, in brief, a description of the "content of living" of the families. This means, in substance, that for each family a schedule of the quantities of goods and services consumed during the period covered by the survey is obtained, together with their costs, as reported by the individual family. As just noted, such detailed pictures of the way families live can be obtained only by means of direct studies of family life. Such studies give concrete meaning to the "standard of living" as enjoyed by these families. Many are directed particularly to a description of the content of living enjoyed by wage earners' families, but some give data also on salaried employees and other groups of the population. A few are limited to particular groups, families of persons on relief, of the unemployed, or of farm labourers or farmers; in others the description of the mode of life may be limited to data showing expenditures on various classes of items. More commonly, however, especially in more recent and more detailed studies, details of quantities purchased as well as amounts expended are obtained.

Data on the "content of living" of families in different circumstances lend themselves to analysis in terms of income or expenditure, social classes, size of family, occupation, etc., and throw light on the differences in "levels of living" in

different groups of the population. Analysis by income or expenditure shows their importance as major determinants of the standard of living and indicates how size of family, number of wage earners, occupation, etc., affect the level of living; in other words, how they determine the scale of consumption of food, clothing and other items.

Variations in habits under different conditions of income in different classes—for example, between manual and non-manual workers' families—can also be studied by means of the data obtained in family living enquiries. Some families may prefer to be below a conventional standard in, say, housing and food, in order to be able to spend more on other items. Habits of expenditure as shown by the relative emphasis placed upon needs of children and of adults may vary from group to group. Some parents may limit expenditures on their own needs in order to provide, for example, better nutrition and better education for their children. These habits governing relative expenditures on children and adults may vary at different income levels. The various groups of expenditures, in a sense, compete with one another and the factors determining the directions in which family expenditure is laid out can be analysed by means of family living enquiries. In some cases the results of these studies may suggest the advisability of special educational measures for improving the outlay of the money available for food, clothing or housing. Such studies are thus of great value in framing policy in respect of nutrition, housing, etc.

The description of the levels of living of the population and the detailed data on the content of living of each family make possible the appraisal of living conditions with reference to standards. For example, in regard to the adequacy of nutrition, special dietary surveys giving detailed quantities of the different foodstuffs consumed make possible the appraisal of the adequacy of food consumption. Norms for adequacy varying with the age and sex of the individual and the kind of work or activity performed have been set up by experts in physiology. In regard to housing, these studies may throw valuable light upon overcrowding and the question whether the conditions of the dwelling meet housing standards.

In case of such arbitrarily established or defined "levels" or "standards" of living as the poverty line, the level for minimum wages, the minimum comfort level, and similar benchmarks, drawn up, so far as possible, in terms of quantity budgets

of well-defined articles, the data of the surveys may often make it possible to classify the families in accordance with these norms. If, then, the families surveyed form a representative sample of the whole population or of a particular part of it, for example, the wage-earning classes, it becomes possible on the basis of such a classification to derive conclusions, or at least indications, of the level of living, of food adequacy, housing standards, etc., reached by the population from which the samples are drawn.

Such family living surveys are of interest also for the purpose of inter-city, inter-regional or even international comparisons. For this purpose, the methods of the studies must be on fairly comparable lines, with similar groupings and similar bases of classification; at best, the difficulties of such comparisons are great, especially in cases where basic social conditions are different.¹ In particular, the problem of the applicability of the same norm to populations living under different social conditions is an important one.

Such studies, furthermore, furnish a base point for measuring changes and improvements in living conditions. If family budget studies are repeated after an interval of five or ten years and improved conditions are found, for example, a larger proportion of families having adequate nutrition, better housing standards, or the possession of a radio or telephone, the conclusion may be drawn that the level of living of the community has been raised, provided that the differences are not due solely to differences in sampling. For such purposes, therefore, special attention must be paid to the representative character of the data and to the methods of sampling.

In particular reference to trends, data of family budget studies offer an important, if not indispensable, contribution to the measurement of changes in cost of living. One of the most frequent uses, in fact the one which perhaps most frequently provides the incentive for family budget studies, is to furnish the weights for index numbers of the cost of living and in nearly all countries such index numbers are compiled at regular intervals in order to measure changes in the purchasing power of wages and for other purposes. These are of special value and

¹ For further information on this subject see INTERNATIONAL LABOUR OFFICE: *A Contribution to the Study of International Comparisons of Costs of Living and International Comparisons of Cost of Living, Studies and Reports*, Series N (Statistics), No. 17 (Geneva, 1932), and No. 20 (Geneva, 1934).

importance during times of rapid changes in prices, such as have been experienced in nearly all countries during the past twenty years. The only satisfactory source for these weights, either of quantities or amounts of expenditure, is a family living study. Weights may be distinguished between those for measuring changes in cost of living for wage-earning families and those for measuring changes in the cost of living for other groups, for example, salaried employees, or even a particular group, such as Government employees.

Another purpose which the details of quantities consumed by families at different income levels serve is in the development by experts of the norms or standards at different levels. In the absence of an objective basis such as exists in the case of physiological requirements and tests for foods, reliance is usually placed upon actual living standards such as can be obtained in a particular environment corresponding to the level of living which it is desired that the norm shall characterise, such as the poverty line, the minimum wage, the minimum comfort level, health and decency level, etc. In setting up the quantity budget for such norms at different levels, the quantity budgets of family living surveys are not determinative, since the questions as to what such norms shall include are determined by the decisions of the experts; but nevertheless these decisions may be largely influenced by or based upon the facts as obtained in the family living surveys as to the quantities purchased by families of different size and composition in conjunction with the data on the level of living attained. In other words, the actual budgets furnish a valuable counterpart in real life with which to compare the preliminary and more or less hypothetical budgets established by experts, so that the final budgets adopted as norms will be not only characteristic of the level which they typify but also practicable and close to realities.

Of special importance in this field is the determination of minimum wages for women or for men. When the policy of establishing a minimum is laid down by legislative enactment or delegated to administrative bodies, the details of determining what the wage shall be usually involve an investigation of how single women (for the minimum wage for women) or families (of a given size and composition) actually live at the "minimum level". Special studies, such as family living studies limited to particular types of households at a particular level, may be relied upon to furnish the basic quantity budgets and these,

when priced under the conditions characteristic of the locality, furnish the basis for determining what the minimum wage should be.

Besides these, family living studies serve various other purposes. The consumption data showing quantities of various articles consumed may be used for various types of analyses of consumer demand and consumption, such as estimates of consumption in a territory or area ; studies of the elasticity of demand for commodities or of the dependence of demand upon income and price ; the influence of income on the quality of articles purchased ; and, in general, studies of the laws of expenditure in relation to income, size of family and other factors.¹ These studies serve also to guide policy on all lines affecting the welfare of large parts of the population. Measures for promoting nutrition among wage-earning families, for improving housing conditions, for raising standards of living and for ameliorating the general conditions of life of the working population are all questions of policy that must rest upon detailed knowledge of conditions and of the factors that affect welfare. These are among the most important purposes which studies of family living can serve.

¹ See R. G. D. ALLEN and A. L. BOWLEY : *Family Expenditure : A Study of Its Variation*, P. S. King and Son, London, 1935, for an interesting analysis of expenditure in relation to income.

CHAPTER II

PROBLEMS OF PLANNING

The problems of planning to be considered in this chapter include three main topics : (1) the scope of family budget studies or *what* should be covered ; (2) the selection of families or *who* should be selected for observation ; and (3) the selection of the period, or *when* the studies should be under taken.

1.---Scope

The determination of the scope of the study is the most fundamental part of the whole plan. The decision must be made in the light of the objects to be sought, as discussed in the preceding chapter. In some cases the scope of the study is determined by legislative or administrative decision in advance of the drawing up of specific plans. Usually, the body entrusted with the task of carrying out the family living study is given considerable freedom in determining its scope. In either case decisions as to the limitations of the study must be taken upon such general points as the following :

(1) Is the study to be limited to industrial wage earners (found principally in mining and manufacturing), or shall other social classes (e.g. salaried employees) and other economic activities, such as agriculture or transportation, be covered ?

(2) Is the study to be limited to families living in one or a small number of cities, or shall it include families from all parts of the country ?

(3) Is the study to be restricted to certain types of families only or shall it include persons living alone and all families without regard to their size and constitution ?

(4) Is the study to be limited to families with incomes not exceeding a specified limit, or shall it include families without regard to the amount of incomes received ?

(5) Is the study to be limited to families the heads of which are employed, or shall it include families of unemployed and families on relief ?

Table I analyses the scope of the most important studies conducted during the past 15 years and shows that no two studies cover exactly the same field of application.

The broadest scope of any study made up to the present is the Study of Consumer Purchases in a cross section of the population (native-born families) in six general regions in the United States in 1935-1937; parallel with this was a study of family living among wage earners in 1934-1936. The former covered not only families of wage earners and salaried employees, but also of professional persons, farmers, business managers and executives, with incomes ranging from \$300 a year to \$15,000 and over.

The study recently undertaken by Great Britain in 1937-1938 was almost as broad; it covered a large sample of persons within the compulsory unemployment insurance scheme, supplemented by a sample of persons excepted from unemployment insurance, with incomes of less than £250 a year, and extended to include not only industrial but also agricultural workers.

Apart from these comprehensive enquiries most official studies have been conducted with limited scope. A study in Argentina in 1935, to cite an example of one of the most closely focused studies, was restricted to wage earners' families living in Buenos Aires, and limited to households consisting of husband, wife and three children below 14 years of age, the head of the family being in receipt of monthly earnings ranging between 115 and 125 pesos. Obviously, if the scope is the broad one of presenting a picture of levels of living in various groups in different geographical areas of an entire country, the problem of planning is much more difficult and comprehensive than if the scope is limited to a particular class or group in a single area.

In the following paragraphs a brief survey is given of the differing scope of the various studies under review.

As regards the *social classes* and *economic activities* covered, a distinction may be made between official enquiries and enquiries conducted by private bodies or organisations; in general the former have a broader scope than the latter.

The official and semi-official enquiries in nearly all cases cover wage-earner families and in many cases include other social classes also. For example, about the same number of studies cover families of salaried employees and the families of civil servants. So far as concerns the branches of economic activity covered, the official enquiries relate mainly to manu-

facturing, transport and commerce (mining being included where important) ; public administration is only covered where the scope of the study includes civil servants' families among the eligible households. In most of the studies included in table I families of persons engaged in agriculture are excluded, owing to the special character of agricultural labour. In this field, however, a series of special studies conducted in various important countries has been undertaken ; the more important were the Finnish enquiry of 1928, the Swedish enquiry of 1933, the Netherlands enquiry of 1935-1936, the Estonian enquiry of 1937-1938, the enquiry conducted in Great Britain in 1937-1938, the Canadian enquiry of 1938, and a series of studies in the United States.

Non-official studies cover in general a narrower field ; studies made by private organisations are restricted in many cases to families affiliated with the organisations in question. The study of standards of living in non-competitive occupations made by the Heller Committee for Research in Social Economics of the University of California was limited to two rather narrowly defined groups of skilled workers or lower salaried employees, "street carmen" and "clerks" employed in San Francisco, California.

With regard to the *localities covered*, the scope ranges all the way from enquiries relating to a single city (in most cases the capital of the country) to nation-wide enquiries. In a summary way the following groups can be distinguished :

(1) Nation-wide studies covering the whole territory of a country or representative sections of the national territory (towns of various sizes, villages and farm areas). Nation-wide studies in this sense include the enquiries conducted in Finland in 1928, in Great Britain in 1937-1938, the Study of Consumer Purchases conducted in the United States in 1935-1937, the Netherlands study of 1935-1936¹, and the Swedish enquiry in 1933 ; in addition the enquiries conducted in Germany in 1937, in Belgium in 1928-1929 and in Denmark in 1931 can be termed nation-wide, except that they did not cover the farm population.

(2) Enquiries covering a large number of towns or important industrial centres. Among these enquiries may be mentioned

¹ This study excludes Amsterdam and The Hague, which were covered by separate enquiries made about the same time.

the German enquiry of 1927-1928, the Japanese enquiries since 1926-1927, the South African enquiry of 1936, the Wage Earner Study conducted in the United States in 1934-1936, and the Canadian enquiry of 1937-1938.

(3) Enquiries limited to a small number of towns. These include the Estonian enquiry of 1925 covering two towns; the Polish enquiry of 1927 covering two towns and two industrial centres; the Lithuanian enquiry covering three towns; and the Norwegian enquiry of 1927-1928 covering five towns.

(4) Enquiries covering a single town, generally the capital of the country. Enquiries limited to one town are available, for example, for : Austria (Vienna); Argentina (Buenos Aires); Brazil (São Paulo); Colombia (Bogotá)¹; Latvia (Riga); Mexico (Mexico City); China (Shanghai); India (Bombay, Ahmedabad); and the Netherlands (Amsterdam, The Hague).

Another source of differences in scope arises from limitations in regard to *family types*. In a large number of studies no rules are laid down and families are covered without regard to their composition.² In numerous important studies, however, the selection of families is limited to households consisting of two or more persons, for example, Japan (since 1931) (2-7 persons); and in many cases the families must have husband, wife and one or more children.³ In some cases families were considered as eligible only if they contained more than two persons; for example, the Argentine enquiry of 1933 (husband, wife and 1 to 6 children), and that of 1935 (husband, wife and 3 children); the Belgian enquiry of 1927-1928 ("normal" families consisting of husband, wife and one or more children, but no other dependants); the Shanghai enquiry of 1929-1930 (households of 3 to 7 persons); and the Mexican enquiry of 1934 (households of 4 to 6 persons). In this connection it should be pointed out that since the presence of boarders and lodgers often affects the consumption habits of the family proper, or calls for adjustments in family income and expenditure, a number of studies exclude households with boarders and lodgers. This procedure was followed, for example, in the German enquiry

¹ This enquiry is described as the first of a series to cover the principal cities and regions.

² In most cases persons living alone are excluded, except, e.g. in studies to show living conditions of women living alone for purposes of determining minimum wages.

³ The study in Bogotá, Colombia, included some families in which husband or wife or both parents were absent.

of 1937; the Merseyside enquiry of 1929-1931 (families with lodgers excluded); the Japanese enquiries since 1931 and the South African enquiry of 1936.

As regards limitations in *income*, a relatively small number of enquiries stipulate that husbands' or family earnings must exceed a lower or must be below an upper limit. As illustrations the following examples may be cited: the Canadian enquiry of 1937-1938 fixed a lower limit for earnings of \$450 and an upper limit of \$2,500; the Argentine enquiries covered husbands' earnings ranging between 115 and 525 pesos per month in the 1933, and between 115 and 125 pesos in the 1935 enquiry. In the Japanese enquiries families were considered as eligible only if the earnings of the chief breadwinner were less than 100 yen per month. The South African enquiry fixed as upper limit a family income of £600 per year. The Wage Earner Study in the United States included only families with a total family income of over \$500 per year, whose chief earner—either wage earner or clerical worker—earned at least \$300; if the chief earner was a clerical worker, an upper limit was fixed of \$2,000 per year or \$200 in any one month during the year covered. The study in Great Britain in the case of families of non-manual workers excluded those whose head received more than £250 a year.

As regards the *employment status* of the head of the household different decisions were taken in the various countries under review. While the bulk of enquiries make no restrictions as regards unemployed, a number of special studies conducted in recent years relate to households of the unemployed only, for example Great Britain (Rhondda Valley), Belgium, Czechoslovakia, the Netherlands (Amsterdam and The Hague) and various other studies (for example, the German enquiry of 1927-1928, the Austrian enquiries and the Swedish enquiry of 1933) give special tables on income and expenditure of families of unemployed persons.¹ On the other hand, in many studies families are limited to those of employed persons, as in the case of the German enquiry of 1937, for which families were not considered eligible if the head of the household was out of work at the beginning of the enquiry, and the Wage Earner Study in the United States where, for inclusion, at least one

¹ See "An International Survey of Recent Family Living Studies. III. Families of the Unemployed", to appear in the *International Labour Review*.

family member must have been employed for 36 weeks, except in the case of seasonal industries, where the limit was 28 weeks.

In addition, certain studies make distinctions on *racial grounds*; thus the South African study of 1936 relates to European families only; the Palestine enquiry of 1931 divided Jews and Arabs into three groups (urban Jewish, rural Jewish and rural Arab groups), and the Study of Consumer Purchases in the United States, while limited in most parts of the country to native white families, gives information for Negro families also in the south-east region and in certain cities (with considerable Negro population) in other parts of the country. The Canadian enquiry of 1937-1938 distinguished between families of British and French origin.

For other points delimiting the scope of enquiries, reference should be made to table I.

2.—Selection of Families : Problems of Sampling

The question *who* should be selected for surveys of family budgets is a very important one. It is obviously impossible to obtain information on family expenditure about all families in the population. The problem is to obtain as much useful typical information as possible at minimum expense and consistent with dependable results. In other words, the problem is to select a sample of families for detailed investigation that will so far as possible illustrate or show within reasonable limits of error the position in families of a similar type, income level, economic or social position, etc. This requires a brief consideration of the problems of sampling in space and in time.

A.—METHODS OF SAMPLING

Since the object of the sampling procedure is to secure a group that will be typical or representative of the population of which it is a sample, the sample must have no bias, whether conscious or unconscious, that will tend to make it atypical or unrepresentative. This idea of absence of bias is implied by the term "random sampling". In such a sample each family has an equal chance of being included and the calculus of probability is appealed to for a theoretical mathematical foundation justifying the procedure.

Besides the method of random sampling applied to a whole population or population group, the methods of stratified sampling, or random sampling applied within the limits of a series of strata, or divisions, of the population may be followed. In other words, the method of random sampling is applied in a framework of classification of the population. The population is subdivided along the lines of the most significant divisions, such as economic status, income, occupation or family type, or a combination of all these, into a series of "cells", each representing a single aspect of each of these bases of classification; within each cell the methods of random sampling are applied to select the particular families. In this method the results may be presented separately for each cell or they may be combined by applying weights determined in proportion to the relative numerical importance of the different cells. From the mathematical point of view the method of random sampling applied in a framework of stratified sampling is fully justified, since it leads to a satisfactory result with a smaller number of cases than is required when random sampling without such a framework is used.

Still another method, purposive sampling, has been followed. Families are selected in accordance with some purposive principle. If applied to the stratified framework just described, within each cell, one or a few cases may be selected, not at random but on the basis of some "principle", so as to approximate to the average of the cell, for example, by selecting families with incomes equal to the estimated average income. This method presumes that some basis of selection is available to guide the choosing of the individual cases; but the value of the results depends upon the appropriateness of the method followed for selecting the individual families. The method may attempt to select "representative" cases directly from the population as a whole.

Another variant of sampling procedure lies in the adoption of varying groups for different purposes—the method of graded sampling; for example, a large group for the relative frequency of family types, a smaller group for general data on expenditure, and a restricted group for exact measurements of foods actually consumed. The procedure of graded sampling may have wide application; in practice its use is usually dictated by the need for limiting expenses in those phases of an investigation that are the most costly.

The need for sampling procedures depends in part upon the scope of the study and the relation between the total number of possible cases and the number actually to be selected for study. If it were possible to include all cases within the scope of the study, for example where the scope is extremely limited, no procedure for sampling would be necessary; and the only question of sampling theory involved would be the extent to which the results could be taken as typical of the group to which they related (for example, at another time) or the extent to which the results could be extended to other groups more or less similar. By far the most usual case, however, is the enquiry where only one per hundred or one per thousand of possible cases can be selected for study, and here the procedure followed in selecting the particular families is obviously of great importance with especial reference to the questions whether and within what limits the conclusions drawn from the sample are applicable or can be extended to the whole population, or whether they are true only for the particular group studied.

In practice, the special procedures of sampling, although of basic importance for securing a representative selection of families, are adopted in comparatively few investigations. A survey of enquiries carried out during the last 15 years shows that in the majority of studies the question of sampling is touched upon very lightly or not at all.

B.—ILLUSTRATIVE EXAMPLES

To throw light upon the actual methods in selecting families, the procedures adopted in typical or illustrative investigations will be reviewed briefly, first for studies where methods of sampling or methods approaching such sampling are used, and secondly for other investigations where little or no attention is paid to methods of selection.

Studies using Sampling Procedures

Among the studies using methods of sampling, the procedures adopted in investigations conducted in Great Britain, the United States, India and Germany are of special interest. As shown below, the methods used include such plans as selections of families living in houses having numbers ending in a particular digit or combination of digits, or families having wage earners

listed in particular pay rolls, as every tenth or every twentieth or every hundredth name, etc.

Special problems included the over-representation of families with multiple earners where families were selected on the basis of lists of earners, since families with two earners, three earners, etc., would be approximately twice, three times, etc., as likely to be included as those with one earner only. This difficulty was met by including families only if the chief breadwinner or the head of the family were selected, ignoring the families where the earners selected were not the head of the family.

Great Britain, 1937-1938.

A random selection of about 25,000 industrial workers and 3,000 agricultural workers was made from the whole field of persons aged 21 and over, insured against unemployment. The unemployment insurance system covers about 15,000,000 workers between 14 and 64, in almost all branches of industry and extends to all wage earners and to all salaried employees receiving less than £250 per annum. Certain persons excepted from insurance, e.g. permanent staffs of railways, local and national government, etc., were also included if their earnings were less than £250 a year. This first selection covered about 1 in 400 of industrial workers (25,000) and about 1 in 150 of agricultural workers (3,000); it was hoped to obtain family budgets from about 40 per cent. of the workers on this list, i.e. 10,000 industrial workers and 1,200 agricultural workers.

United States of America.

1. *Study of Money Disbursements of Families of Employed Wage Earners and Lower-Salaried Clerical Workers.* 1934-1936.¹

(i) Geographical Sample.

The enquiry covered 55 cities, including 42 cities with populations over 50,000. These cities were chosen for various reasons. First, 27 of the 32 cities for which the Bureau of Labor Statistics compiles indexes of changes in the cost of living were selected. To these were added 7 cities for which the Bureau prepared indexes of retail food prices, the cities being counted among those for which cost of living indexes were valuable; in some cases either local conditions or local interest made information on consumption habits particularly desirable. Finally, a further group of cities was included because of the interest of local groups in having the data collected and because special funds for doing so were available.

¹ For further details, see Faith M. WILLIAMS and Alice C. HANSON, "Money Disbursements of Wage Earners and Clerical Workers in the North Atlantic Region, 1934-36", *U.S. Bureau of Labor Statistics Bulletin*, No. 637, Vol. I, New York City, Appendices B, C and D. Government Printing Office, Washington, 1939. (Or similar studies for other regions.)

(ii) *Size of the Sample.*

The size of the sample to be obtained from each city was determined in advance roughly according to the total population of the city ; if the population of the city was homogeneous in factors affecting consumption habits, such as nativity and type of industrial employment, the size of the sample was reduced, while if the city had a great variety of conditions, the sample might be increased. Separate studies were made of white and of Negro families. The minimum size set for a sample was 100 cases.

(iii) *Employer Sample.*

For each city a list, as nearly complete as possible, of employers and the approximate number of employees of each was obtained from governmental agencies, or from directories ; in the case of New York City the data were obtained from the file maintained by the New York State Department of Labor for use in administering the State's Factory Inspection and Workmen's Compensation Acts.¹

The names of the employers were then arranged alphabetically by industries. The method of drawing the sample from this list can best be shown by an example ; in a city with 10,000 employees and a desired sample of 100 workers, the sampling ratio would be 1 : 100 ; starting with an arbitrarily chosen number of less than 100 (for example, 29), the employers of the 29th, 129th, 229th, etc., employees would be noted, and a list prepared showing the names of these employers, together with the number of employees of each so designated.²

(iv) *Worker Sample.*

From an arbitrary point on the payroll or personnel list of each sample employer chosen the name of an employee was drawn, and five (or more) names immediately following were taken as substitutes.³ When two or more employees were to be drawn, the payroll was divided into as many sections as there were employees to be drawn, and the sets of six names were taken at the same relative position in each section.

In making the final selection, the names of any persons known to be outside the scope of the study, as for instance supervisory personnel, were dropped, and the following names substituted.

(v) *Selection of Workers from Random Sample.*

From this random sample of workers' names certain eliminations were made, in conformity with the purposes of the study, to secure a greater degree of homogeneity in the sample and to avoid the bias arising from the effects of the depression upon consumption habits. Names of workers whose expenditures might be presumed to show wide divergence from those of the group, such as those living alone or taking in more than two boarders, were discarded. Names of persons who had received relief during the previous year were dropped ; and likewise

¹ For details of the method of selection in New York City, see *Ibid.*, Appendix C.

² If no complete list of employers could be obtained, separate sampling ratios were used for the different industries to give a result as close as possible to what would have been obtained from a complete list.

³ In practice, owing to the need for substitute names, employers of less than 5 persons were omitted from the employers' lists.

if they were members of families with incomes of less than \$500 or in which no individual's earnings amounted to \$300 or in which no person had been employed for the equivalent of 28 hours a week during 36 weeks (or during 28 weeks in industries in which employment was markedly seasonal). Over-representation of multiple-earner families in the sample was prevented by discarding names of persons who were not the principal earner in their families. For each name discarded the name following it on the payroll was substituted.

2. *Study of Consumer Purchases.*¹

(i) *Selection of Communities.*

The communities were so chosen as to make comparisons possible between different parts of the country with differing climatic, geographical and cultural characteristics, between different degrees of urbanisation and different types of farming. Other things being equal, the most typical and homogeneous areas, and the most economically important, were selected. The areas chosen were 2 metropolitan communities (New York and Chicago), 6 large cities, 14 middle-size cities, 29 small cities, 140 villages and 64 farm counties; these communities were grouped into six geographical regions.

(ii) *Selection of Families.*

Since it was impracticable to canvass all the families in the communities covered, representative samples had to be selected. The samples taken were :

(1) A *random sample* of family population, ranging from 4 per cent. in New York to 10 per cent. in Chicago and up to 100 per cent. in most of the smaller cities, villages and farm communities, was obtained by visits to family dwelling units, using sampling schemes that gave each dwelling unit an equal chance of being included. For each family approached a *record card* was secured giving information as to nativity, colour, family composition and housekeeping arrangements; the number of record cards obtained for the urban Study of Consumer Purchases was about 625,000, besides those secured by the Bureau of Home Economics for the smaller cities, villages and farm population. These record cards provided the information necessary for determining which families met the qualifications for inclusion in the investigation; these requirements were chiefly that the families should contain husband and wife, both native born, who had been married at least a year. The study was restricted to white families, except that in the south-eastern States of the United States, and in New York and Columbus, Ohio, Negro families also were studied.

From these families a second sample was drawn.

(2) A *selected sample* including all families approached in the random sample which were willing to co-operate, had the above qualifications and met certain of the requirements for the controlled

¹ SCHOENBERG, Erika H, and PARTEN, Mildred, "Methods and Problems of Sampling presented by the Urban Study of Consumer Purchases", *Journal of the American Statistical Association*, June 1937, Vol. 32, pp. 311-322. See also "Family Income in Chicago, 1935-36", *U.S. Bureau of Labor Statistics Bulletin*, No. 642, Vol. I, Appendices A, B and C. Government Printing Office, Washington, 1939.

sample. By means of *family schedules* detailed data were secured on family composition, occupation of the chief earner, and income as well as data on rent paid. The number of "family schedules" obtained in the urban Study of Consumer Purchases was about 250,000, besides about 80,000 families from smaller cities, villages and farm areas surveyed by the Bureau of Home Economics.¹ This sample gave the basis for a further selection.

(3) "*Controlled*" sample. This sample was so arranged that in each community detailed data for about the same number of families in each colour-income-occupation-family type "cell" would be obtained. Two colour groups, up to 18 income groups, up to 10 occupational groups and 5 family types (7 in certain areas) were distinguished. By means of *expenditure schedules* details were secured as to expenditure on housing, household operation, occupational expense, taxes and miscellaneous items, and changes in assets and liabilities. The estimated total annual expenditure for food, clothing and furnishings was also asked for. The number of expenditure schedules obtained was approximately 60,000. Most of the families included in this controlled sample were drawn from families included in the random sample. When the random sample did not yield a sufficient number of families of the type desired, the remainder were obtained through "stratified" sampling, or sampling of particular districts, on the basis of directories. The information on expenditure was supplemented by check lists.

(4) *Check lists*. These lists were obtained from 37,000 families included in the controlled sample, which were willing to give details of quantities and expenditure for food consumed in the preceding seven days and for clothing and furnishings purchased during the preceding year.

This Study of Consumer Purchases is of special interest, since it included a preliminary sample census to determine the prevalence of certain different groups such as the different family types. In collecting the detailed data smaller samples were taken from the families already covered by this general sample. In this procedure it should be noted that the purposes of the study are sufficiently covered if each homogeneous sub-group is represented by a large enough number of families to give a reasonably stable picture of its conditions of living. The solution of the problem of combining the whole into a complete picture of the conditions of living of the population can be facilitated, if this result is sought, by weighting the results in each sub-group according to its importance in the general population. The preliminary sample census thus serves the purpose not only of indicating the importance of the several groups but also of furnishing reliable weights for combining the results into a general average.

3. *Heller Committee Study on Families of Street Carmen and Clerks living "on a Moderate Income" in San Francisco.*

In a study of street carmen's families made by the Heller Committee, the names of all street car operatives on the rolls of the union were

¹ In order to "place" the selected sample in the framework of the total family population, similar information was obtained for a part of the random sample for all families irrespective of their "eligibility" for the selected sample. This comprehensive sample ranged from 0.4 per cent. to 10 per cent. of the total family population of the community.

taken as the basis. From these were omitted all who did not have full-time work, on the ground that the purpose of the study was to show the standard of living of the full-time worker in this occupation. The remainder were then visited until 102 usable schedules had been obtained. In all about 75 per cent. of those eligible were visited. During the course of the visits certain names were dropped because the family consisted of a person living alone, because the family refused information or because the information was found to be inaccurate. This study represents a three-fourths complete coverage of all eligible families in the groups selected for study.

A similar study undertaken by the same group at the same time of clerks' families reveals a somewhat more important problem of selection. In this case lists of clerical and office employees, taken from certain large establishments, banks, railway companies and industrial concerns, were used as the basis for visits. Many of these families—over three-fourths of those visited—were dropped, either because of absence from home at the time of the visit, refusal to give information or other reasons. No data are given on the proportion of the total eligible who were actually visited.

India (Ahmedabad), 1933-1935.

Information was collected from every 33rd tenement in the predominantly working class localities within the municipal limits of Ahmedabad. If the sampled tenement was unoccupied, or if persons occupying it did not belong to the working-class, or if the chief of the household was not in full-time employment, or if the occupier refused to give information, budgets were collected from either the immediately preceding or following tenement.

Germany, 1937.

The method of selection of families for the German enquiry was according to the following plan.

(1) *Geographical Sample.*

The enquiry covered over 800 communities chosen as follows. First, the 235 communities were selected which supply the Central Statistical Office with data on retail prices. To these communities were added certain large industrial centres and smaller communities which were of special interest from the point of view of wage policy, the total being thus increased to 265 communities (including all towns with over 50,000 inhabitants). In addition the provincial administrations (*Gauverwaltungen*) were instructed to include other communities which they thought suitable for the purposes of the enquiry, paying special attention to rural settlements inhabited largely by industrial workers employed in a neighbouring town. By this means a total of 800 communities was reached. To obtain a representative distribution of the families the number of households to be selected in each region (*Gau*) was fixed in proportion to the number of wage earners in employment in industry, commerce and transport in that region. The quotas thus determined were then adjusted, being decreased in the case of crowded industrial centres and increased for rural districts, following the rule that at least 50 families should be selected in each district.

(2) *Occupational Sample.*

In each district an attempt was made to obtain data for a representative industrial sample. As a rule the number of households to be selected was in proportion to the number of workers employed in each industrial branch, these quotas being based on the census of establishments taken in 1933, with allowances for changes in the distribution of wage earners which occurred since 1933. In case of transport, however, the share allotted was decreased by one-third, since living conditions for workers employed by the German State railways and the post office differ only slightly in the different parts of the country.

Other Studies

The methods of selection of families for other studies, apart from enquiries where special attention is paid to the methods of sampling, leave in many cases much to be desired. In general, the determining factor in selection is the willingness of the family to participate in the enquiry, in conjunction with the various means adopted of bringing the study to the attention of the groups to be covered. In particular, the groups interested may include trade unions, employers' and employees' organisations, local authorities and universities; appeals to the families may be through personal contact through the interested groups, through the press, mail and other means.

Thus, in the Argentine enquiry of 1933 the families were selected by labour inspectors and trade union officials. In the Austrian enquiry of 1925 family budgets were obtained in collaboration with co-operative consumers' societies and the women's organisation of the Social Democratic Party. In the enquiry conducted in the Union of South Africa in 1936, the organisation interested in the study set up a "Joint Committee on Cost of Living, Public and Railway Services and other Trade Unions and Staff Associations", to assist the Office of Census and Statistics in making the investigation. In the Netherlands enquiry of 1935-1936 the collaboration of different organisations was obtained, such as trade unions, the Netherlands Association of Housewives, the Domestic Science School, the Netherlands Association of Farmers and the Agricultural Directory. In the Japanese enquiry of 1926-1927 the collaboration of families was secured by means of publicity, addresses and lectures, as well as by assistance from public and private associations. The German enquiry of 1927-1928 and the Swiss enquiry of 1936-1937 were conducted in close contact with municipal (or cantonal) statistical offices. In various enquiries, such as the studies conducted in Brazil and Belgium, special field workers were appointed to select families and to supervise the household accounts.

This collaboration with private organisations does not always yield satisfactory results, the number of families willing to collaborate falling below expectations. This was the case in the Norwegian enquiry of 1927-1928, which was conducted in contact

with trade unions of the country; the attention of the public was drawn to the study by means of newspaper advertisements inviting householders who were willing to keep accounts to send their names to trade union headquarters. This appeal did not yield the expected results and the municipal statistical offices in the cities covered were therefore asked to assist.

In general, these results may be expected to vary greatly so far as concerns the representativeness of the materials. The families selected usually belong to the better situated and more intelligent portions of the groups covered. If the data are numerous enough to permit of various subspecifications, the materials may be more serviceable, since a group of budgets belonging to a particular "cell", i.e. with definite limits of income and of a definite family type, etc., is characterised to a very considerable extent in terms of the "cell" limits, even though the relative position of families within the "cells" may be subject to marked bias. And even though these families may not be representative of the group as a whole, the data may be used in conjunction with a system of weights so as to give reasonably satisfactory results. Moreover, if a study is limited in scope to a small income range in a particular occupation, area, etc., the drawbacks attaching to relatively crude methods of selection may be of relatively minor importance.

G.—TESTS OF DEGREE OF REPRESENTATIVENESS OF THE DATA

One of the dangers of family budget enquiries is that the results obtained from necessarily partial enquiries, are sometimes assumed to be valid for the population, or the groups of population as a whole. This is especially the case with persons unfamiliar with statistical methods and is often due to the fact that the results are published without due warning being given of, or allowance made for, the approximate or partial nature of the figures. Tests of the representativeness of samples are always of great importance and value in connection with an appraisal of the results of the procedure of selection.

It is possible to test the quality and representativeness of the sample in various ways. First, various comparisons may be made between the sample and the population as a whole. These comparisons may relate to occupation, average income or average earnings, the family size and composition, and other points for which sufficient data are available.

Another method of testing sampling procedures lies in the examination of rejections, since the rejections may reveal a definite bias. Rejections can, of course, scarcely be avoided, since they depend in part upon the willingness or ability of the families to furnish the data requested. The special circumstances attending the rejection of cases can often be analysed directly to throw light upon any bias which the rejections give to the sample finally selected. In many cases, however, the method of sampling takes into account the possibility of rejections and provides a definite procedure for substituting new cases for those which have to be rejected in such a way that the rejections do not result in giving a bias to the accepted group. Other methods depend upon the number of cases covered.

D.—NUMBER OF FAMILIES

The subject of the number of cases required should be approached from the point of view of reducing expense to the minimum in view of the objects sought and the intricacy of the subject matter. Here the basic principles involved will be described.

If the group of families studied is homogeneous in all respects that might cause variation in the conditions of living, a relatively small number of cases should suffice as an adequate basis for a study of their habits of expenditure and consumption. In practice, the sufficiency of a sample can be readily shown by a study of variations. If the cases are divided at random into two equal parts, for example, the average and the range of variation in individual families for the second group may be found to be substantially similar to those found for the first group.

The whole subject of the relation between the number of cases and the range of "error" in averages, variability, etc., is an important one ; but it does not need perhaps to be discussed here, since a general treatment of the problem can be found in most standard textbooks of statistics.¹ In general, as the number of cases increases, the "precision" of the results increases, not in direct proportion to the number of cases, but in proportion

¹ See also, for example, E. J. BIGWOOD, *Guiding Principles for Studies on the Nutrition of Population*, Chapter XII, "Statistical Considerations", pp. 120-137. League of Nations, Health Organisation, Technical Commission on Nutrition, Geneva, 1939.

to the square root of the number. The precision depends also upon the variability of the data themselves ; it is obviously less if the data are highly varied and greater if the data are closely grouped about the mean. The applications to the specific materials of family living studies of these statistical principles, however, have hitherto been relatively limited. Only in certain recent studies, such as the Wage Earner Study, the Study of Consumer Purchases and the Heller Committee studies in the United States, and in certain analyses of family living studies by Bowley and Allen and others has this problem been dealt with.

The condition that the group of families studied should be homogeneous in all respects, however, is well nigh a counsel of perfection. Conditions of living vary with income, with family type, with numbers in the family, with social position, with race, climate, etc., with occupation and with geographical areas, in short, with the whole series of characteristics each of which needs to be investigated. In practice, even the task of securing a minimum reasonable number of each of the more obvious classifications has required an amount larger than the funds available. In few cases has resort been had to the mathematical methods of analysis which make possible the full utilisation of all the data contained in limited studies as well as an appraisal of the standard errors to be attached to conclusions derived from them.¹

Table I shows the number of cases in a series of recent budget studies.

3.—The Selection of Periods covered

The second problem of sampling, besides the selection of families, is the selection of periods to be covered. In practice the chief methods found are : data for families included in the study may cover (1) a whole year, (2) a selected month, (3) typical weeks only and (4) combinations of these, for example, one period used for food, and a different period for clothing expenditures.

If the first method is adopted a year which is reasonably typical of average prosperity is usually chosen. For certain

¹ These remarks should not be interpreted as implying that the results of studies based upon few cases are valueless, but merely that it is difficult to appraise or to determine their value in the absence of data showing variability.

purposes the conditions of living, for example, during a period of depression, or during a year of high prosperity, may be of particular interest.

From one point of view there is an advantage, however, in choosing the year in which the population census is held. In such a case estimates of the numbers and proportion of wage earners, salaried employees, etc., in the population, and their distribution by occupations, and of the number of families of different sizes, can be more easily made and the results of budget studies can then be placed in relation to the population as a whole.

In case of the second and third procedures, it is important that the months or weeks selected be typical of average expenditure and consumption. The usual practice is that they are selected either in the intermediate seasons of spring and autumn, or that a sample is taken of each of the main seasons, as in the case of the study in Great Britain, where one week each in October, January, April and July was chosen. Weeks are usually selected in which no holidays occur to upset the usual habits, especially food habits, of the families, although, on the other hand, for an adequate study of the conditions of living it can fairly be objected that the presence of holidays and the resulting variations in habits form part of the actual mode of living and should therefore be included.¹

A special difficulty with the third method is that the week is a relatively short period for obtaining representative expenditures on other items than food. Expenditures for items such as clothing are relatively irregular and often of large amounts, and show for individual families large deviations from average expenditure. Yet the average expenditure for all families may be reasonably accurate, unless the period chosen is such that it coincides with an unusual expenditure of a particular type in many families.

One disadvantage of the year as the period of study is that it tends to limit the number of families which can be included,

¹ Theoretically, the problem might be met by taking 52 samples of the same number of families, one sample for each week in the year (or 12 samples of one month each, one for each month in the year) : in this way the different weeks (or months) would be equally weighted and a final average expenditure obtained on the basis of a much larger total sample than in a single sample taken for an entire year. But while this method might give very satisfactory results for averages, the variability of the expenditures taken for a week for each family would doubtless be much greater than if the data in each case related to the longer period of a year.

since it is more difficult and much more expensive to secure a given number of budgets for a long than for a short period. Fewer families are willing to keep detailed account books for a long period and as shown by experience a considerable proportion of families which signify at the beginning of the enquiry their willingness to co-operate may fail to keep the records for the whole period.

These difficulties may be lessened by requesting information on items of regular consumption (or expenditure) (food, fuel and light) for a short period, as for typical weeks or for a selected month, and supplementing this by complete accounts or estimates covering a whole year for all non-current items : the data of the former type being obtained from a larger number of households than data of the latter type. Thus the Belgian enquiry of 1927-1928 obtained information on food consumption for four fortnightly periods (one fortnight for each season of the year) from over a thousand families, and data on other expenditure were secured for a yearly period from less than 200 households. In the enquiry conducted in Estonia in 1924-1925 detailed data on food expenditure were requested for the period of one month and a less detailed enquiry was conducted giving general data on income and expenditure for one year. The United States Study of Consumer Purchases secured information or estimates covering one year's expenditure, while for food in particular detailed information on both quantities purchased and amounts expended was obtained for somewhat more than half the families for the seven days preceding the visit of the agent to the family. The Canadian enquiry of 1937-1938 sought detailed information on income and non-food expenditure for a yearly period, while weekly records of food consumption were secured for one week each in October, February and June.

Another method of meeting the problems involved in the consumption of durable and seasonal goods consists of asking for estimates covering annual expenditures on these goods. The enquiry conducted in Ahmedabad in 1933-1935 recorded outlays made during the period of one month on food, fuel, light, rent and miscellaneous expenditure, and in regard to expenditures on clothing, shoes and other necessities not bought every month, the following information was asked for : the number of articles in use, their cost, when purchased, total cost of articles, estimated life of each article in months, and the estimated average cost per month. In the South African

enquiry of 1936, the entries on expenditure for food, fuel and light related in general to total cost per month, while for clothing, housing, equipment and miscellaneous items the average cost per month was entered, these averages being based on data for periods exceeding a single month.

In table I the periods covered are shown for the most important of the family living studies undertaken during the past fifteen years.

With regard to periodicity special advantages are gained by repeating studies at intervals of five or ten years.¹ In this connection, it should be emphasised that, if possible, the studies should be planned on a uniform basis so that comparisons may be possible from period to period. Such comparisons might indicate, for example, that the proportion of expenditure for food had diminished during a period of ten years, or that the proportion of expenditures on miscellaneous items had increased, thus suggesting that an increase in the standard of living had taken place, or that there was an increase in the freedom of spending of the families selected in the later of the two studies. Such considerations apply particularly to studies undertaken by official bureaux and covering either the entire country, particular groups or special areas.

¹ The Third International Conference of Labour Statisticians recommended (October 1926) that "in order to provide adequate information with regard to actual standards of living, enquiries should be conducted at intervals generally of not more than ten years into the income, expenditure and conditions of living of families representative of large homogeneous sections of the population." See INTERNATIONAL LABOUR OFFICE : *The International Standardisation of Labour Statistics*, p. 33, Studies and Reports, Series N, No. 19, Geneva, 1934 and Appendix II.

CHAPTER III

METHODS OF COLLECTING INFORMATION

The problem of *how* the data for family budgets should be collected, i.e. the methods of collection, depend to a certain extent upon the points which the enquiry is to cover. As will be seen in the next chapter, the items to be collected include (*a*) data on family expenditures ; (*b*) data on family income ; (*c*) data on the characteristics and composition of the family ; and (*d*) data on the quantities of all foods consumed. To obtain adequate information on food for dietary surveys requires special techniques and methods which are discussed in Chapter VI.

1.—Sources of Information

The principal source of information is of course the members of the family. A particular person—usually the housewife—is the actual informant. Questions about family composition and general family characteristics can be answered either by the housewife or by almost any adult member of the family.

The housewife also is the usual source for detailed data on family expenditures. She is conversant with expenditures for food, with quantities purchased and with the inventory of food on hand at the beginning and at the end of the period. She is usually in a position to know expenditures for all the principal items—food, housing, clothing, fuel, light and miscellaneous. However, on items of expenditure for which other persons in the household are primarily responsible her information may be incomplete. This applies to expenditures by the husband or other wage earners, out of funds of whose existence the housewife may be ignorant ; and perhaps to children's allowances—she would know their amounts, but perhaps not how they are used. The first case is found particularly in certain countries where the housewife may be ignorant of how much her husband earns. These difficulties were encountered, for example, in the Viennese enquiry of 1925 ; the report of this study remarks that among wage earners' families the head of the

family and the grown-up children often do not give their total earnings to the housewife but keep a larger or smaller part as pocket money, the housewife being ignorant how these amounts are spent.

These difficulties may be avoided or overcome in any of three ways. The first consists in limiting the study to families in which all earnings are placed in a common fund. This procedure was adopted in the Wage Earner Study conducted in the United States in 1934-1936 and in the German enquiry of 1937, which excludes families with employed children whose earnings are not pooled with earnings from other employed members of the family. The second method consists, in case the housewife is ignorant of total family income, in distributing separate schedules to the different members of the household asking for the amount of earnings which are not contributed to the family fund and for details on how they are spent. This method was adopted in the Swiss enquiry of 1936-1937, and the British enquiry of 1937-1938. The same method might be applied to children's pocket money if the amounts involved warranted it.

A third method was followed in the Danish enquiry of 1931. If the family included grown-up children whose earnings were not placed in the family fund, the householder was instructed to enter only those expenditure items for which payments were made out of the family purse. The part of children's earnings kept as pocket money and spent on items such as tobacco, clothing, drinks, amusements, etc., were thus not covered by the investigation. This method has the obvious disadvantage that certain types of expenditure are not fully covered.

The problem of family income is a more difficult one than that of expenditure. As just noted, the housewife may not be familiar with all the income received from all sources, even with the chief wage earner's earnings, and where children's earnings are handed over to the parents for the purposes of family maintenance, the children may retain certain amounts not reported, in order to have free spending money.¹ In other countries these difficulties within the family economy may not be present.

¹ For example, in Great Britain, information on total family income was not called for on the family budget schedules; but information on expenditures made by the wage earners which are not accounted for in the family schedule was called for in a separate form.

In the case of income, however, other sources of information are available. The name of the employer of the head of the family may be obtained, from the housewife or in other ways, and from him records of earnings during the period of the survey, may be obtained. Problems arise, however, with regard to subsidiary earnings, or in cases where the employer has gone out of business or the individual has worked for several employers (e.g. casual workers). Data on earnings may be sought from the husband or other wage earner where the housewife is ignorant of the full amount ; in such cases appropriate measures may be taken in order to hold this part of the information confidential. The amount of income other than earnings, relief or unemployment benefits, for example, may be obtained from the offices of the agencies through which the payments are made.

2.—Methods for Obtaining Data

In general, the method followed is similar to that in all field investigations, namely, a trained investigator is charged with the duty of obtaining the facts necessary for the enquiry. So far as the data relate to the general characteristics of the family, etc., this method is usually adopted. The housewife is interviewed and the answers to the questions are entered on schedules or booklets prepared for the purpose. In some cases employers are interviewed and their permission obtained for the investigators to abstract data from the payrolls for transfer to, or comparison with, the data already entered in the schedules or account books.

The principal part of the material for family living studies, namely, that concerning details of income and expenditure, is obtained in most enquiries by either of two methods, one by investigators visiting the housewife and entering her answers to questions how the family income has been spent during the periods of the survey on specially prepared schedules—called the *schedule* or interview method—and the other by asking the housewife to enter all amounts received and all expenditures made in detail in a household account book prepared for the purpose of the study—called the *account book method*.¹ Both of these methods make some use of the investigator or agent,

¹ The question of securing data on food consumption is discussed later, in Chapter VI.

who visits the housewife. In the schedule method entire reliance is placed upon the ability of the agent to obtain all the details on income, expenditure and consumption in the course of the interview, while in the account book method the principal reliance for the details is placed upon the housewife, whose entries are made day by day in the account book and supervised either daily or from time to time by the investigator.

Answers to general questions—such as family characteristics (number in family, relation to head of household, age, etc.) occupation of those gainfully occupied, etc.—may be obtained by questioning the housewife. Data on income and periods of unemployment of the gainfully occupied members of the family may also be secured in this way in both types of study. In the schedule method, the well-planned schedule contains a tabular statement showing for each member of the family the occupation, or occupations, each on a separate line, with the industry, the name of the employer,¹ the period of employment and the total earnings. The arrangement should thus present a picture of employment, unemployment and earnings during the whole period covered, which may be related to fluctuations in expenditure if the latter is given by quarters or by months. A similar arrangement for answers to these questions is, of course, possible also in the account book method.²

The chief differences between the two methods are found in obtaining the detailed data of amounts expended and quantities purchased, whether of food, clothing, rent or miscellaneous items. The advantages of the household account book method are primarily that entries are made as they occur and reliance is not placed to such a large extent upon the housewife's memory. The disadvantages of the schedule method on this point are not so great as might be supposed. The housewife is asked specific questions concerning each of the items usually purchased. These questions are carefully framed and spaces for entries in answer to each are provided on the schedule. The questions may relate to different periods, that is, those relating to food, quantities and expenditure are usually limited to the past week

¹ If the family objects to giving the name of the present employer or employing company, this point may be dropped.

² Especially in the case of food studies, additional data on family composition are often obtained; for example, the period during which each member of the family was with the family during the year covered, temporary absences, presence of guests staying with the family and number of meals taken outside the home.

or month, whereas those for clothing, etc., cover a longer period, usually a year. The disadvantages of the household account book are that it may leave too much to the imagination of the housewife. It is possible for items to be overlooked and for entries not to be made properly; even a check on expenditures by comparison with income may not prevent error, since items forgotten may remain forgotten unless the housewife's memory is refreshed by mention of the articles purchased. Furthermore, it has sometimes been suggested that the weekly household accounts may be "doctored" for official inspection, as, for example, by concealing expenditure for "drinks" under "medicines" or "other items", etc.

The advantages of the schedule method are that the skilled investigator can usually obtain the information desired even though the housewife may be reluctant to give it; he can establish friendly relations directly and give a personal assurance that the data will be used only for statistical purposes.¹ Obviously, much depends upon the training and skill of the investigator when the schedule method is used, as well as upon a carefully planned schedule and carefully phrased questions, while in the account book method a great deal depends upon the intelligence and good will of the housewife and on her willingness and ability to keep books in the form requested. The value of each method depends then in considerable part upon how well the materials are prepared, how well qualified the investigators are, how well they are trained and how competently the work is supervised. The question of the relative accuracy of the results in each case is further discussed below.²

A combination of the two methods is sometimes met with. In the Estonian enquiry of 1925, for example, the account book method was used to secure detailed information on income and expenditure for one month; while by means of a schedule data were obtained on income and expenditure, excluding food items, for a yearly period. In Colombia and Mexico, in the case of most of the families the agents made daily visits to supervise or to make the entries in the account books. This daily visiting by the agents with account books has the advantages of both

¹ In Brazil a number of investigators with medical training gave medical advice to the families and treated children free of charge, and this feature proved of great value in securing the confidence of the families.

² See below, section 7, p. 43.

methods, since the entries are actually made by the trained investigators, who can ask any necessary questions of the housewife, and they are made daily so as to avoid reliance on the housewife's memory. Such a method is necessary, of course, if data on the account book plan are to be obtained for families where the housewife is illiterate or is unable to keep the accounts.

Two other possible methods of obtaining data should be discussed. The questionnaire method, in which a list of questions is sent by mail to the housewife for her to fill up the entries, is occasionally used, though rarely for the full data for family living. This method has the great disadvantage that without careful preliminary selection and interview of the persons to whom the questionnaire is sent the replies are likely to be inadequate, incomplete or entirely wanting. Where only a small percentage of those to whom the questionnaire is sent return replies, it is always uncertain whether the replies form a representative sample.¹ In general, the questionnaire method (i.e. solicitation by mail of answers to a list of questions) is not resorted to in family living studies conducted in recent years for obtaining detailed data on expenditure and income. However, enquiries on specific questions are often sent by mail to persons who have already agreed to co-operate in the family living study, with satisfactory results.

For certain types of questions, the method of census enumeration, either complete or partial, may be used. Data on housing, overcrowding, etc., in the general population are often secured in the population census. Data on income or earnings of the chief wage earners have been secured in this way in Australia and New Zealand and on family earnings in Canada. The census is often used, moreover, to give a general picture of the families in the population, to serve as a frame of reference into which the detailed data for selected families can be fitted. In some cases, for example in the preliminary work for the Study on Consumer Purchases in the United States, a limited or sample census was taken of certain cities or areas as a means of locating families to be interviewed in the detailed study; these give at

¹ In some cases, household account books have been distributed by mail without special visits of explanation or supervision. In Australia, in November 1913, 7,000 household account books were posted to a list of householders; only 417 were returned, of which 25 were unsatisfactory. In New Zealand in 1910-1911 only 69 satisfactory budgets were obtained out of a total of 1,600 account books sent out by post.

the same time a general picture of the entire group from which the sample was taken. Detailed data on expenditure, however, cannot be satisfactorily obtained in a general population census.

3.—Forms

Whichever method is adopted to secure the detailed data on expenditure, etc., much depends upon the care with which the schedule or account book is prepared. The actual items to be called for are discussed in the next chapter. A few examples to throw light upon the importance of planning may be given here.¹

Schedules range from simple, crudely drafted ones to those with a maximum amount of information called for and arranged on the printed blank. The most elaborate schedules used are perhaps those of the Wage Earner Study in the United States, containing 18 closely printed pages and the Canadian schedule, containing 12 pages for income and non-food expenditure. The questions on family composition should be phrased in such a form that age, sex, relationship to head of household, whether at work or not, etc., are obtained for each member of the family, together with enough data to show whether each individual properly belongs to the family group as defined for purposes of the enquiry. Tests with different ways of asking the questions and of entering the answers will usually indicate the best form of arrangement of the data.

Especially with regard to various items of food, clothing, miscellaneous items and items for balancing accounts, the necessity of suggesting the various points about which the housewife is to be asked, as well as the necessity of space to enter replies, is of great importance in obtaining a complete and full record of family expenditures and consumption.

In printing the schedule, attention should also be paid to leaving certain spaces for editing entries or, if machine tabulation is to be used, for code entries. The quality of the paper, size of the card, etc., should also be considered, since the wearing

¹ For sample schedule forms, see reports of family living studies, e.g. Faith M. WILLIAMS and Alice C. HANSON, "Money Disbursements of Wage Earners and Clerical Workers in the North Atlantic Region, 1934-36", *U.S. Bureau of Labor Statistics Bulletin* No. 637, Vol. I, New York City, Appendix F.

For sample schedules used in dietary surveys see E. J. BIGWOOD, *op. cit.*, Annexes 1-17.

qualities, for example, should be equal to the demands made upon the forms.

Account books range from booklets containing blank pages to those with a page for each day's entries, with printed headings covering the principal items of expenditure. The following points may be noted concerning the household account books used in recent enquiries.

As regards the period covered, in some countries the booklets covered a single month, as, for example, in the enquiries conducted in Germany, Austria, Japan, the Netherlands and Switzerland; in others, a quarterly period, as in Finland and Sweden, and in exceptional cases, yearly booklets were distributed. In Norway the account book covered a whole year; the pages relating to each month, however, were to be torn off and posted at the end of the month to the Statistical Office in charge of the study. If the accounts are closed at the end of each month the supervising body can check the entries and draw the attention of the housewife to any errors, inconsistencies and omissions while the study is still in progress.

As regards entries of expenditure, two types of account books may be distinguished. Booklets may contain detailed queries, like those of schedules, upon daily payments on a printed list of expenditure items. Booklets of this type were adopted, for example, in Denmark, Finland and Sweden. The majority of account books make no provision for a definite arrangement of items and the expenditures are entered as they occur or arbitrarily. Booklets of this type were used in Germany, Brazil, Estonia, the Netherlands, Norway, Poland, Switzerland and Czecho-Slovakia.

Where account books are used, provision should be made for the entry of items of general character, either on a separate schedule or on the first page or pages of the account book. The booklets should also contain periodical statements upon changes in family members present, guests staying with the family and meals taken outside the home.

In order to ensure correct entries the account books contain in many cases printed examples indicating the way in which the entries should be made, special attention being paid to the difficulties that housewives may encounter in keeping the accounts. In a number of countries printed instructions for keeping the accounts are also distributed.

4.—Selection and Training of Investigators

Family living studies are among the most difficult and intricate of social surveys. Special attention should therefore be given to the matter of the selection and training of the investigators or special agents who are to secure the information for the schedule or to supervise the filling up of the household account books. Reference should also be made here to the special requirements of dietary surveys, when they are included as part of the studies. They are further discussed in Chapter VI.

The agents or investigators selected should possess adequate preliminary experience and background in the general technique of social surveys and, if possible, be familiar with the procedure of family living studies in particular. If dietary surveys are made, they should be conversant with food values and nutrition. Agents should be selected for their tactfulness, pleasant manner of address and ability to obtain answers to questions. They should be trained to ask questions designed to elicit the information desired without offence or friction and should be able to understand the problems of the housewife.

In a considerable number of enquiries, agents are recruited from persons familiar with statistical and social investigations.

In Great Britain, the employment exchanges in each area appointed local committees of voluntary workers, who selected the agents. In the United States, in addition to the permanent staff, persons were selected principally (1) from civil service registers (Wage Earner Study), (2) where the funds were derived from Public Works or relief appropriations, from rolls of those applicants for employment relief classified as clerks, accountants, statisticians, etc. (Wage Earner Study and Study of Consumer Purchases). In India (Bombay and Ahmedabad enquiries) and in Norway and Sweden, the field workers were selected from the staffs of the statistical offices. In some countries, for example, where the enquiries are carried out in co-operation with trade unions, field workers have been chosen from those organisations; this procedure was followed, for example, in Germany, Poland and the Union of South Africa.

Since the accuracy of the information obtained in the schedule method depends to a considerable extent upon the investigator, a course of special training is considered desirable in some countries after the agents have been selected. In the United States, for example, such courses were given to agents in both the study of wage-earners' family living and the Study of Consumer Purchases. These training courses should review the various

points with which the investigator should be familiar and should include such points as : a lecture on the purposes of the study, the process of tabulation and correct approaches to families, with demonstrations ; study of the special instructions to agents, showing how the data should be entered, especially those presenting difficulties, such as credit purchases, vacation expenditures and investments ; and practice in filling up account books or schedules.

Throughout the course of the enquiry, it is desirable that the work of each agent should be reviewed for accuracy, completeness and uniformity of methods and that as the records are completed they should be gone over by an editor, in order that they may, if necessary, be corrected and completed while the study is still in progress. Doubtful or inaccurate entries will thus be called to the attention of the agent, who can then revisit the family. Such a procedure not only produces more satisfactory schedules or account books, but helps the agent to furnish better schedules and to supervise accounts more skilfully in future.

5.—Supervision and Methods of Checking Results

The task of supervising the work of agents in the schedule method and supervising entries in the household account books is of great importance if the results are to be of maximum value. This supervision should be undertaken from the very beginning, so that if the material has not been properly obtained, steps may be taken at once to correct the method.

In both schedule and account book methods, the procedure of editing offers a first point of supervision of the work of investigators. As soon as schedules or account books are received, they should be examined by trained editors or scrutineers, who review the answers to the questions and the entries for the individual items to see if the data are complete and consistent. If the study is a large one and there are many editors, a set of special instructions may be useful to ensure uniformity. In a large study, furthermore, supervision of the work of local editors is a necessary procedure and samples of the account books or schedules should be sent to headquarters for examination of uniformity of editing.

Editing for consistency is a principal means of checking accuracy of returns. The data on employment, earnings, etc.

should be consistent with the information on gainful occupation ; in the case of earnings a check may be possible with data independently derived from employer's payrolls. Payrolls are the better source where the data can be obtained, but it must be supplemented, usually by information obtained from the housewife or the person concerned, on other jobs.

If the account books state the presence of boarders with the family, information should be given showing receipts from boarding or subletting rooms ; if expenditures for vacation are returned, the account book should contain data on the temporary absences of family members ; and if the family keeps poultry or produces vegetables at home, information should be given on the quantities of eggs, vegetables, etc., obtained from the family garden.

A possible check on expenditures is through the balance of the accounts, since if total receipts and total disbursements do not balance, the possibility of important omissions or errors arises. This balancing of accounts requires not only data on income but also details of balancing items, such as borrowings, and drawing on past savings or putting money in the bank and loans to friends, etc. Full details of the data required are given in Chapter IV ; the point that it is desired to emphasise here is their importance as a form of check. Such data are obtained, for example, in the enquiries made in Germany (1927-1928), Austria (1934), Estonia (1925), Finland (1928), Norway (1927-1928), Poland (1929), Sweden (1933) and the two large studies in the United States (1934-1936, 1935-1937). With the account book method, balancing the account may involve postponement until the study is completed, if the weekly or monthly books do not contain the necessary items. Even if all receipts and all disbursements are taken into consideration, small sources of error may still exist and the number of budgets showing an exact balance may be few.¹ For this reason, accounts should not be rejected if the relative difference between receipts and disbursements is small. In the Wage Earner Study in the United States this limit was fixed at 5 per cent. of total annual receipts. If the method adopted permits of more frequent balancing of accounts, the limit of permissible divergence between receipts and disbursements may be reduced.

¹ A special rubric showing the average size of unadjusted balances is given in a few enquiries, for example, the German enquiry of 1927-1928, the Bulgarian enquiry of 1927-1928 and the Polish enquiry of 1929.

6.—Incentives

It is customary in many studies to provide for the payment of a small sum to the housekeeper for filling in the household books of account or detailed records necessary for these studies. This is commonly done where the detailed account book method is used. In some cases the amount paid to the housewife is increased if the account books are carried over the full extent of the period. In a few cases, the reward is supplemented by the gift of prizes.¹ Where the interview or schedule method is used, payment to housewives is not usually resorted to, but small rewards may be given to field workers.

7.—Tests of Reliability of Data

For a complete discussion of methods some consideration should be given to tests of reliability. Unfortunately, comparatively little information is available. During the progress of an enquiry, efforts to obtain correct data should be made; items obtained from one source of information may be checked with data obtained from another source, for example, earnings as stated by the housewife with earnings shown on payrolls, receipts for relief as stated by the informant with official records and prices as given by housewives may be compared with retail prices in shops patronised by the families concerned. These methods of checking are commonly used to correct the entries rather than to test the reliability of the method.

The most important question of reliability is the accuracy of the data obtained by the account book and schedule methods.

¹ In the German enquiry of 1927-1928 a cash payment of 20 RM. was granted as a reward by the Federal Statistical Office to families with carefully kept accounts. These payments were further supplemented by amounts paid by the municipalities covered by the enquiry. In Great Britain payments of 2s. 6d. were made for each completed weekly budget, and for those completing the four weekly budgets (one in each quarter) an additional 2s. 6d., making 12s. 6d. in all, was given. In the Swedish enquiry of 1933, rewards were given varying between 20 and 40 Kr., and to these were added prizes for the most carefully kept accounts, varying between 40 and 75 Kr.; in Stockholm the rewards and prizes were somewhat more generous. In the Polish enquiry of 1927, agents received 3.50 zloty for each completed account book, and payments were given to householders, amounting to 10 zloty for accounts kept during six months, and to 25 zloty for yearly accounts; in addition, prizes of 100 zloty each were given to the 15 families with the best kept budgets.

It is commonly accepted that the account book method gives trustworthy results, chiefly because the housewife makes entries of items as they occur ; it is nevertheless equally accepted that the method is limited to the relatively intelligent, to persons able and willing to keep books and who undertake and can be trusted to make the entries correctly. In many countries no use is made of the schedule method on account of distrust of the data. In the United States, where the schedule method with trained investigators is commonly used, the attitude of those in charge of investigations is, in general, satisfaction that the agents are able to obtain such complete data, as well as the conviction that the materials obtained are reasonably accurate.

Practically the only study of relative reliability of the two methods is one published by the United States Department of Agriculture in November 1933.¹ In this study four groups of farm families in different States (40 families) and families in the professional group in six areas (24 families) were asked to furnish information on family living by both the account book and schedule methods, and the results were compared, item by item. The procedure was to obtain day to day records and at the end of the year schedule estimates were secured for the same period before the families had received any summaries of their accounts. This was supplemented for certain families by schedule estimates of the year's expenditure and income at the beginning of the account book year as well as at the end of the year.

The results of this comparative study indicate the great importance in both methods of properly prepared and well planned schedules and account books. Also of prime importance is the prompt editing and querying of items which are omitted, inconsistent or doubtful.

The comparison of the data for the 40 farm families indicated that the schedule method showed 2 per cent. higher total money expenditure and 7 per cent. higher total value of farm living—the value of goods furnished by the farm having been estimated at higher values for the schedule enquiry—than the figures given in the account books. In the professional group of families the schedule method showed 3 per cent. lower figures for total money expenditures and 4 per cent. less value of total family living.

¹ Chase Going WOODHOUSE and Faith WILLIAMS : *Comparison of Schedule and Account Methods of Collecting Data on Family Living*. U.S. Department of Agriculture, Technical Bulletin No. 386, November 1933. Washington, D.C.

Of course, in certain items substantial differences appear in certain cases ; for example, omissions from the schedule data of a particular item were traced to the omission of an important question on the schedule.

One conclusion reached is that for the professional group of families the agreement between the two methods is so close that both may be accepted as accurate. This conclusion may probably be extended, according to the authors, to the upper class of wage earners. These, of course, are the groups for which the account book method is also best adapted. Another conclusion is that the account book method requires close supervision of possible omissions.

The study also points out that supervised accounts for short periods at different seasons may give more accurate data on food consumption and on expenditures for food and other recurrent items than may be obtained either by the schedule method or by unsupervised accounts for an entire year.

8.—Preliminary or Preparatory Studies and Investigations

An important phase of method is the preliminary study. These range from a general review of family budget materials in preparation for a pioneer enquiry, to special studies on specific points made in advance of the definitive enquiry.

One example of a preliminary investigation is that made in Colombia for the purpose of determining the list of commodities most used by working-class families. As a result it was possible to include in the account books used in the final study a printed list of foods and other items, so that the entries could be made on a more uniform basis.

Another type of preliminary survey was used in the Study of Consumer Purchases in the United States. This was undertaken as part of the plan of sampling in the cities and areas covered by the investigation. A preliminary census of sample households in the areas selected for study was made. This gave data for the selected households showing the different types and composition of families, the colour and nativity of the parents, the presence or absence of lodgers and boarders, and whether the family kept house ; further samples could be drawn from these data on a uniform plan. Furthermore, this comprehensive preliminary survey gave a basis to show how the sample finally selected was related to the population from which

it was drawn. The data of this census were also useful in furnishing weights for compounding the averages for the different sample groups to give a result which would be comparable with the consumption of the entire population.

9.—Special Methods for Special Types of Survey

In certain investigations special problems of method are raised by the character of the investigation.¹ This is true, for example, where the investigation is limited to families in receipt of relief, unemployment and other benefits, etc., and also in the case of the farm family living studies. In the case of families living on relief, a source of information as to income may be the agency through which the benefit or relief payment is made. Special attention must be paid also to the question of the value of goods received in kind.²

With regard to the farm family living studies, the latter problem is of very great importance since, on farms, as much as 50 or 60 per cent. of the food may be produced on the farm, and for the purpose of comparing farm family living with living in urban districts, some reasonable estimate must be made of this home-grown produce.³

¹ For the special problems of dietary surveys, see Chapter VI.

² See "An International Survey of Recent Family Living Studies : III. Families of the Unemployed", to appear in the *International Labour Review*.

³ *Ibid.* : "IV. Farm Families".

CHAPTER IV

THE DATA TO BE COLLECTED

The general scope of the items to be collected has already been indicated in general terms. The object of family living or family budget studies, as their name implies, is to obtain details of expenditure and consumption, but in order that this material can be used for purposes of analysis, the composition and characteristics of the family (i.e. the number of persons of each age and sex, etc.) and the economic and social position of the family are also required.

To a certain extent the items to be collected depend upon the purpose of the study. For example, a study made for the purpose of analysing food consumption and nutrition must pay special attention to the age, sex and activity of the members of the family, their health and other points (see Chapter VI). On the other hand, a study made solely for the purpose of obtaining weights for cost of living indices may be planned with less detail on certain points not immediately required for cost of living analyses.

On the whole, however, experience has usually indicated that the most satisfactory results are obtained where ample details of information are secured, since it frequently happens that during the course of the enquiry or after the enquiry has been completed other purposes than those originally envisaged are found to be important and the value of the study is greatly enhanced if the necessary information is already available. This is perhaps especially true of items that help to establish the character of representativeness of the sample or help to appraise the quality or level of living (details of food consumption, etc.) of the families surveyed.

A conspectus of information asked for in different family living enquiries is given in table II (Appendix III); in general, six groups of items are called for, and the discussion will take them up under these topics : (1) Identification ; (2) Family composition and characteristics ; (3) Economic status, housing, etc. ; (4) Receipts and income ; (5) Disbursements, outgo, consumption expenditure ; (6) Other information.

1.- Identification

In the process of obtaining schedules or household account books for family budget studies it is requisite of course that the individual schedules or books should be identified. The necessary items of identification are the name and address of the family, names of those who supply information, name of the agent who interviews the family and the supervisor who reviews the data. By these means it is possible to rectify errors or discrepancies, to obtain additional data, to visit the family again or to question the agent in order to obtain the supplementary information.

In some cases, however, the name and address of the family is, in principle, excluded from the schedule or account book and these are identified only by number. In such cases, the agent who obtains the schedule knows or has a list of the numbers corresponding to the families so that in case of need for supplementary information he can secure it by visit or by sending it back to the family, but the inspector who reviews the schedule and the statistical office which tabulates it are unable to identify the schedule or book with the particular family. The purpose of this anonymity is to be able to assure the families participating in the enquiry that information pertaining to the family will not be published nor will it be used by other governmental agencies for any purpose. In general, agents are required to treat all information so obtained as confidential and this is an additional assurance to the families that no improper use will be made of the materials. In any case, the name of the town, village, etc., is necessary for the classification of the schedules according to the type and size of the city or village or rural area.

Family Composition and Characteristics

AGE, SEX, MARITAL CONDITION, POSITION IN THE FAMILY
OR HOUSEHOLD, SIZE AND TYPE OF FAMILY

Data on age, sex and marital condition or relationship to the head of the household of all members of the family are required so that families can be classified according to size and type. Any changes in the family composition during the

period of the enquiry (births, deaths, removals, etc.) should of course be noted.

In determining the number in the family, the definition of the family is of importance. Should it be defined so as to include lodgers, boarders, visitors and servants? In general the number of persons in the family includes those living under a common roof and sharing meals or who contribute to the common fund.¹ As already mentioned in Chapter II, many studies omit all families with boarders or lodgers, to avoid the complications arising from computing income from boarders and of determining the exact food consumption and expenditure of the family. In this connection the data obtained must be sufficient to permit decision on the question of excluding or including specific persons within the family (or of excluding the family from the study). If boarders and lodgers are included, the data must cover such details of meals taken, income received, food expenditure, etc., as will permit of a satisfactory accounting. Similar problems arise in the case of servants. In some studies they are included in the family if they live in the dwelling and their food is provided in the household budget, so that quantities of food consumed include those consumed by the servants.² Servants who live outside the household, however, are usually excluded from the family and in this case allowance may have to be made for expenses for food and quantities of food consumed by the servants at meals taken in the house.³

This information on the family is useful for various purposes. If consumption units (see Chapters V and VI) are to be

¹ The definition must be considered in connection with the data on income and expenditure. In general, only those whose entire income and expenditure are covered should be included as family members. Otherwise, special adjustments have to be made in relating members in the family to expenditure and the proportionate expenditures for certain items may be influenced by the inclusion of partial or incomplete data on expenditures in respect of certain individuals.

² In the Netherlands enquiry of 1935, servants were excluded in families containing servants and special adjustments were made to obtain quantities of food consumed by the family.

³ For purposes of food and dietary surveys account is commonly taken of absences of family members, taking meals outside the home, and the presence of guests and visitors, in order that the food quantities consumed and the persons present at meals shall correspond. This information is required for computing the exact number of effective consumption units in each family, taking all these factors into account. Household account books in many enquiries contain spaces for daily entries on these points.

calculated the data on age and sex as well as on the activity of different family members are required.¹ When analyses of spending habits are made according to the number of persons in the family, this information is, of course, essential. The expense for education depends obviously on the presence of children of school age in the household. Data on the ages and number of the children, which identify the particular stage in the life cycle of the family, are useful in a study of changes in the economic position or economic pressure experienced by the family as children are born, grow up, and leave to found families of their own. Many studies are limited to "normal" families, i.e. those with husband and wife with or without children; but studies of families on relief will usually include broken families where husband or wife is absent and where the absence of the chief bread-winner may force the family to seek public or private assistance.²

HEALTH

For certain purposes, data on the health of the different family members may be required, as in special studies of diets and nutrition (Chapter VI). In most surveys little attention has been paid to this question. The presence in the family of chronic invalids or persons suffering from special disabilities, as well as of long periods of sickness of family members during the period covered by the survey, should be noted in cases of large or unusual expenditures on sickness, hospitals, medical attendance, etc.³

RACE AND SOCIAL CONDITIONS

Other points on which data are sometimes required include race and nationality, for example in studies in the United States, where a classification by race is essential to distinguish white and Negro families. Data on native or foreign birth are also usually required in the United States and other countries with a

¹ In some enquiries, e.g. Great Britain (1937), consumption units are not calculated, but the data on family composition, etc., are made available, so that interested persons, e.g. physiologists, nutrition experts, etc., can make appropriate calculations as to requirements.

² See table I for data on family types included and table III for information in regard to family composition asked for in the various enquiries.

³ In the Japanese enquiries, families with extraordinary expenditures on account of sick persons are excluded.

large immigrant population ; the particular nationality may also be of interest. In addition, religion may be important, especially in cases where religion is associated with diet customs; as is the case, for example, in India. In a few studies information on literacy of members of the family is also secured. Practical considerations usually tend to limit the number and scope of supplementary data to those which are indispensable to the purposes of the study.

3.—**Economic Status, Housing, etc.**

OCCUPATION AND EMPLOYMENT STATUS

Gainful Occupation, Employment and Unemployment

Information should be obtained concerning each member of the family as to whether he is or is not gainfully occupied. Those "not gainfully employed" consist principally of wives and children and elderly persons living at home and having no outside occupation ; particularly in agriculture, that is in farm family living studies, the question whether the member of the family is assisting the head of the family in his work may be of some importance and it may be desirable that these unpaid family workers should be separately identified.

For each member of the family who is employed or has been employed during the period of the study particulars are desirable of the industry or industries in which the persons are occupied and if possible of the occupation or type of work performed. The length of time in each employment and the duration of unemployment during the period of the enquiry for all occupied members of the family are also useful in connection with the data on earnings (see below).

Employment Status

The question as to employment status or position in industry, that is whether wage earner, salaried employee, professional worker, director and manager, employer or person working for his own account, is important in those studies which are not limited to wage earner families. Answers to these questions can be obtained in connection with those on occupation, at least for the head of the household or for the person according to whose status the family is to be classified. Whether the

persons employed are manual or non-manual workers is of special interest in connection with the question of the extent to which mode of life, for example food consumption, varies as between these different groups. Information whether persons belonging to the household are manual or non-manual workers, unemployed, housewives, etc., is necessary in those cases where food consumption requirements are computed.

HOUSING

Data on housing are valuable, partly to complete information on expenditure, partly to throw light on housing conditions, and partly as a means of testing the representativeness of the sample. The last mentioned point is pertinent in countries where general data on housing conditions are available from a census or from special surveys.

Most of the schedules and account books used in the enquiries conducted during the last 15 years contain questions on housing. The information asked for varies from a small number of questions to detailed statements obtained by means of special housing schedules. In almost all enquiries which call for information on housing the questions asked include as a minimum the number of rooms and the ownership of the dwelling occupied.¹

OTHER INFORMATION

Information is secured in many family living studies on such questions as the possession of a vegetable garden, the keeping of poultry and other livestock (pigs, cows, etc.), and the amount of home produce. This last information is collected partly to throw light on home produced foods consumed in the household and it is of course equally important in the case of rural families and farm living studies. In this connection data on marketing habits, whether, for example, co-operative

¹ Among the studies which included questions calling for detailed information are the German enquiry of 1927-1928, the Polish enquiry of 1927, the Swedish enquiry of 1933, the study conducted in the Union of South Africa in 1936, the Canadian enquiry of 1937-1938, the Wage Earner Study in the United States in 1934-1936, and the Study of Consumer Purchases of 1935-1937. The questions asked include the following points: size of dwelling, cubic content, building material, type of house, (detached, semi-detached, row house, etc.), equipment and services (running water, toilet, refrigeration, kitchen, bathroom, elevator, telephone, etc.). In a number of enquiries the dimensions of each room are secured for computing floor space and cubic content, and to throw light on overcrowding.

stores or similar establishments are patronised, are sometimes sought.

Other points which throw light upon economic status include income and net worth. Both of these items, however, are of such importance and are so closely connected with the problem of obtaining detailed data on receipts and expenditures that they are more fittingly discussed in the following sections.

4.—Receipts and Income¹

The items included in the discussion of this and the two following sections form the core of complete family living enquiries : they present a series of complicated and difficult problems of definition, classification and analysis. It will be helpful, therefore, to point out briefly the underlying purposes of the data on receipts and disbursements, income and outgo, consumption expenditure and non-consumption outgo, and net worth in order to give a preliminary view of the whole subject. The content of living is best shown by the current expenditures for consumption and represents most closely the main objective of the enquiry. The source from which the level of living is maintained is normally the current income, although in times of stress savings may be drawn upon, loans contracted or debts incurred ; on the receipts side, therefore, income is the main objective. If it is desired to obtain these items with the maximum accuracy the enquiry should cover the whole of receipts and disbursements during the period, including in these the value of income and outgo (consumption) in kind. With this comprehensive approach to the problem, the individual items can be seen in their true relationship and the balancing of the accounts is an important check upon the accuracy and completeness of the record.

In this connection tables IV and V show the analysis of information available and practice adopted in the several countries in respect of including or excluding certain items in income or in receipts, on the one hand, or in expenditures and disbursements on the other, together with the practice of utilising one or the other as the basis for their classifications, a point which is discussed further in Chapter V.

¹ See "An International Survey of Recent Family Living Studies. I. Income and Expenditure", *International Labour Review*, Vol. XXXIX, No. 5, May 1939, pp. 662-705, for details from various enquiries illustrating the importance of each of the topics and items here discussed.

INCOME

Income includes in general all receipts which do not represent a diminution of assets or an increase in debts.

One purpose served by data on income is for classifying families according to the total amount of income available to the family as a whole, or for each member, or each consumption unit. This makes it possible to compare the amount available for the maintenance of a content of living with the amount actually expended. Families can thus be classified according to whether their current level of living is above or below that corresponding to their income.

The period covered by the data on income should, so far as possible, relate to a period of one year. In some cases the data on expenditure relate to a shorter period than a year, whereas the data on income may relate to the year or month immediately preceding the date of the conclusion of the study. Especially where the period for expenditure is for a week only, the value of income data for a longer period is clear.

In principle, income should include both cash income and the value of income in kind, so that families can be grouped according to their total income. In many studies, however, especially those relating to urban wage earners, income in kind forms such a minor element in total income that it can be ignored without serious error; in farm family living studies, on the other hand, the value of income in kind, is of considerable importance and must be taken into account, in spite of the difficulties in evaluating it, if the results are to present a true picture of the level of living and are to be comparable with the results of other studies.

Income is from two general sources, income from earnings and income from other sources than earnings, and may be classified as follows :

Earnings.

Other income :

- (a) Interest and dividends.
- (b) Rents.
- (c) Rental value of owned home.
- (d) Pensions, annuities and insurance benefits.

- (e) Gifts, assistance and relief.
- (f) Profits from boarders and lodgers.
- (g) Value of home produce.
- (h) Other sources.

Earnings

In order to obtain complete data earnings for each member of the family should be obtained for each week or pay period. This is facilitated if earnings from each occupation (if more than one), as well as the jobs held during the course of the period of the enquiry are also obtained.

Earnings in cash should relate to the true earnings from employment, including taxes, social insurance contributions, etc., which may be legally deducted from earnings by the employer, as well as family allowances, tips, bonuses, payments for holidays, etc. On the other hand, expenses connected with the occupation, such as wages to helpers, cost of materials (tools, explosives, etc.), licences and permits, etc., should not be included with earnings.

Difficulties may arise in obtaining total earnings of each member of the family, especially where the earnings of children or even of those of the husband are not reported to the housewife, e.g., if the husband or the children contribute only part of their earnings to the common fund, keeping the rest as pocket money.¹

To facilitate the obtaining of full information on cash earnings the arrangement of the schedule with spaces for entries showing in consecutive order, the jobs held, whether principal or subsidiary, the period employed at each, and the earnings per pay period has sometimes been adopted.

As regards earnings *in kind*, the estimated value of goods received as part of earnings should be entered.

If house accommodation is furnished free by the employer as part of earnings, the rental value of the house should be estimated ; or if at a rent less than its true market rental, the difference between them represents a form of earnings in kind which should likewise be recorded.

¹ If it proves impossible to obtain the amounts of income thus withheld, or to secure information on the corresponding expenditures, special attention should be paid to these difficulties in balancing the accounts. In such a case the usual procedure is to include only those items of expenditure for which payments are made out of the family purse. See Chapter III, pp. 32-33.

Other Income

Other income can be grouped in eight main groups.

(a) *Interest, dividends.* Interest or dividends on savings, investments, loans, etc., should show the total amounts received during the period covered by the survey. In connection with these items there is no special problem involved, since the amounts represent net return on investment. In any case they represent a relatively unimportant source of income for wage earners' families.

(b) *Rents.* Income from rents offers a somewhat more difficult problem, since net rent, rather than the gross rent is of importance. Expenses such as taxes, repairs and interest on mortgage should be deducted, to obtain the net income from rents accruing to the family during the year. The payments for taxes, repairs, etc., on property rented to others should not be entered as family expenditures. (For rents received from lodgers, see below (f).)

(c) *Rental value of owned home.* The rental value of an owned home may be considered separately on account of the special problems to which it gives rise. Logically the rental value of the home should be considered as an expenditure and "other income" should include an item equal to the rental value of the home less expenses incurred such as taxes, interest on mortgage, repairs, etc.—which pertain to the property considered as an investment. This method, which consists in adding on the income side "estimated net profit derived from owned home", was adopted in the enquiries conducted in Germany in 1927-1928, in Finland in 1928, in the Netherlands in 1935-1936 and in Sweden in 1933. The chief difficulty with this method is to decide how to determine the rental value. In the German enquiry of 1927-1928, the estimated rental value was furnished by the local authorities; in the Norwegian enquiry of 1927-1928 the estimated rental value is taken as equal to the average rent paid for apartments of the same type. In the South African enquiry of 1936 the persons who owned their own homes were asked to state the valuation of the property and the rental at which they were prepared to let it; this estimated yearly rental amounted on the average to 10 per cent. of valuation—a ratio which was used to estimate rental value from the valuation from which payments for taxes, interest on mortgages and other expenses were deducted to obtain

"profit from own home". In Belgium in the 1927-1928 enquiry rental value was estimated at 6 per cent. of the total value of the home.

Another method of treatment often followed in many budget studies is to consider on the expenditure side taxes, interest on mortgage, if any, repairs and other expenses as an alternative to rent. Such a procedure ignores the difference between these expenses and the rental value of the home, both on the expenditure and on the income side. This method was adopted in Colombia in 1936¹ and in the Wage Earner Study in the United States in 1934-1936.²

(d) *Pensions, annuities and insurance benefits.* These items are all recurrent items and should be grouped with the current income. The only problem involved is in the case of the annuities, where technically the annuity is partly interest and partly return of principal. For practical purposes they may be treated as if they were pensions and the fact ignored that they represent in part a return of capital.

(e) *Gifts, assistance and relief.* Any gifts, assistance or relief received from persons not belonging to the family or from the community, whether in cash or in kind, should be grouped with current income; goods, etc., received free from the employer should, however, be added to earnings. The treatment of these items is substantially similar in the great majority of enquiries; of this type, however, the Wage Earner Study in the United States, with primary emphasis upon money receipts, considers only gifts in cash as income, although data on gifts in kind were also asked for. In a few enquiries the money value of vacations spent with parents is included here.

Meals provided free for schoolchildren furnish another type of problem. The practice of different living studies varies on these points. In many cases, especially of the working-class families of which the head of the household or other member is employed, the value of items such as meals furnished to schoolchildren is so negligible that it can be ignored. In cases of studies covering families on relief, however, it is very important

¹ In the Colombian study, amortisation payments were also included.

² In the Wage Earner Study of the United States, the study was based on money receipts and disbursements; supplementary information was obtained on rental value of owned home; in the tabulations, the figure given for "housing" represents, in case of owned homes, all current money expenses as indicated above. The tabulations show this item separately for owned homes and for rented homes.

to estimate the value of goods received in kind, including meals for schoolchildren.

(f) *Profits from boarders and lodgers.* Subletting of rooms or taking boarders forms an additional source of family income in many cases. Its treatment gives rise to several problems and, as pointed out above, families containing such persons are sometimes excluded.

Profits from boarders.—In the majority of countries for which information on this point is available, net profit from boarders is computed, the amount of profit being calculated by deducting from total gross receipts the estimated cost of food supplied to boarders, this estimated cost being computed for each family on the basis of the number of meals supplied and the cost per meal per consumption unit.¹ This method was followed, for example, in enquiries conducted in Germany, the United States, Finland, Poland and Switzerland. In certain other enquiries, however, the boarder is treated as belonging to the family and the total receipts from boarders is taken as income. This method was followed in the Shanghai enquiry of 1928-1929 and in the Swedish enquiry of 1933.

Profits from lodgers.—In the case of lodgers the usual practice is to take total payments made by lodgers as net income. In some countries, however, attempts are made to deduct from gross payments the cost of lodgings sublet as a proportionate share in the cost of rent, fuel and light. In the German enquiry of 1927-1928, the cost of lodgings sublet was evaluated as a part of the total expenditures for rent, fuel and light, on the basis of the floor space occupied and the period of occupancy. In the Shanghai study of 1928-1929 gross receipts were reduced by estimated cost of lodgings on the basis of the share of the rental proportional to the space occupied.

If the net profits from boarders and lodgers are computed, the profits thus ascertained may be negative; in these cases these amounts are considered as outgo and are returned as losses from boarders and lodgers.

(g) *Value of home produce.* This source of income is relatively unimportant except in farm living surveys, but is met with in studies of working class family living when families having vegetable gardens, keeping poultry, etc., are included. The

¹ Corresponding adjustments in food expenditure and consumption data and in effective consumption units present in the family must be made in cases of families with boarders for the analysis of food.

treatment of income from, or value of, home produce consumed gives rise to problems similar to those which have been discussed in the preceding paragraph. The procedure generally adopted is to estimate the total value of production as on the farm, namely, the value which would have to be paid to obtain the same commodities if purchased on the market. From this value of production, estimated on the basis of retail prices, total cost of production is deducted, e.g. expenditure incurred for rent of vegetable garden, for seed, fertilisers, feed and other expenses. In case cost of production exceeds value of production, as may arise, for example when the enquiries cover a single month, the difference should be considered as loss from home produce.

A less satisfactory method consists in adding to income the total retail value of goods produced and in entering on the expenditure side the payments made for seed, fertilisers and other items of expense. This method gives an incorrect picture of the distribution of receipts and of disbursements; if home production is of some importance, it may suggest that the income level of the families in question is higher than is actually the case.¹

(h) *All other sources.* All other sources of income may be grouped together, with details given of the particular source of income and the amount received. Under this heading may be included premiums for keeping account books, gambling winnings and similar items. Where any given source is particularly important a special subdivision or rubric may be shown.

In practice items of unusual character may be placed together under some such heading as windfalls, including lottery winnings, lump sum receipts from damage suits or compensation, bequests or inheritances and similar items. They are limited to a comparatively few cases. Their importance arises from the relation which such unusual receipts may have upon habits of spending and they offer a means for the study of the prevalence of such cases and their effects on spending. The main objective, however, is the study of the normal flow of income to the family purse and how it is expended.

¹ Other methods are also met with. In the Austrian enquiry the gross receipts from home produce sold were considered as income, disregarding the value of home produce consumed, while all payments for seed, fertilisers, etc., were counted as expenditures. In the Wage Earner Study in the United States the net difference between receipts from home produce sold and total expenditures for seed, fertilisers, etc., was placed on the income side if positive and on the expenditure side if negative.

“ OTHER RECEIPTS ”

The term “ other receipts ” as used in this section relates to the cash which is not derived from income but from the conversion of assets into cash, from borrowings and similar transactions. In case income is insufficient to cover expenditure the problem is raised how the family secures the means of payment necessary for meeting costs of current living. In general the balance may be reached through (1) decrease in assets ; or (2) an increase in liabilities. From an accounting point of view these are not true income but (1) the conversion into cash of assets already held ; and (2) the conversion into cash of promises or obligations to pay in future. They are thus “ receipts ”, not in the sense of income, but from the point of view of increasing the cash in the family purse. Decrease in assets may consist of either (i) withdrawals of savings or (ii) loans to others repaid ; and an increase in liabilities in (i) advances on wages and salaries ; (ii) borrowings ; or (iii) goods purchased on credit.

A survey of the studies conducted in various countries shows that this distinction between “ income ” and “ other receipts ” has been followed in various countries. In a number of investigations, however, only summary data on “ other receipts ” are called for, for example, the Danish enquiry of 1931, the Norwegian enquiry of 1927-1928 and the Mexican enquiry of 1933. Certain investigations limited to current expenditure or having for their chief purpose to obtain weights for a cost of living index number give no information on “ other receipts ”.

In the case of goods purchased on credit, i.e. without paying the full price the day when the purchase is made, different methods are used to adjust the family accounts. In some enquiries the full purchase price, that is, the cash payment plus the unpaid balance due, is entered as expenditure in the accounts. The amounts still due represent credit by the seller to the buyer and have an effect similar to loans : they permit the buyer to purchase by increasing his liabilities. Omission of these amounts, where important, would give a false picture of the family economy. Thus the most satisfactory method is to enter also as book credits under “ other receipts ” the amounts still due at the end of the enquiry, that is, the total price minus instalment payments made during the enquiry. This procedure is adopted, for example, in Germany, Finland, Japan and Czecho-Slovakia.

In other studies of family living only the sums actually paid during the period of the study for goods purchased on the instalment plan or on credit are treated as expenditure. Thus in the Swedish and the Danish enquiries this procedure was followed; and the amounts still due on such purchases were disregarded. In still others, for example those of Brazil and Estonia, the expenditures included the full value of the articles purchased on credit but no information is given on the inclusion or exclusion of the credit item among other receipts.

5.—Disbursements, Outgo, Consumption Expenditure

To obtain information on disbursements is the main purpose for which family living studies are conducted and the reports contain ample detail in this respect. As regards the classification of disbursements, a distinction is often made between *outgo* and *other disbursements* (savings, repayment of debts), the term "outgo" including all items which do not increase total assets or decrease total liabilities.

Before entering into a detailed discussion of disbursements, and in connection with this discussion of "other receipts", it is desirable, however, to discuss briefly the problem of *balancing the account*, since this is a useful method of checking the accuracy of the items both on the income and the expenditure side. Receipts and disbursements should of course be equal; on the receipts side the rubric "other receipts" represents the inflow of cash into the family purse to make up for the gap between income and outgo. Correspondingly, on the disbursements side, the rubric "other disbursements" represents the outflow of cash from the family purse into payment of debts, savings and investments. These are the balancing items between income and outgo.¹ If the plan of the enquiry provides for securing the details of all the corresponding items, cash balances, debts, changes in assets, etc., the accuracy and completeness of the items of income and outgo can be checked.

In this connection the determination of surplus or deficit should be discussed. The difference between income and outgo

¹ The possibility that an exact balance is not obtained in all cases suggests the desirability of an item "receipts unaccounted for", if disbursements exceed receipts, and an item "disbursements unaccounted for", if receipts exceed disbursements. Such items are found, for example, in the German enquiry of 1927-1928 and in the Polish enquiry of 1929.

gives the amount of surplus or deficit and shows the net result for the family treasury for the period covered and the margin existing between the level of income on the one hand and the level of living (including taxes) on the other.¹ In the long run, since the level of expenditure is determined by the amount available from income, it shows the presence and influence of unusual conditions, such as unemployment, which in a particular year may cause the level of living to diverge from that which can be supported from the income.

Disbursements may be classified as follows :

Outgo.

(1) Consumption expenditure :

- (a) food ;
- (b) housing ;
- (c) clothing ;
- (d) miscellaneous.

(2) Non-consumption outgo :

- (a) taxes ;
- (b) interest, etc.

Other disbursements.

- (1) Increases in assets ;
- (2) Decreases in liabilities.

OUTGO

The term "outgo" includes in general all outlays with the exception of those representing investments, savings, payments of debts, etc., and comprises expenditure on consumption (including the value of goods consumed in kind), and non-consumption outgo such as taxes and interest on debts.

¹ See "An International Survey of Recent Family Living Studies. I. Income and Expenditure", *International Labour Review*, Vol. XXXIX, No. 5, May 1939, pp. 662-705, for details from various enquiries illustrating these points.

(1) *Consumption Expenditure*¹

Consumption expenditure may be analysed into various specific items of expenditure or groups of items corresponding to the objects of expenditure. A common grouping of items is into four classes : food, housing, clothing and miscellaneous. For purposes of obtaining the data, the important thing is that the specific items should be clearly defined, and provision made for all the items upon which expenditures are made. The grouping of these items is then a secondary procedure. For purposes of clarity in exposition, however, as well as for the best arrangement of the data, it is useful to treat them in different groups, in general in accordance with the objects to which the expenditures relate.

(a) *Food.*

A detailed study of the method of analysing food is given in Chapter VI, where the whole subject of the relation between dietary surveys and family living studies is discussed ; this topic is therefore deferred to that chapter. In this connection it should be emphasised that the items obtained should include quantities and cost of each specific item of food consumed by the family.

One point should be mentioned as to the limits of the food group. Drinks (by which is meant alcoholic liquors) are in the majority of instances included with food ; in some countries beer or wine forms part of the ordinary menu. For comparative purposes, it is desirable to treat the topic uniformly in all countries. For purposes of family living studies in the different countries the general custom prevailing in that country might be taken as the basis for the inclusion of drinks in or exclusion from the category of food, but for purposes of international comparison it is important that expenditure on drinks and the quantity purchased be shown as an individual item, so that it can be treated in a uniform manner in comparative tables.

¹ In general, consumption does not cover free goods and services given by the community. For purposes of comparisons of levels of living in different countries and at different times, however, account should be taken of differences and changes in the supply of community services. For such purposes, attention should be paid to the extent and quality of community services in each community and specific data should be obtained on what these services are.

Meals taken outside the home should also be included in the food group, and separate data should be given for this item of food expenditure.¹

(b) *Housing.*

The concept of housing includes not only the dwelling itself, but also furniture and services of varying nature : heating, water, refrigeration, etc. The specific items included are given in the following groups, and information on expenditure on each should be obtained with as complete detail as possible on exactly what elements are covered.

- (i) Rent proper.
- (ii) Expenditure on services connected with the dwelling.
- (iii) Expenditure on furniture, household appliances, etc.
- (iv) Household operation, and repairs and upkeep of (ii) and (iii).

In practice it is often impossible to distinguish clearly between expenditures on these different items ; e.g., heating is often included in rent, in such a way that it cannot be separated. In such cases a combination of items may be the only possible procedure. The housing group as a whole should be sufficiently wide to include all items which in one way or the other are connected with housing.

(i) Rent proper.—Expenditure on rent proper is represented by the sums paid for the occupancy (or in the case of families owning their own home, the estimated rental value) of the bare premises inhabited by the family, excluding all kinds of service.² In case of kitchen stoves, baths, hot water heaters and other fixed household appliances which are frequently supplied with the house or apartment, adjustments to take into account the estimated rental value of these appliances may be made where they are owned by the family.

(ii) Services.—Certain services, such as that of running water, are often included with rent. Others, as mentioned above, such as heating, are sometimes included and sometimes not. All these different services, however, whenever possible, should be given here. In practice the whole of the expenditure

¹ In certain countries tobacco is also included in this group, but should properly be given in the miscellaneous group.

² If premises are rented furnished, the rent unfurnished (estimated) should be taken as rent proper.

on fuel and lighting is included under this heading ; though it is true that part of the fuel goes to cooking purposes and should, strictly speaking, be given together with food expenditure. Electricity is used for lighting and for the running of various household apparatuses and refrigeration, all of which may be classed here. The entries should show the different services included.

(iii) Furniture, household appliances, etc.—Expenditure on furniture, household appliances, etc., forms a part of the expenditure on housing.

As noted below in the discussion of inventory, in most family living studies the practice is adopted of registering simply *current* expenditure on these items. Theoretically this procedure can hardly be regarded as satisfactory. The family as a rule supplies itself at the beginning with a certain amount of furniture intended to last for a long time. Annual expenditure on these items may later be relatively insignificant, or even non-existent. Expenditure may even be low because the family has inherited its furniture. The yearly cost or money value of current living as regards furniture does not correspond, therefore, to the yearly expenditure. In principle, furniture should—like the home—be considered in the nature of a capital investment and the yearly estimated cost should be entered as expenditure, but in practice, this is rarely adopted.

(iv) Household operation, and upkeep of the home, repairs, etc.—Finally, a fourth group of housing expenditures includes the yearly upkeep of the furniture and household appliances, and household operation. Included here are renewals of articles such as bedding, household linen, china ware, etc. Laundry, as well as expenditure for cleaning and polishing, should be given here, while the washing of personal wear should be included with clothing.

(c) *Clothing.*

Expenditure on clothing, in addition to the sum spent on articles for personal wear, materials and paid help for sewing, should include expenditure on cleaning, repairs and upkeep. Expenditure on clothing, like that on furniture, occurs at irregular intervals and, as already pointed out above, records should cover at least the whole of a year. So far as possible, separate data should be given of expenditures on clothing for different members of the family.

(d) *Miscellaneous Expenditure.*

This group includes a very great number of heterogeneous elements, which vary from country to country and from one class to another. The expenditures on the individual items, which should be obtained with as full detail as circumstances permit, may be grouped into nine principal groups, leaving a class of "all others" to be further subdivided wherever, say, more than 10 per cent. of all miscellaneous expenditure falls in this group. Thus a considerable latitude will be left to each country to treat this important group in accordance with local requirements.

(i) Medical care and hygiene.—Included here is expenditure on articles of a medical or sanitary character, doctors' and hospital fees, etc. Contributions to sickness insurance schemes should also be included.

(ii) Insurance.—This group should include contributions to obligatory or voluntary schemes of insurance against risks of unemployment, accidents, etc. Contributions to life insurance or old-age pensions should be regarded, not as current expenditure, but as savings.

(iii) Contributions, trade union dues, etc.—Trade union dues and party or church contributions, which recur regularly, belong to this category.

(iv) Educational and cultural purposes.—To this group belongs expenditure on school fees and supplies, education, lectures and similar items. Expenditure on books and newspapers, although they may frequently be considered rather as means of amusement or recreation, should also be classed here.

(v) Amusements.—Expenditure on motion picture shows, theatres, concerts, radios, musical instruments, betting, sporting goods, toys, pets, cameras and similar items should be given here. Questions are raised where expenditure is on items which serve two or more purposes at the same time. Thus meals taken outside the home may represent a form of amusement, but would be more suitably included with food. Another example is that of picnics, holidays and similar expenditure; in some cases these have been subdivided into food costs, travelling costs, etc., but the more practical solution would appear to be to include all these costs here with the exception of that of food.

(vi) Tobacco.—This expenditure should be given as an independent item under miscellaneous expenditure. To include it in the food group, as is done in certain countries, on the ground based perhaps of an analogy with foods ministering to taste, etc., cannot be justified from the point of view of nutrient values.

(vii) Transport and travelling.—This group should contain all expenditure on travelling not mentioned above. The cost of bicycles, motor bicycles and automobiles should, in principle, be calculated on a yearly basis, including on the one hand the cost of interest and amortisation and on the other hand running costs. However, in most studies only the actual payments during the period for automobiles, motor cycles, or bicycles are included: purchase price paid, taxes and licences, and repairs and fuel.

(viii) Gifts and charities.—Included here are the current expenditures on these two items. Gifts exchanged between members of the family should not, of course, be included here.

(ix) Servants and day workers.—Certain difficulties arise as regards this item. The simplest procedure is to include here only expenditure on wages, etc., and to give expenditures on board, lodging, washing, etc., in the respective groups. Most enquiries so far have related to families which cannot as a rule afford to keep servants, so that the problem is of practical importance only in the relatively well-to-do families. Only where servants form a numerically important group would it appear justified to undertake special calculations of the expenditure on servants' board, lodging, etc., and to deduct these sums from family expenditure under the respective headings. The simpler procedure is to consider the servants, for the purpose of food consumption and housing, as the case may be, as members of the family.

(x) Other items.—As suggested above, all items which account for more than 10 per cent. of the total miscellaneous expenditure might be given as special groups.

Finally, the point should be emphasised that sufficient details under each classification should be given, so that differences in grouping and classification in different countries may be taken into account in setting up tables of international comparison on a uniform basis.

(2) *Non-consumption Outgo*

This rubric covers all items of outgo which are not directed to consumption. The principal item is taxes; in addition interest on personal debts may be included here, and similar items.

(a) *Taxes.*

The treatment of taxes presents a difficult problem. Taxes are paid for the support of government and are the source from which the cost of many communal services such as schools, police, etc., are defrayed. To include taxes as an item of consumption expenditure might therefore be justified on the ground that they represent the money cost corresponding to these various services which the individual families enjoy without special fees or charges.

In practice, however, taxes do not vary in proportion to the quantities of these services received. A person with a large income, for example, has to pay a larger proportion of his income as income tax than the wage-earning family which pays no income tax, while the actual benefits received from schools, etc., may be much less. Apart from income taxes, it is extremely difficult in many cases to separate taxes from other payments and, moreover, taxes in many cases may be avoided by non-purchase of particular commodities. The price of goods which are subject to duties is higher than it would be if there were no duty, but it is difficult to determine how much the price would be if no tax were levied. For purposes of family budget studies such an analysis cannot be undertaken even for commodities subject to excise taxes, such as liquor and tobacco, as it is impossible in practice to separate the amounts of the taxes. Moreover, in all cases where the price conceals the taxes or reflects the effects of tax-shifting, it is important to test the effects of the tax upon consumption and for this purpose the data of budget studies, if used for analysing consumption, are more significant if they do not attempt to eliminate the part of the price which is due to the tax. Taxes on house rents may be in part shifted to the consumer and in part paid by the landlords, but obviously it would be quite impossible, in analysing payments for house rents, to separate that part which goes for taxes. For these reasons, all indirect taxes are usually included in consumption expenditure.

The status of direct taxes, such as income and personal property taxes, poll taxes, etc., however, appears essentially different.¹ In the case on income tax, the tax reduces the income and therefore the amounts available to the household for free expenditure on current living. In view of the fact, furthermore, that amounts paid for income tax bear no direct relation to the value of services received, there appears to be no justification for attempting to include such taxes in expenditures. For practical purposes, however, it is true that income tax does not fall heavily upon incomes of wage earners' families, since either their incomes are below the minimum assessed or the amounts of the taxes are relatively small. For comparisons between the expenditures of wage earners and those of persons receiving relatively higher income, it is essential to make allowances for differences of income taxes. A convenient way to do so is to exclude income tax from current consumption expenditure. This should be done as a special rubric to be excluded before the analysis of current expenditure is made.²

In the practice followed in most budget studies, however direct taxes appear to be included with expenditure and no distinction is made between consumption expenditures and non-consumption outgo.

(b) *Interest on Debts, etc.*

In some enquiries, for example the Ahmedabad study in India, interest on debts is an item met with in the majority of families. It represents a source of diminution of the available resources for current living, and in no sense is a part of the level of living (except in a negative sense); it should not therefore be included in "consumption expenditure" but either be shown as non-consumption outgo or as a deduction from income. When interest is paid, for example on a note for the unpaid balance of purchase price of stocks or bonds, it may properly be deducted from the gross income received from the investment before entering the net income on the income side.

Other items, of the same general character, may be grouped under "non-consumption outgo", with detailed classifications as their importance may suggest.

¹ Taxes on real property should be deducted from the gross income before entering net income on the income side.

² In treating income, however, income should be stated before income tax is deducted.

OTHER DISBURSEMENTS

This category, like the corresponding categories of other receipts on the income side of the account, represents a series of balancing items and shows what happens to the cash in the family purse in the way of disbursement. The two forms of disbursement to be considered are increases in assets or decreases in liabilities. The general term *savings* represents the operation of adding to assets (or decreasing debts) but in popular language it applies particularly to the case where assets are increased and especially where the funds are deposited in savings banks or in other definite forms of saving.

The group includes the following items, which are self-explanatory : (1) Increases in cash on hand or on deposit in banks or savings banks. (2) Repayment of debts outstanding at the beginning of the period. (3) Investment during the year in stocks, bonds, etc. (in case of a change in an investment previously made, neither the sale of the old nor the purchase of the new need be considered, unless there is a net addition to or loss from the family purse during the year as a result of the transactions). (4) Other investment, for example in household inventory, furniture, etc., so far as the cost is not considered part of the current consumption expenditure.

The practice followed in the several enquiries in regard to items of savings varies, as is illustrated in table V with special reference to a number of selected points. It appears that in a number of enquiries certain types of savings, for example, life insurance, are included with consumption expenditures.

In strict logic, savings do not come under consumption expenditures, since items saved are put aside for future rather than for present consumption and hence do not come within the picture of current living. The same conclusion is reached if it is considered that items purchased out of money drawn from past savings are properly entered as expenditure on food, clothing, etc., according to the objects on which they are spent. The only justification for including savings in the picture of standards of living is that to a certain extent savings, especially payments for life insurance, may be considered to form part of the standard of life in certain groups. This objection can be met, however, by treating savings as an item which requires special separate treatment, so that it can be shown for each group how much and what proportion of income is put aside for

the future. From this point of view, however, savings are money set aside from income rather than an element of consumption expenditure. In practice the item of savings, at least in working-class families, is of relatively small importance, so that whether included in or excluded from current expenditure, it makes comparatively little difference.

6.—Other Information

The only topics referred to are the inventory of household furniture and furnishings, and the inventory of capital assets and liabilities, or the net worth of the family.¹

Of considerable interest, theoretically at least, is the household inventory of furnishings and furniture. For practical reasons, owing to the difficulties in the way of securing data, the inventory is limited to important items, such as automobiles, radios, bicycles, perambulators, pianos, etc., or omitted entirely. If secured, the articles should be expressed in money values for purposes of book-keeping. In usual practice data on individual items are obtained merely in conjunction with current expenses for upkeep or operation or as additions to the inventory and no systematic listing or valuation of the household inventory is attempted.

The important aspect of the question is the treatment of expenditures during the current year on the different elements of the inventory. Obviously the expenditures of a newly-married couple upon the household inventory are not properly to be regarded as current expenditure. Also the purchase of an automobile representing capital expenditure which should last for several years should not be regarded wholly as a current expenditure. To take care of such items the household inventory offers a means of accounting for these expenditures and furthermore offers a check upon the completeness of expenditures in certain directions. A common practice however is to consider all purchases made for household inventory as current expenditures and to consider that these items represent

¹ In dietary surveys, the inventory of food on hand at the beginning and end of the period of the survey is an important element in procedure; see p. 91. Inventories of fuel, for example, Germany (1937), are sometimes made in connection with fuel consumption and in some cases, for example, the Heller Committee studies and the Indian enquiry (Ahmedabad, 1933-1935), inventories of clothing in connection with clothing consumption.

approximately the depreciation on the household inventory already held. In practice, furthermore, large items, where they are obviously in the nature of capital expenditure, are likely to be ignored. The only advantage of this procedure is that it simplifies the budget study, even though from the point of view of accuracy it leaves much to be desired.

For purposes of showing the circumstances of living of the families, data on the net balance of assets over liabilities, i.e., the net worth of the family, would be of interest. Apart from household inventories, for working-class families the asset items of most importance are amounts in savings and other bank accounts, and amounts invested in the home.

Debts, obligations and mortgages are offsetting items on the liabilities side. The whole account can then be summed up in a single figure representing net worth. For practical purposes family living studies make no attempt to appraise net worth. The problem of valuation presents serious difficulties, especially if prices or price levels are changing; since these studies are for the most part limited to wage-earning families the amounts of net worth are usually low. The principal items are the home or savings accounts, other items being unimportant.

CHAPTER V

ANALYSIS AND APPRAISAL OF RESULTS

Since the central problem of family living studies is the description of the content of living at different levels,¹ its analysis and appraisal are of primary importance. The content of living at any level is the composite of goods and services consumed : its analysis in terms of the various elements that make it up and in terms of the various conditions and circumstances that determine or influence it is one of the main purposes of the study of family living. The analysis of levels of living involves ascertaining how the content varies at different levels. The task of this chapter, then, is to throw light upon the methods by which the concrete data collected as described in chapter IV may be analysed and appraised. In addition, the topics of analysis of variability of consumption and of synthesis of data to give a picture of consumption by the entire population will be discussed.²

1.—Analysis of Content and Level of Living

As just explained, there are two types of problems of analysis, that of the content of living and that of the levels of living. Analysis of *content* according to what may be described as “internal” elements leads to such topics as the proportion of expenditure which goes for food or for miscellaneous items, the presence of specific items in the budget such as the telephone, piano, radio and domestic service, or an appraisal of the whole complex of items of food, clothing, shelter, or of all items together in terms of requirements or norms established by experts on the basis of scientific procedures. Analysis of *levels*, on the other hand, leads to the problem of defining level, for example,

¹ For a general discussion of terms—standard of living, norms, level of living, etc.—see INTERNATIONAL LABOUR OFFICE : *The Worker's Standard of Living*, Studies and Reports, Series B. No. 30, Geneva, 1938, pp. 7-14.

² It is desirable, e.g. as in the German enquiry of 1927-1928, that the published reports should include details of at least a selection of the individual families ; this enables interested students to make other analyses of the materials than those given in the report.

in terms of expenditure per family or expenditure per consumption unit, or of income, and to the problems, in part overlapping those of definition, of the conditions and circumstances which determine or influence the content of living, such as family type, income, social and economic status and geographical elements. These latter may be termed "external" elements—that is, external to the content of living.

The problem is simplest when the study is limited to a single homogeneous group living at a given level, that is where there are no significant differences between families as to how they live. In this case the data show directly the content of living for the particular level and group, that is, they show the goods and services which make up family consumption.

Most studies, however, cover more than one group and level and reveal variations in content of living at different income levels or between wage earners' and salaried employees' families and other groups. For studies covering an entire range of income, and different groups, analysis is needed to throw light upon the elements that affect the content of living and cause it to vary.¹

In taking up the analysis the group of "external" elements will be discussed first, and then the group of "internal" elements, since the latter leads naturally to the next topic, the question of appraisal.

EXTERNAL ELEMENTS

The principal external elements are five : expenditure per family and expenditure per consumption unit ; income ; family type ; geographical elements ; and social and economic status.

Expenditure per Family and Expenditure per Consumption Unit

A basic type of analysis is according to expenditure. Family expenditure as a function of income is one of the main elements in determining the level of living. Since expenditure is,

¹ Even for a relatively homogeneous group, such as families on relief or dependent upon unemployment benefits, analysis may show wide divergencies in levels of living, due in particular cases—for example—to a policy of measuring relief or benefits, not according to the needs of the family, but according to a fixed scale, for example the unemployment benefits due to the head of the household, or according to the rules of the unemployment funds concerning exhaustion of benefit, etc.

however, also a function of the size of family, a better basis for measuring or defining the levels of living must take the latter into account. In certain enquiries this is done in terms of expenditure per capita. But in view of the dependence of expenditure, especially that on certain items, on age as well and to a less degree on sex, a more satisfactory basis is expenditure "per consumption unit", this term being used to describe the various means by which the number of persons in a family is reduced to a common measure. On the other hand at the same levels of expenditure per consumption unit, certain elements may be found to depend more upon income per family or upon economic position and thus suggest the importance of a detailed study of these.

Both these methods of defining or characterising levels of living approach the problem from the basis of the level of expenditure, that is, the money value of current living. A classification by expenditure, and more particularly, of expenditure per consumption unit, therefore, is an indispensable method of analysis for distinguishing the different levels of living.

Two points in regard to the foregoing need further discussion. In the first place, how is expenditure to be defined? Logically, the term should be the "consumption expenditure" as used in the preceding chapter, excluding non-consumption outgo, savings and other adjustment items. This consumption expenditure corresponds closely to the money value of the content of living and thus represents the level of living in monetary terms. Table V shows in this connection the different bases used in the various enquiries, together with information on the inclusion or exclusion of certain items from the actual basis adopted.

The second point is the basis and method of construction of the consumption unit scale. The problem which the scale is designed to meet can be simply stated as follows: how can the content of living of families of differing age and sex composition be effectively compared? The problem is met by constructing a scale of equivalents by which a family of given size and composition can be stated in terms of consumption units.

The method of construction may be exemplified as follows. Having families of different size at the same level of living, it is possible to compare expenditures corresponding to the varying size and composition of the family. Setting the expenditures for

an adult male equal to 1.0, the expenditures for other individuals can be expressed in terms of this basic unit, for example an adult female 0.9, a child of eight years 0.6, etc.¹ The result is a consumption unit scale based upon expenditures—sometimes termed an expenditure unit scale. Separate scales may be set up if desired for each of the principal groups of items in the budget.²

In practice, consumption unit scales have also been developed upon another basis, viz : that of relative food requirements in energy (calories) and in minerals and vitamins. This type of scale is required for analysis of adequacy of diets as discussed in Chapter VI; special scales for dealing with food requirements are presented below on pages 104-107. In many cases these food quantity or food expenditure scales were developed earlier than the scales based on general expenditure, and in point of fact many budget studies have applied scales based on food expenditure or consumption to total expenditure as if they were equivalent to the general expenditure scales.³

Table VI presents the actual scale equivalents (usually in terms of the adult male equal to 1.0) as used in a series of family living studies. The numerical differences between these (expenditure) scales, which may be described in general as of minor rather than of major importance, are due, in part, to differences in habits of expenditure in different countries; in part to varying weights for expenditures on food, clothing, shelter and miscellaneous; and in part to differences in methods of construction.⁴ The essential result of the scale is to convert the family—and all similarly constituted families—into a number of consumption units.⁵

¹ See table VI for scales (on various bases) as used in recent family living studies.

² In the case of a single item, quantities consumed by different persons can be compared by means of a scale, but if two or more items are compared, some basis of combination must be taken, e.g. expenditure, calories (of food), etc.

³ For example, in the Norwegian enquiry of 1927-1928 and the Finnish enquiry of 1928, the unit used was one based on food quantity requirements (caloric scale): the families being classified according to their total income or expenditure per unit.

⁴ In some enquiries no consumption unit scale was adopted but to make it possible to use the data subsequently by means of various scales as required by physiologists and other experts, exact data on family composition for each group of families are to be published.

⁵ In one form of scale, however, the original unit is not the adult male but a composite: that is a combination of an adult male food unit, an adult male clothing unit, etc., the result being that two or more

With the device of reducing families to consumption units, it becomes possible easily to compare the expenditures per consumption units between families of varying size and composition on a reasonably uniform basis. With this device, the levels of living as measured by expenditure per consumption unit can be identified and the complications arising from the different size and composition of families avoided.¹

Among the problems of consumption unit analysis, however, are : (1) the problem of international comparison, where different scales are used ;² (2) the problem whether the scale itself varies at different levels of living ; for example, whether a scale applicable to a group of persons of given sex and age in families at one income level is equally applicable to similar families at another income level. Also, (3) do changes in the scales occur over a period of time ; and, if so, how can such changes be taken into account ? For example, is the spread of knowledge of the importance of protective foods for children leading to the establishment of higher scale ratings for children, relatively to adults, than in the past ?

Income

Analysis of family budgets according to income classes throws light upon the relation between income as the source from which the cost of living is defrayed and the expenditures which constitute the money measure of the level of living.

Analysis of surplus and deficit in relation to income offers a means of studying the effects of varying economic pressure upon savings and deficits,³ and the relationship between changes in the standard of living and changes in income.

families of identical composition may have varying numbers of consumption units depending upon the proportionate expenditures of the particular family for food, clothing and other items. This is the case, for example, in the German enquiry of 1927-1928, and in the consumption "unit" utilised by the Heller Committee in its studies of street-car-men's and clerical families and the expenditure units (food, clothing and other) of the U.S. wage earner study.

¹ For an example of such analysis, see "Income Family Size and the Economic Level of the Family", *Monthly Labor Review*, Vol. 50, January 1940, pp. 115-134.

² See "An International Survey of Recent Family Living Studies. II. Food Expenditure and Consumption Habits", *International Labour Review*, Vol. XXXIX, No. 6, June 1939, pp. 820-821 for a method of international standardisation of food (calorie) scales.

³ See, for example, Horst MENDERSHAUSEN : "The Relationship, between Income and Savings of American Metropolitan Families", *American Economic Review*, Vol. XXIX, September 1939, pp. 521-537.

Except in the higher income groups, income does not usually give an index of the social or economic class of the family, since the family income depends not only upon the size of the income of the head, but also upon how many earners the family has, and since economic well-being depends also upon how many persons are dependent on the income.

Analyses according to *income per consumption unit* are therefore sometimes made for the purpose of showing the income available in relation to the number of consumption units that the income must support. Expenditure per consumption unit rather than income gives a better measure of the actual content of living, since the former corresponds to the money value of current living.

Family Type and Size

An important basis of classification or analysis of family budget material is according to family size and type. In some cases, family budget studies are limited to a particular size and type of family, for example, a family of five persons consisting of husband and wife with 3 children under 16.¹ More commonly, a number of different family types are included. Many studies specifically exclude such family types as those with boarders and lodgers, broken families, etc.

Comparisons between levels of living in families of the same size and type enable variations in content of living to be studied in relation to expenditure, etc., without resorting to consumption unit analysis. In the case of international comparisons between levels of living, those limited to a given type of family furnish a satisfactory basis for the study of international differences.

The use and value of consumption unit analysis may be tested by analysis according to family type, for example, it should bring to light differences in the customs and habits of families of the same size and type, of the same size and differing type, and of different size and type, at the same level (and different levels) of economic pressure as measured in terms of expenditure per consumption unit.

Comparisons between families of differing size and type are also important and for this purpose consumption unit analysis is necessary. What effect does changing family type have upon

¹ See above, Chapter II, page 15 and table III.

standards of living ? As the family increases in size, how does it adjust itself to changes in its needs ? Does the standard suffer ? To trace the course of a family's standard as it passes through the various stages of its life cycle, as described by Rowntree,¹ may require special studies, but the general type of material is available in family living studies.²

Geographical Elements

A classification according to the size of localities in which the families live (large towns, medium-sized towns, villages, rural districts, etc.), or according to geographical districts may yield valuable results. Since prices of identical articles often show wide geographical fluctuations, families of the same constitution may thus enjoy higher levels of living for the same family income in certain localities than in others. Among the nation-wide studies conducted during the last fifteen years the investigations conducted, e.g. in Denmark, Japan, the Netherlands, Sweden and the United States contain detailed data by geographical areas.³

Economic and Social Status Classes

Finally, the economic and social status of the family is a basis of classification. Commonly, the economic status of the family is defined as the position of the head of the family—whether wage earner or salaried employee, professional person, employer or person working on his own account. In many studies the material is limited to wage earners or to wage earners and salaried employees. In a few cases, the studies go beyond these groups and include business men and professional persons, as for example, in the Swedish enquiry of 1933 and in the Study of Consumer Purchases in the United States.³ This basis of classification makes possible an analysis of the differences in levels of living in these different groups and if combined with income shows the relative importance of income as compared with economic status.

¹ B. Seebohm ROWNTREE : *Poverty : A Study of Town Life*. (3rd Edition.) London, 1922, pp. 169-172.

² An interesting estimate of the cost of rearing a child from birth to 16 years of age was made by Professor W. F. Ogburn from the results of family budget studies in Philadelphia in 1918. W. F. OGBURN : "The Financial Cost of Rearing a Child", *Standards of Child Welfare*, U.S. Children's Bureau Publication No. 60, pp. 26-30, Washington, 1919.

³ See table I.

A point of special interest is the distinction between manual and non-manual workers. Analysis, for example, of food consumption habits and of expenditures on clothing may reveal striking differences between these two groups even at the same income or expenditure level.

Other distinctions which may be discussed in this connection include employment and unemployment, agricultural work and industrial work, etc., and the special status of persons in receipt of relief. These latter studies, when brought into contrast with those of families of wage earners make possible a series of conclusions showing the effects of unemployment upon standards of living and the changes in food consumption and in expenditures for different items which are resorted to by the families of the unemployed. They are of interest also in showing consumption habits at low income levels. In this connection, it should be noted that the analysis of budgets of families whose head is unemployed raises certain special problems, as their levels of living may differ significantly from those of employed wage earners with low incomes. The unemployed worker may attempt to keep up his former standard of living but may find it, impossible with his diminished income; it may prove equally difficult for him to adjust at once his standard to his temporarily decreased resources. As shown in enquiries into conditions of living, conducted for example in Sweden and in Amsterdam, certain items of expenditure such as rent may lay a heavy burden on the budget of the unemployed, while expenses for clothing, furnishings and equipment can be more easily reduced or postponed. They throw light also upon the effects on living conditions of different methods of assessing relief, for example, whether relief varies according to the size of the family or is a fixed sum depending upon the fact of the wage earners being unemployed. Analyses of food consumption in these families are of interest in throwing light upon the adequacy or inadequacy of nutrition.¹

A study of farm families, particularly of agricultural labourers, is also of considerable interest.² The great majority of family budget studies in the past have been of urban families.

¹ See "An International Survey of Recent Family Living Studies. III. Families of the Unemployed," to appear in the *International Labour Review*.

² See *do.*, "IV. Farm Families", to appear in the *International Labour Review*.

In recent years, however, a number of studies have been made of farm family living. The requirements for this type of study are somewhat specialised and in a number of respects the form of study, methods of investigation and methods of analysis have to be adapted to the particular conditions of these families. For example, the large part played in food consumption by food raised on the farm makes the methods of valuing such food products of great importance.¹

INTERNAL ELEMENTS

In addition to these external elements, the content of living itself—that is, the goods and services that make up current consumption—furnishes a basis for analysis. Four principal types of analysis must be considered—analysis according to the purposes and objects of expenditure and to relative expenditures on these objects; according to the presence of specific items of expenditure and according to the combinations of items in relation to standards or norms. All these to a degree, but particularly the last-mentioned, lead to the problem of appraisal, which is discussed in the next section.

Analysis according to purposes or objects of expenditure has already been suggested and elaborated into a scheme of classification of items in the preceding chapter. The content of living is analysed according to the several groups—food, clothing, housing and miscellaneous items. The analysis may proceed, as an analysis of expenditure, on the basis of the sums expended, or, as an analysis of consumption, on the basis of the quantities of goods and services consumed. Consumption analysis in terms of specific goods and services is an aspect of family living studies to which an increasing amount of attention is being devoted.

The proportionate expenditures upon these several groups of items are often utilised as a basis for characterising and identifying the different levels of living. For example, certain writers have identified levels of living according to the percentages spent on food.² In general, as income increases, the percentage spent on food diminishes, at least after a certain critical income has been reached. Likewise the proportionate

¹ Other forms of classification which might be discussed in this section include race and occupation.

² NYSSTROM, Paul H. : *Economic Principles of Consumption*, pp. 281-298. The Ronald Press, New York, 1929.

expenditure on miscellaneous items is utilised as an index of the relative freedom of spending, since, other things being equal, the less is required for necessities, the more is available for comforts and luxuries. An analysis of items according to whether they are necessities or not may yield interesting materials for interpretation of living standards.

For the purpose of ascertaining the proportion of outlay which goes for the main items of expenditure, attention should be paid to the basis on which these percentages are calculated. Here again, logically, the basis should be current consumption expenditure, excluding taxes and savings. The choice of a uniform basis is, of course, necessary for international comparisons, and even in national analyses comparisons of percentage expenditures for families living on different levels must be on the same basis.

As shown in table V, the procedures adopted in the various studies are far from uniform, percentages being based variously on total disbursements, consumption expenditures or expenditure including taxes, or even income. The exact definition of expenditure also varies from study to study.¹

The presence or absence of significant items in the budget is often of great interest in comparing the content of living of different groups. For example, a telephone or automobile gives a clue to the living habits of the family, and, particularly in regions remote from cities, the possession of a radio may make a great difference to the happiness of the family. The presence of the conveniences of life, such as running water, heating facilities, labour-saving appliances, etc., represents an important element in the comfort as well as the efficiency of living, and the analysis of family budgets according to the presence or absence of such items will throw light on the real meaning of the content of living.

Finally, the items in the food budget, in the housing budget, or in the clothing budget, should be viewed as a whole. The current consumption of food or the quantities and qualities of food eaten should be appraised, characterised or compared with requirements and norms. But this leads directly to the topic of appraisal.

¹ To illustrate the considerable difference in percentages resulting from the bases, the percentage spent on food in Germany in wage earner families classified in the group "less than 2,500 marks" was 48.0 when based on total disbursements, 48.9 when based on outgo, and 53.8 when based on consumption expenditure (i.e. minus taxes).

2.—Appraisal

The problem of appraisal, that is, the characterisation or comparison with standards and norms, is important, not only because it places facts of family consumption as ascertained in family living studies in direct relation with standards, requirements and norms, but also because it permits of significant conclusions relating to families surveyed. It provides—or should provide—answers to such questions as the following : Is the food actually consumed such as to give adequate nutrition or is it deficient in one or more important respects ? Is the clothing budget adequate for maintenance of the standards of the class to which the family belongs ? Is housing adequate and satisfactory ?

These questions are difficult to answer. The subject of food appraisal is dealt with in a separate chapter (VI). In respect of clothing and housing, the problem of setting up requirements for comparisons to show adequacy meets with great difficulties. In practice, appraisal of items except food is usually in terms, not of requirements, but of standards and norms ; the standards or norms being set by experts in terms of the quantities and qualities of clothing, housing and miscellaneous items, which characterise a particular level of living such as the poverty line, the subsistence level, the level of health and decency or the comfort level.

The content of living in terms of quantities of specific goods and services for each norm or standard having been determined for each country or area, it then becomes possible to appraise the actual content of living of different families in terms of these norms or standards. Obviously in any such appraisal of the content of living of individual families attention must be paid to the size and composition of the family : this is especially true in regard to food. The calculation of the number of effective consumption units in the family greatly facilitates this task.

The great majority of family budget enquiries made up to the present have made little use of appraisal. Certain of the more recent enquiries, for example that in the Union of South Africa and the Wage Earner Study in the United States have attempted to appraise food consumption for all or part of the families surveyed on the basis of nutritional analysis of diets. This question of appraisal is, however, of importance

and though it may be considered to be somewhat outside the scope or functions of a family living study, it is very important that the information should be presented and tabulated as indicated above, so that students and medical and other experts can draw their conclusions from the data.

3.—Analysis of Variability and Application of Statistical Techniques

An important phase of analysis is the analysis of variability.¹ It is not sufficient merely to give averages—for example, average expenditures on food, clothing, etc. ; an idea should also be given of the extent to which individual family expenditures vary above or below the average. In statistical terms measures of dispersion should be calculated as well as averages.

This extension of the usual statistical apparatus to family living studies should make it possible to answer various important questions. Does food expenditure vary less among families of low incomes where economic pressure is high (i.e. expenditure per consumption unit low), than with families with high incomes where a considerable margin for luxury expenditures is found? Are there great differences in food adequacy in relation to food expenditures? Are some families on a low food budget able to obtain better results in terms of nutrition than other families with a much higher food budget? How does the variability of luxury expenditures compare with that of necessities? All these questions and many more await the application to family budget materials of adequate statistical analysis. With the exception of a few studies, such as those of the Heller Committee for Research in Social Economics the two recent important studies made in the United States² and special analyses³ such as those made by Bowley and Allen and others, comparatively little use has been made of the techniques of statistical analysis in reports of family living.

¹ For this whole subject reference may be made to standard statistical text books. See also Bigwood, E. J., *Guiding Principles for Studies on the Nutrition of Populations*, League of Nations, Health Organisation, Technical Commission on Nutrition, C.H.1401, III Health. 1939. III, 1. Geneva, 1939. Chapter XII. Statistical Considerations.

² The Wage Earner Study of 1934-1936 and the Consumer Purchases Study of 1935-1937.

³ See also reference cited above, pp. 11.

4.—**Synthesis**

Finally, the problem of synthesis must receive consideration. Reference has already been made to the problem of sampling. This consists of selecting a group of families for study so that it is representative of the whole. If it is representative, synthesis merely consists in taking the sample and the characteristics found from the sample as representing the whole. Thus, if total quantities consumed are desired, the quantities consumed by the sample may be multiplied by the ratio between the whole and the sample; if proportionate expenditures on different groups of items only are required the percentages found for the sample may be taken as true of the whole. In some cases, however, the method of stratified sampling is followed—that is, the sample taken is divided into a series of sub-samples, each of which is designed to be representative of the corresponding sub-group; but the sum of the sub-samples is not usually representative of the total group as a whole. The problem then is to weight the various sub-samples so that the final synthesised result shall be representative and characteristic of the whole.

In practice, the problem appears in two principal phases—one, the obtaining of quantities consumed or values for purposes of weighting cost of living indices, and the other, the obtaining of quantities consumed and percentages of expenditure for a whole population. In both these questions the limits of the whole population considered must be defined.

For purposes of weighting cost of living index numbers, the usual procedure is to confine the sample to the particular class in the population for whom the cost of living index is to be calculated. If this is done, and the sample is then representative of the class, the relative quantities and values found for the sample can be used as weights for cost of living index numbers without further adjustment.

If, however, the sample is composed of wage earners and salaried employees and two costs of living indices are required—one for each group—the weights as found for each group, assuming that each is representative, can be used for the cost of living index of the group. When, however, the cost of living index is required for the whole group, allowance should be made for the relative importance of each group in the total population if, as is to be expected, the quantities consumed

differ relatively. The final result will then give an estimate of the quantities consumed in the whole population of families of wage earners and salaried employees, to serve as weights for the cost of living index for this population.

The second principal application of the procedure of synthesis is where the data obtained from a series of samples are to be combined to form data valid for the entire population. This may be explained more clearly in terms of the method of sampling.

In sampling a population two methods may be followed : this so-called random sample drawn from the population as a whole and the stratified sample or series of sub-samples to be drawn from the different sub-classes of the population. Thus a random sample may be drawn from the wage earners as a whole or a sample may be drawn from each family type of wage earners. But the different family types, following this illustration, may be of quite unequal numerical importance. A satisfactory sample for the least frequent family type may need to be a much larger proportion than is required for a sample of the most frequent family type. These samples, which yield proportionate expenditures for each family type must then be weighted according to the relative importance of each type in the whole group. The method of combining the results is simple, though time-consuming and costly if extensive calculations are required.

A problem of the same type is offered where the samples of wage earners relate to different areas, for example, to different cities, rural areas, villages and farms, etc. In some cases this difficulty is avoided by not attempting to combine the results for the population as a whole, but leaving the result for each individual area as if it were an independent study. The same procedure may be followed in case the sample contains over or under-representation of certain income levels or other groups, no attempt being made to publish synthesised results. When an attempt is made to combine the results for the population as a whole, obviously some method of weighting the results must be adopted so that the final estimate may be fairly characteristic of the whole population.¹

¹ See for example, U.S. NATIONAL RESOURCES COMMITTEE : *Consumer Expenditure in the United States. Estimates for 1935-36.* Washington, 1939.

CHAPTER VI

PROBLEMS CONNECTED WITH FOOD CONSUMPTION WITH SPECIAL REFERENCE TO DIETARY SURVEYS

As indicated in the introduction, family living studies are sometimes limited to an investigation of food consumption only ; and in other cases detailed investigations of diets are carried on in connection with a general family living study. Studies of this kind are of special value in questions of nutrition ; i.e. of questions relating to the calorific value of diets and their nutritive value in terms of various constituents such as minerals and vitamins. Considerable interest has been aroused in recent years on the subject of nutrition owing to newer knowledge of dietetics and the importance of an adequate and balanced diet for health and efficiency and several recent publications of the International Labour Office and of the League of Nations have treated various aspects of these questions.¹ In particular, the " Guiding Principles for Studies on the Nutrition of Populations " prepared by Dr. E. J. Bigwood for the Technical Commission on Nutrition of the Health Organisation of the League is of special importance in connection with this chapter, and many references will be made to it in the course of the discussion.

Although dietary surveys raise special problems of method, many of them are common to those found in the general family living studies covering food and they can be treated together ; special reference is made, however, to the problems which arise in surveys limited to dietary questions only.

¹ INTERNATIONAL LABOUR OFFICE : *Workers' Nutrition and Social Policy*, Studies and Reports, Series B, No. 23, Geneva, 1936.

LEAGUE OF NATIONS : *Final Report of the Mixed Committee of the League of Nations on the Relation of Nutrition to Health, Agriculture, and Economic Policy*. Series of League of Nations Publications : II. Economic and Financial, 1937. II.A.10. Geneva, 1937.

LEAGUE OF NATIONS : Quarterly Bulletin of the Health Organisation : Vol. IV, No. 2, June 1935. BURNET, E. and AYKROYD, W. R. : *Nutrition and Public Health*. Vol. VII, No. 2, April 1938. Meeting of Directors of Institutes and Schools of Hygiene. Held at Geneva from 22 to 27 November 1937. Vol. VII, No. 3. Report on the work of the 3rd session of the Technical Commission on Nutrition held in London from 15 November to 20 November 1937.

E. J. BIGWOOD, *Guiding Principles for Studies on the Nutrition of Populations*. League of Nations, Health Organisation. Technical Commission on Nutrition C.H.1401 (Geneva, 1938).

Family living surveys refer to families as a unit and rarely give separate information on the food consumption and the amounts spent in respect of the different members of the family. In dietary surveys, however, one of the objects is sometimes to find out how the different members are fed—especially such members as infants, young children and nursing mothers ; reference is therefore made to these aspects of the questions, though they are somewhat outside the scope of this report.

The difficulties involved in surveys of this kind and the reluctance of families to give information or to keep detailed records, which have already been mentioned in a previous chapter in the case of family living studies, are even greater in the case of dietary surveys. Moreover, the attempt to investigate food consumption may even tend to modify family food habits. The matter has been well expressed by Dr. Bigwood in the Guide already referred to.¹

“ A food consumption enquiry invariably disturbs family habits. The investigator is an intruder in the household, and he asks the housewife for information which adds to her daily work. These are factors which may disturb the dietary habits of the households concerned. The greater the accuracy which the method seeks to achieve, the more will this factor of error obtrude itself. The best method will be the one which achieves the nicest balance between these conflicting tendencies. It has to be recognised that, in such circumstances, no food consumption study can attain to that level of strict accuracy that might at first sight be hoped for. ‘Leave well alone’ is a particularly appropriate motto that should be borne in mind. The lengths to which the attempt at rigorous precision can be carried without defeating its own end will require due consideration.”

1.—Types and Purposes of Surveys

Family living surveys, as already pointed out, should include detailed information on the expenditure on and the quantities consumed of each of the principal foodstuffs. Some studies have published information only on expenditure on these items. This is relatively easy to obtain and is sufficient as a basis for expenditure weights in the construction of retail price or food indexes of certain types. Most family living surveys, however, add information on quantities of foodstuffs consumed, partly because these are useful in determining quantities where these are required for cost-of-living indexes and partly because they

¹ E. J. Bigwood, *op. cit.*, pp. 13-14.

make possible various conclusions in regard to diets and the relation between diet and available resources.

The dietary survey, on the other hand, is concerned specifically with what people eat and the distribution of food consumption over different products or groups of products. Its primary object is to test the adequacy of diets, that is, to determine whether dietaries as actually found among families are adequate for maintaining nutrition at its optimum. For this purpose, chief emphasis is laid upon quantities of foodstuffs eaten or ingested rather than on quantities bought; accurate means for weighing foods, for estimating wastage and the exact values of calories, minerals and vitamins consumed must therefore be a principal technique of such surveys. Dietary surveys furthermore may take the family as the unit of food consumption or they may focus upon the individual to determine whether his food consumption is adequate.

Among the specific objects of dietary surveys, to paraphrase the discussion of Dr. Hazel K. Stiebeling of the U.S. Department of Agriculture on this point, may be mentioned: what kinds of foods and how much of each do families of different population groups actually consume; how much is spent on food by families of different income levels; do the diets customarily consumed meet physiological requirements both for the family as a whole and for each member of the family; and what is the relation between the amounts expended and the adequacy of the diets? In addition, the results of dietary surveys may furnish invaluable evidence on such questions as the changes in food habits which would be advantageous from the point of view of diet adequacy and economy or the policies of governmental or private agencies for improving diets and nutrition.¹

The dietary survey is sometimes combined with an examination of the state of nutrition of the persons whose dietaries are examined in order to throw light upon the relation between particular dietaries and the condition of health. For such a purpose, however, much more careful and elaborate data on diets are usually required than are customary even in dietary surveys and careful and elaborate tests made, preferably by physicians, of the health and physical condition of the subjects. This type of survey is termed a *nutrilion* study rather than a

¹ STIEBELING, Hazel K: *The Stake of the League in Investigations of Problems of Food and Nutrilion*. League of Nations, Health Organisation, Technical Commission on Nutrition. C/H.COM.Exp.Alim./51, p. 7.

dietary survey.¹ The results of nutrition studies as to physiological requirements in terms of calories, minerals, vitamins, etc., are however used in dietary surveys as a basis for an appraisal of the adequacy of dietaries.

Dietary surveys, like family living studies, if they include data on income and expenditure, family composition, social and economic characteristics, etc., may be analysed to throw light upon the adequacy of diets in the various classes of the population group surveyed, and the results may be used, subject to the proviso that an adequate and satisfactory sample has been obtained, to indicate the adequacy of diets in the corresponding classes of the general population.

2. —Special Methods and Procedures of Dietary and Food Consumption Surveys

In this discussion of special methods and procedures only those points will be taken up on which the general remarks made in Chapters II and III need to be amplified.

With respect to scope, i.e. the population groups, wage earners, salaried employees, etc., covered, the usual practice in case of a family living study is to make the food section co-extensive with that of the study as a whole. However, where dietary surveys of a more intensive character are conducted along lines parallel to those of the general expenditure study the detailed study of diets may be limited to a part of the group covered. So far as concerns the size of the sample taken, the detailed dietary surveys are likely to be more restricted than the general expenditure studies, on account of the greater costs involved in the former. There is a distinct advantage in planning the dietary survey so that the diet sample has a definite relation to the larger sample chosen for family living expenditures. This is illustrated in the case of the Study of Consumer Purchases in the United States, where food "check lists" were secured for 37,000 of the 60,000 families for which expenditure schedules were obtained.²

With regard to the period covered, in the majority of cases the food part of a general study covers the same time as other parts of the study. However, in many cases the study of

¹ The special problems of the nutrition study are not discussed at length here, but see E. J. Bigwood, *op. cit.*, pp. 10-13.

² See Chapter II, p. 22.

expenditures other than food extends over a full year, while the food part may be limited to a month, a week, or to selected weeks from different seasons.¹ Dietary surveys, likewise may be for a full year, for selected months, weeks, or a week, and the problem of selection so as to give the most significant results is an important one. Differences in food habits at different seasons, for example at holidays, are important enough for conclusions on adequacy of diets to be affected by them.

In selecting investigators for dietary surveys, adequate training in dietary knowledge is of course required, including both a knowledge of nutritive values of different foodstuffs, and methods of calculating the calorie, mineral and vitamin content, etc., of the different foods eaten, together with familiarity with methods of obtaining accurate data on the quantities actually consumed. There should be a period of special training for these points in all such surveys.

In general three methods are followed in dietary surveys for obtaining the details necessary for foods. In the first method, all food purchased is weighed and the amounts of inedible refuse and edible food not consumed by the family are also determined.² Food on hand at the beginning and end of the enquiry is taken into account in the same way. If the housewife is to be trained to weigh food, this should be done under the close supervision of the investigator. These methods, of course, require numerous visits of the agent to the household. One procedure sometimes used is for the agent to be present during mealtimes to assist in or to supervise the recording of data. The presence of the investigator at meals is recommended for at least one or two days as a valuable check upon the results of the study. The second method is the account book method, in which entries are made for all food brought into the kitchen, together with inventories at the beginning and end of the period. For this method constant supervision by the investigator is needed. The third method is the so-called schedule method, in which the agent questions the housewife in regard to purchases (prices and quantities) of all foods consumed during the period of the survey, i.e. usually the past week. This method is sometimes combined with repeated visits by the agent and in this case tends to approach the account book method.

¹ For examples see table I.

² For further details see BIGWOOD, *op. cit.*, pp. 29-35.

By the first method, and sometimes by the second, the data may be obtained for each member of the family separately. The more usual practice, where no special examinations of health and physical condition are taken, is to consider the diet of the family as a whole ; the age, sex and degree of activity of each member of the family are noted, however, together with any special circumstances which might affect dietary requirements. The difficulties of dietary surveys when the food consumed by each member of the family is weighed or estimated separately are, of course, much increased.¹

So far as concerns the accuracy of results obtained, it must be appraised in the light of the objects of the study. If exact details of quantities consumed are required for the assessment of food intake in the light of physiological requirements the method of weighing is clearly the most satisfactory one. This is true especially if details of physical condition are to be related to diets. Where household account books are used the examination of the books will enable the supervisor of the study

¹ " In such cases, an investigator must live with each family, for only in very exceptional circumstances can the work be entrusted to a member of the family under investigation. The investigator's work will consist primarily in carrying out, with the housewife's assistance, the work which she would be asked to do in a family survey pure and simple, but he will also have to weigh the share of the foods consumed by each member. With simple foods, the operation is straightforward enough (bread, milk, sugar, raw fruit, etc.) but there are all the mixed foods and complex dishes in the making of which a variety of ingredients are used. The investigator will have the difficult task of ascertaining the quantities of the various components used in the preparation of each of these dishes, weighing the whole dish when prepared, weighing the amount consumed by each member of the family, measuring how much goes back to the kitchen, and calculating from these data the percentage of basic foodstuffs which each person receives. Nor is that the end of his work, for he must also keep account of the changes which the food which is left over subsequently undergoes, and of the preparation of warmed-up dishes, with the further treatment and mixing which this entails. Lastly, he will have to assess the amount of such composite foods which remains as leavings on the plate.

" It is quite evident that a survey of this type may in some cases become extremely complicated ; it all depends on food habits. In very poor households and in certain countries, the difficulties will be less great than in circles or countries in which the art of cooking is more highly developed. Where the latter are concerned, it would be wise not to entertain unduly high hopes as to the accuracy of the results, or to expect the very complex accountancy of estimated values to be carried through with precision. Simultaneous investigations covering the whole family and its individual members will probably prove a less hazardous venture in difficult cases than purely individual studies, because in the former the investigator can at least check his figures and make certain that no serious errors have entered into his many calculations." Bigwood, *op. cit.*, pp. 34-35.

to estimate the value of the materials.¹ The account book method can be used only when the housewives asked to collaborate can be relied upon to understand the method and to co-operate conscientiously. For the more general surveys, where a full survey of diets cannot be made for all households, the schedule method may yield useful results. Its value depends to a great extent on the care and conscientiousness with which the housewife does her work and runs her household, whether, in particular, she keeps accounts or not, and also upon the carefulness and training of the investigator who questions the housewife and makes the entries on the schedule.

3.—Items to be Collected in Regard to Food

The items to be discussed here relate to general data, such as method of preparation of food, dietary habits, meals, etc., and to the details of food consumed.

GENERAL DATA

The general data required relate to the dietary habits of the family or its members and to the details of food preparation. Information on the food habits of the family includes such points as the number of meals taken per day, at home and away from home, general observations on the composition of the meals, whether the principal meal is taken at midday or in the evening; and in particular, any data about the special dietary habits of each member of the family. This includes, for example, information about the nutrition of infants, feeding of children at school, etc.²

General data on preparation of foodstuffs must also be obtained. In part these perhaps should be classed with the characteristics of the specific items of food consumed; but if the data on preparation apply to a whole series of foods, for example, vegetables, it may be helpful to obtain the information in answer to a general question rather than in regard to each

¹ Dr. Bigwood considers that a percentage of rejection of 30 to 40 per cent.—on account of careless entries, failure of the housewife to complete the investigation and other reasons—is not to be regarded as excessively high. *Op. cit.*, p. 37.

² Including information on medicinal preparations and similar products taken for dietary reasons.

item consumed at each meal. The purpose of these questions is to obtain data on (1) the sources of food comprised within the scope of the study, and (2) the details about food properties, their freshness, etc., so as to be able accurately to estimate the calorie and vitamin values to be given to the foods eaten. In the first group are such questions as those relating to foods bought, produced at home or received free as in case of relief or gift, and those relating to gross weight as delivered, weight of edible portions, etc., before and after cooking, and edible waste. In the second group are such questions as whether food is cooked, fried, consumed raw, preserved, etc., whether foods are washed or soaked, if cooked, for how long, etc., and whether the water in which vegetables are cooked is utilised, whether vegetables for example are fresh, whether salted or unsalted butter is used, whether butter is used in cooking, and many others. All data needed to throw light upon the value of the diets should be obtained either in answer to general questions or in regard to the specific items of food consumed.¹

DETAILS OF FOOD CONSUMED

Whether for the food section of a general family living study, or for a dietary survey, information should be obtained of the various specific items of food eaten (quantity and price). In addition to the name of the item, details should be given, as needed, of the particular quality, etc., for example distinguishing between the different cuts of steak (round, sirloin, rump, etc.). In the dietary survey more complete details are usually required than in the family living study; the method of weighing makes added precision possible and estimates are given or weights obtained of waste as well as the quantities eaten.

For both types of survey the objective is the food actually consumed rather than the food acquired. So far as concerns food wastage—inedible household waste (refuse), edible household waste, physiological waste—dietary surveys seek to obtain full data; family living studies on the other hand make allowance for it (if at all) in the conversion factors for translating quantities consumed into calorie values. For accurately estimating consumption, a food inventory both at the beginning and at the

¹ For further details see BIGWOOD, *op. cit.*, pp. 33, 36-37.

end of the period is necessary ; the food consumed can then be determined as equal to the food acquired during the period plus the quantities on hand at the beginning, less those on hand at the end of the period. An alternative procedure is to weigh only the food consumed in the period, but even in this case, an inventory in conjunction with quantities acquired is useful as a check upon the amounts consumed.

Not only should the details required for estimating calories, protein, etc.(see next section), be available, but also those necessary for classification of the items in appropriate groupings. In general, the purposes of classification are to throw light upon diet adequacy and appraisal, upon the diet habits, and, especially, to make possible fruitful comparisons of the results of diet studies. A brief explanation may make the nature and purposes of such classification clearer.

So far as diet adequacy and appraisal are concerned, it must be emphasised that classification cannot take the place of analysis ; and the analysis of dietary constituents in terms of calories, proteins, fats, minerals and vitamins is an altogether different task from classification of foodstuffs. Nevertheless, classification, if developed to this purpose, may often make possible a rough appraisal of diets. Given the importance of the so-called protective foods containing in relatively high proportions the essential minerals and vitamins, for example, the group of milk, milk products and eggs, and certain groups of vegetables, classification or the grouping of the expenditures on (or the quantities consumed of) these items, so as to show the totals in these groups may furnish a rough indication of the adequacy or inadequacy of the provision of these essentials in the dietary, that is, whether it is probably wholly inadequate or is likely to be well provided with them. From this point of view, the detail of the items of foodstuffs and their grouping into classes and sub-classes should be made in each case where possible to throw light upon the dietary values. Where certain vegetables are important sources of vitamins or minerals, for example, potatoes, tomatoes, citrus fruits, and the group of green, leafy and yellow vegetables, etc., the grouping adopted should show the items and classes which are of the greatest importance from the point of view of the protective foods ; others which are less significant may then be grouped together in a residual group or groups. If classification along such lines, for example, is applied the data on foods in a family living

study can be interpreted and appraised in more significant terms than if the grouping is not made according to the dietary importance of the different foodstuffs. Furthermore, if the data of the dietary surveys and of the food section of family living studies are classified in the same way, the figures and proportions of the latter can be compared with the parallel figures and proportions of the former, which in turn can be analysed in full detail to show the significance of the diets. Thus, the interpretation of the food data of family living studies gains materially from the possibility of comparisons with detailed dietary studies through uniform classification along lines of dietary significance and the significance of the latter may perhaps gain from the extension of their conclusions to studies undertaken on a broader basis (though on less intensive lines) and covering larger groups.

A second objective is to throw light upon dietary habits such as use of wheaten or rye bread, use of beef or mutton instead of pork, sausages, etc., and other points on which custom or economic resources have a large influence. On this principle, bread and cereals can be subdivided to show the kind of cereal, wheat, rye, etc., used; and the group, meat, fish, etc., can be subdivided to show the kind of meat. If differences in the relative consumption of wheaten bread or of pork, etc., in the various classes of the population are found, they can be discovered and studied in the light of the results of surveys of food expenditures or consumption if such expenditures (or the quantities of food consumed) are classified in relation to these points.

Above all, however, the importance of uniform classifications widely adopted or applicable to as many studies as possible should be emphasised, since by these means the results of different studies can be compared. For purposes of comparison, therefore, a uniform classification should be adopted. However, if for any reason, the uniform classification cannot be followed, the data should be published in sufficient detail to make it possible to arrange the several groups in accordance with a uniform classification.

With this preliminary statement of the purposes of classification, the classification adopted by the International Labour Office for international comparisons¹ is presented. Certain

¹ Somewhat modified from the list given in *Workers' Nutrition and Social Policy*. INTERNATIONAL LABOUR OFFICE : Studies and Reports, Series B. Social and Economic Conditions, No. 23. pp. 195-196.

points may be noted. First, the list can be extended wherever in a particular country foods not specially mentioned in the list are in common use, for example, rice in Japan. In general, however, such additions should be made as subdivisions of the present list in order to preserve the possibility of comparisons between countries. Secondly, additional sub-classification may be possible and profitable in certain types of studies where the additional details sought will throw light upon some important dietary point. For example, in a rice-consuming country, a subdivision of rice into polished and unpolished might afford valuable conclusions. In general, such additional sub-classifications require both a specific purpose from the point of view of dietary values or dietary habits and a definiteness in specification and uniformity of application that satisfy the requirements of statistical technique. Thirdly, at certain points the list may appear too detailed for some types of study; in these cases, the use of lettered subdivisions indicates those items of the list which appear less valuable and the use of which may be considered optional.

Classification of Foodstuffs designed to facilitate International Comparisons

I. *Cereals.*

- (1) Bread :
 - (a) Wheat.
 - (b) Rye.
 - (c) Other.
- (2) Cakes, biscuits, pastry.
- (3) Flour :
 - (a) Wheat flour.
 - (b) Rye flour.
 - (c) Other flour.
- (4) Other cereals :
 - (a) Macaroni.
 - (b) All other.

II. *Meat, fish, etc.*

- (1) Beef, fresh (incl. frozen and chilled).
- (2) Pork, fresh.
- (3) Mutton, fresh.
- (4) Veal, fresh.
- (5) Ham and bacon.
- (6) Sausages, charcuterie.
- (7) Preserved meat (salted, smoked, canned or dried).
- (8) Fish and other sea food :
 - (a) Fresh fish.
 - (b) Salted, smoked, canned, dried fish.
 - (c) Oysters, lobsters, crabs, etc.

- (9) Poultry, game, other meat, etc. :
 - (a) Poultry.
 - (b) Game.
 - (c) Minced meat.
 - (d) Horse.
 - (e) Liver, kidney, sweetbread, etc.
 - (f) Other (snails, frogs, etc.).
- III. *Fats, margarine, etc. (except butter).*
 - (1) Animal fat.
 - (2) Margarine.
 - (3) Vegetable fats and oils.
- IV. *Milk products and eggs.*
 - (1) Whole milk :
 - (a) Cows.
 - (b) Other.
 - (2) Skimmed milk.
 - (3) Other milk :
 - (a) Condensed milk.
 - (b) Dried milk.
 - (c) Buttermilk, whey.
 - (4) Cream.
 - (5) Cheese.
 - (6) Butter.
 - (7) Eggs.
- V. *Vegetables and fruits.*
 - (1) Dried peas, beans, lentils, etc.
 - (2) Potatoes.
 - (3) Fresh vegetables :
 - (i) Leafy, green, and yellow vegetables.
 - (ii) Root (other than yellow) vegetables.
 - (iii) Tomatoes (including tomato juice).
 - (iv) Other fresh vegetables.
 - (4) Fresh fruit :
 - (i) Citrus fruit (including citrus fruit juice).
 - (ii) Other fruit.
 - (5) Preserved vegetables and fruit.
 - (6) Nuts.
- VI. *Miscellaneous foods.*
 - (1) Sugar, etc.
 - (a) Sugar.
 - (b) Syrup.
 - (c) Honey.
 - (d) Jams, marmalade.
 - (e) Sweets.
 - (2) Condiments :
 - (a) Salt.
 - (b) Other condiments.
 - (3) Tea.
 - (4) Coffee :
 - (i) Beans.
 - (ii) Substitutes.

(5) Cocoa and chocolate.

(6) Other non-alcoholic beverages (mineral waters, sweet cider, etc.).

VII. *Alcoholic beverages.*

(a) Wine.

(b) Beer.

(c) Distilled beverages.

(d) Other.

VIII. *Other and unclassifiable foods.*

IX. *Meals taken outside the home.*¹

In regard to the details of food items a number of points should be emphasised. The information secured on the different items should be entered in specific terms, that is, the exact name of the article should be entered, together with quantity and price. So far as possible all quantities should be given in terms of weight.² Both the specific name and the weight (gross and net) are needed for conversion into equivalent calories, etc. The use to be made of the data suggests the detail of descriptive elements necessary in the identification of the items, e.g. milk bread. The allocation of all items should be made according to the principles of the classification adopted. A detailed list, should be made of the principal foodstuffs under each heading. In this way the allocation of doubtful items will be clear and will be made uniformly. Finally it is important to know whether the foods as purchased are in unprepared or prepared form : since in the former case the price does not include cost of preparation of these foods. In most studies the cost of preparing food is not separately determined, and inaccuracies resulting from including items in different stages of preparation are ignored. However, when data of the two types are separately given, for example, bread and flour, etc., allowance can be made for these inaccuracies.

Meals taken outside the home offer special problems. In a dietary survey an attempt is usually made to secure accurate data on the exact foods eaten. In such cases, however, the technique of weighing by the investigator cannot be applied. In family living studies the more usual practice is to take items of expense only, although in some cases the quantities of goods consumed are estimated. The use of a rubric "cost of meals

¹ For use in expenditure tables.

² For goods not usually purchased by weight, e.g. milk and eggs, conversion factors are usually available.

taken outside the home " is unsatisfactory and valueless from the point of view of a dietary survey.

The treatment of alcoholic beverages varies in different family living studies. The majority classify these beverages as part of foods consumed and total food expenditure ; while others class it with miscellaneous.¹ Various soft drinks and mineral waters are usually included with the food group. With regard to the group of alcoholic beverages, certain special considerations must be taken into account. Alcoholic beverages are often consumed in large part outside the household. In some cases the amounts spent on such items by the husband or earning children cannot be accounted for by the housewife and the information does not therefore reflect the true amounts spent upon alcoholic beverages. Alcoholic beverages should, however, always be shown as a separate item even where included in food, in order that the amounts spent on alcoholic beverages and on the rest of the food budget can be shown separately.

Where attempts are made to estimate calories, alcoholic beverages are sometimes included and sometimes excluded. In family living studies in Germany and Austria, for example, they were included, while in Norway, Finland, etc., they were omitted.²

4. Analysis and Appraisal

In addition to the general consideration presented in the preceding chapter, four points dealing with analysis of the data on food will be discussed : analysis according to physiological principles ; according to consumption units ; according to cost in relation to sources of energy and protective principles, and appraisal.

ANALYSIS ACCORDING TO PHYSIOLOGICAL PRINCIPLES

The conversion of foodstuffs into equivalent calories, proteins, fats and carbohydrates, and the estimation of the amounts of calcium, iron, sulphur, phosphorus, etc., and of the several vitamins is a feature of all dietary surveys and is a frequent

¹ For example, the South African enquiry of 1936 and the Estonian enquiry of 1925.

² Though alcohol has a definite energy value in calories, it is not known what proportion of the alcohol content is burnt up in the body : since the proportion probably varies according to circumstances it is impossible to indicate the useful value in a dietary sense in net calories. Bigwood, *op. cit.*, p. 65.

objective of the food part of family living studies.¹ The treatment of these several items, however, leads to a series of highly technical topics and for a general discussion of these the reader is referred to the Guide,² and to other publications listed or referred to therein.

In brief, the points to be noted include : (1) the various elements covered in the analysis : calories ; proteins, fats, carbohydrates ; minerals (iron, calcium, phosphorus, sulphur, iodine) ; and vitamins (e.g. A, B₁, B₂, C, D.) ; (2) the food waste, both household waste (edible and inedible) and physiological waste ; and (3) the use (and choice) of food composition tables, that is, tables showing the composition of 100 grammes of each raw foodstuff as purchased in terms of inedible waste and nutritive principles. (These tables and percentages are not as yet standardised and the investigator should indicate the sources and methods used.)

In addition, Dr. Bigwood's Guide includes a detailed discussion of the energy value of diets (calories, proteins, fats, carbohydrates) ; the methods of determining the amounts of the principal necessary mineral elements in the diet ; and the methods of determining the amounts of the principal vitamins (fat-soluble and water-soluble) in relation to methods of food preparation, and the units in which vitamin content is measured.

ANALYSIS OF FOOD DATA PER CONSUMPTION UNIT : QUANTITIES, CALORIES, ETC.³

The analysis of food data in terms of consumption units is an indispensable step in interpreting the results of food and dietary surveys. The quantities of food consumed by a family must obviously depend on the number of persons in the family, their age and sex and their requirements as necessitated by their daily work, physical expenditure of energy or physical growth. Thus a man doing heavy manual labour requires more calories or energy than one engaged in a clerical occupation, a woman doing housework more than a woman of leisure, etc. Whether the amounts of food consumed are adequate can be determined only in relation to the requirements as estimated for the particular kind of work, regard being had to the age and sex. As suggested in an earlier chapter, this problem is met by

¹ See note 1, p. 107.

² Bigwood, *op. cit.*, pp. 52-88.

³ See also discussion by Bigwood, *op. cit.*, pp. 89-112.

computing for each family the equivalent number of "consumption units", the unit commonly taken being the requirement of the adult male doing ordinary work. The type of unit scale best adapted for use should obviously depend upon the objects sought. If the purpose is to test the adequacy of food in terms of energy requirements, a scale based upon food quantities, measured in energy values, i.e. calories, is appropriate; if in terms of mineral or vitamin content, scales based upon the requirements for each of these elements are proper. All such food scales are then based upon the scientific determination of the physiological requirements of adults and children of different age and sex and conditions of work.

Three scales or systems of scales are shown in the accompanying tables, the first the scales used by the United States Department of Agriculture, the second a system of scales developed by Dr. E. J. Bigwood, and the third the calorie scales drawn up for the Health Organisation of the League of Nations. The last-mentioned include a preliminary scale, prepared by a Committee of Experts (in 1932), and the revised scale—the so-called London Standard—drawn up (1935-1936) by the Technical Commission on Nutrition. Attention should be called particularly to the differences in the calorie value of the adult male unit chosen: the London standard uses 2,400 calories (net) for an adult male doing light work, the Bigwood calorie scale is based on 3,100 calories (net) for an adult male performing moderately heavy work, while the American table gives two calorie scales, one on the basis of 2,400 calories and the other on the basis of 3,000 calories. Obviously, even if there is agreement on the calorie requirement of children aged 2, for example, the relative *rating* of children at that age (relative to the unit) will differ according as the unit base chosen is 2,400 or 3,000 calories. Such a scale, therefore, is not only a conversion scale but also and primarily a method of measuring the total requirements of the family or families in terms of calories.

The London Standard scale takes account, furthermore, of the varying energy requirements of adults according to the amount of work performed, the degree of activity, etc.

For the purpose of family living studies it has been the common practice to adopt a single scale and to pay no attention either to variations in requirements due to differences in activity or to differences in relative requirements for calories, minerals and vitamins; in this case the results can be regarded as only

approximate. Moreover, if a single scale is used a choice must be made among the possible bases.¹ In practice such a scale is usually based either upon the relative energy requirements of food (calories) or upon food expenditure.² Where relative energy requirements are taken as a basis the usual unit has been 3,000 calories for the adult male.³ One advantage of the monetary basis is that a single scale reflects the relative cost of requirements of, or expenditure on, both energy and protective foods. The cost of protective foods, especially important for children, is relatively higher than that of energy-giving foods and hence a scale based on the cost of protective foods only, or on the cost of all food requirements, including protective foods, gives a larger value to children than one based on the cost of requirements in energy only. A scale based on food expenditure makes no allowance for variations in the number of calories according to the activity of the adult male. In this respect, it is solely a conversion scale, where the expenditures of different family members are evaluated on the basis of average expenditures for an average adult male.

However, the point should be emphasised that if in the family living study the adequacy of diet is to be assessed in respect of each of the several items—calories, proteins, calcium, iron, phosphorus and the different vitamins—separate scales are required for each item, since the requirements of adults and children are different for each item. The tables cited illustrate these differences⁴ as in the case, for example, of the requirements of children 1-2 years of age in calories and in calcium relatively to those of an adult male.

(See continuation of the text p. 107).

¹ In many cases the actual basis on which the scale is constructed is not clear.

² The latter may be based either on the cost of food "requirements" or upon actual food expenditure. The food cost unit of the United States Bureau of Labor Statistics used in the Wage Earner Study (1934-1936) was based on relative cost at average prices at the time of the study of estimated actual diets of urban wage earners and lower-salaried clerical workers. See Faith M. WILLIAMS and Alice C. HANSON: *Money Disbursements of Wage Earners and Clerical Workers in Five Cities in the West North-Central-Mountain Region, 1934-1936*, U.S. Bureau of Labor Statistics Bull. No. 641, Appendix G, pp. 376-378.

³ See, for example, Conference of Experts for the Standardisation of Certain Methods used in making Dietary Studies, held in Rome, 2 and 3 September 1932. Note by the Chairman of the Conference. Quarterly Bulletin of the Health Organisation, Vol. I. No. 3. September 1932, pp. 478-479. (Quoted below, p. 105.)

⁴ See also the problems of consumption unit scales noted above, Chapter V, pp. 76-77.

SYSTEM OF SCALES IN USE BY THE U.S. DEPARTMENT OF AGRICULTURE¹

Age	Calories ² 3,000 gram- mcs		Protein 67 grammes		Calcium 0.68 grammes		Phosphorus 1.32 grammes		Iron 15 milligram- mes		Vitamin A ³ Value 6,000 Int. units		Vitamin B ₁ 500 Int. units 1.5 milligrammes Thiamin		Vitamin C 1,000 Int. units 50 milligrammes (ascorbic acid)		Vitamin B ₂ 600 Sherman units 1.5 milligrammes (riboflavin) ⁴	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under																		
2	.30	.30	1.7	1.7			.X	.X	.4	.4	.75	.75	.40	.40	1.7	1.7	.75	.75
3	.40	.40	1.7	1.7			.X	.X	.4	.4	.75	.75	.40	.40	1.7	1.7	.75	.75
4	.50	.50	1.7	1.7			.X	.X	.4	.4	.75	.75	.50	.50	1.7	1.7	.75	.75
5	.56	.56	1.7	1.7			.X	.X	.5	.5	.75	.75	.50	.50	1.7	1.7	.75	.75
6	.50	.50	1.7	1.7	1.5	1.5	.X	.X	.5	.5	.75	.75	.50	.50	1.7	1.7	.75	.75
7	.70	.70	1.0	1.0			.X	.X	.7	.7	.90	.90	.70	.70	1.7	1.7	.90	.90
8	.70	.70	1.1	1.1			.X	.X	.7	.7	.90	.90	.70	.70	1.7	1.7	.90	.90
9	.80	.70	1.1	1.0			.X	.X	.7	.7	.90	.90	.80	.70	1.7	1.7	.90	.90
10	.80	.70	1.1	1.0			.X	.X	.7	.7	.90	.90	.80	.70	1.7	1.7	.90	.90
11	.83	.80	1.1	1.1			.X	.X	.9	.9	1.00	.90	.83	.80	1.7	1.7	1.00	.90
12	.83	.80	1.1	1.1			.X	.X	.9	.9	1.00	.90	.83	.80	1.7	1.7	1.00	.90
13	1.00	.80	1.1	1.1			1.0	.9	1.0	.9	1.00	.90	1.00	.80	1.0	.9	1.00	.90
14	1.00	.83	1.1	1.1			1.0	.9	1.0	.9	1.00	1.00	1.00	.83	1.0	.9	1.00	1.00
15	1.00	.83	1.1	1.1			1.0	.9	1.0	.9	1.00	1.00	1.00	.83	1.0	.9	1.00	1.00
16	1.20	.83	1.1	1.1			1.0	.9	1.0	.9	1.00	1.00	1.20	.83	1.2	.9	1.00	1.00
17	1.20	.83	1.1	1.1			1.0	.9	1.0	.9	1.00	1.00	1.20	.83	1.2	.9	1.00	1.00
18	1.20	.83	1.1	1.1			1.0	.9	1.0	.9	1.00	1.00	1.20	.83	1.2	.9	1.00	1.00
19	1.20	.83	1.1	1.1			1.0	.9	1.0	.9	1.00	1.00	1.20	.83	1.2	.9	1.00	1.00
20 and over	.8	.8	1.0	1.0	1.0	1.3	1.0	1.0	1.0	1.0	1.00	1.00	1.00	1.00	1.0	1.0	1.00	1.00
Moderately active	1.00	.83																
Very active	1.50	1.00																
Light work	.90	.77																
Sedentary	.80	.70																

¹ Compiled from U.S. Dept. of Agriculture, Hazel K. Stiebeling, and Esther F. Purpord. Diets of Families of Employed Wage Earners and Clerical Workers in Cities. Circular No. 567. Government Printing Office, Washington, D.C. 1939.

² A reduction of about 10 per cent. was made in calorie allowances for persons between the ages of 60 and 75, and of about 30 per cent. for those of over 75 years. Some adjustments were also made for persons in each group whose height was above or below the average.

³ Lactoflavin.

⁴ These allowances are exclusive of Vitamin A concentrates in the case of children.

E. J. BIGWOOD'S SYSTEM OF SCALES¹

	Net calories	Proteins	Calcium	Phosphorus	Cost
Adult male of average size, performing moderately heavy work	1.00	1.00	1.00	1.00	1.00
Children :					
0-1 year	0.20	—	—	—	—
1-2 years	0.25	0.30	0.80	0.45	0.25
2-3	0.35	0.35	0.80	0.50	0.35
3-5	0.40	0.40	0.80	0.55	0.40
5-7	0.45	0.50	0.85	0.65	0.60
7-9	0.55	0.55	0.9	0.70	0.65
9-11	0.60	0.60	0.9	0.75	0.70
11-12	0.75	0.75	1.0	0.80	0.75
12-14	0.80	0.80	1.0	0.85	0.80
14	0.90-1.00	0.90-1.00	1.1	1.0	0.90-1.00
Adult female	0.85	0.85	0.85	0.85	0.85
Pregnant or nursing mothers	0.90	0.90	1.40	1.10	0.90

¹ The units for the first four scales of the table represent the following values :

Net calories 1 = 3,100
 Proteins 1 = 110 gr.
 Calcium 1 = 1 gr.
 Phosphorus 1 = 1.5 gr.

Bigwood, *op. cit.* p. 112.

INTERNATIONAL SCALE (CALORIES)¹

Age	Male	Both sexes	Female
0-2		0.2	
2-4		0.3	
4-6		0.4	
6-8		0.5	
8-10		0.6	
10-12		0.7	
12-14		0.8	
14-60	1.0		0.8
60 and over		0.8	

¹ Scale drawn up by Expert Committee of Health Organisation of the League of Nations. Based upon 3,000 calories (gross) for adult male = 1. "In any case the Conference was of the opinion that no scale can be formulated which will correspond accurately to the relative food consumption of family members in all countries and all circumstances of life. The variations from country to country, and from class to class of such factors as height, weight, age of maturity, amount of work performed by women and children, etc.—factors which influence the relative food intake of different family members—make it impossible that one particular scale should everywhere correspond with net values." (*Quart. Bull. Health Org. L. of N.* Vol. 1, 480, 1932.)

International (Revised) Scale: (Calorie Requirements)
*(London Standards)*¹

"All the figures on which the Commission has agreed are average values and it is essential that they should be interpreted in the light of this fact."

1. *Calorie Requirements.*

(a) An adult, male or female, living an ordinary everyday life in a temperate climate and not engaged in manual work is taken as the basis on which the needs of other age-groups are reckoned. An allowance of 2,400 calories net² per day is considered adequate to meet the requirements of such an individual.

(b) The following supplements for muscular activity should be added to the basic requirements in (a).³

Light work :	up to 75 calories per hour of work
Moderate work :	75-150 " " " " "
Hard work :	150-300 " " " " "
Very hard work :	300 " and upwards per hour of work

(c) The energy requirements for other ages and for mothers can be obtained from the following table of coefficients :

Age (years)	Coefficient	Calories
1-2	0.35	840
2-3	0.42	1,000
3-5	0.5	1,200
5-7	0.6	1,440
7-9	0.7	1,680
9-11	0.8	1,920
11-12	0.9	2,160
12-15 ⁴	1.0	2,400
15 and upwards	1.0	2,400

The muscular activities characteristic of every healthy child and adolescent necessitate additions to the basic requirements shown in (c). It is suggested that the activities of children of both sexes from 5-11 years be considered as equivalent to light work, of boys from 11-15

¹ LEAGUE OF NATIONS : *The Problem of Nutrition*. Vol. II. Report on the Physiological Bases of Nutrition.

² The term "net calories" refers to the amount of energy available from the food actually assimilated.

³ For statistical purposes, to be comparable with previously adopted standards, 600 calories may be taken as an average supplement for muscular work.

⁴ The needs of puberty are covered by giving the child of 12-15 years a calorie allowance corresponding to a coefficient of 1, with appropriate supplements for muscular activity and a protein allowance of 2.5 grammes per kilogramme of bodyweight.

years as moderate work and of girls from 11-15 upwards as light work.
Women :

	Coefficient	Calories
Pregnant	1.0	2,400
Nursing	1.25	3,000

Allowance must also be made for women engaged in household duties, whether pregnant or not ; these have to be reckoned as equivalent to light work for eight hours daily.

The requirements for babies under 1 year are difficult to specify except in terms of bodyweight ; the following allowances are considered adequate :

Age (months)	Calories per kilogramme of bodyweight
0-6	100
6-12	90

When the scales have been chosen and the families converted into the corresponding number of food consumption units, it is then readily possible to express per consumption unit the quantities consumed of, or the amounts expended on, each foodstuff or the nutritive values, calories, proteins, etc., of each food or of all foodstuffs together.

For examples of such analyses reference may be made to a summary of the results of family budget studies in which quantities consumed and amounts expended per consumption unit are shown for specific foodstuffs or groups of food for a number of countries.¹ In addition, a number of studies present data on calories per consumption unit, for example, to mention only a few studies : Germany, 1927-1928 ; China (Shanghai), 1929-1930 ; U.S. Wage Earner Study, North Atlantic Region, 1934-1936 ; Finland, 1928 ; Palestine, 1930 ; Poland, 1927 ; Sweden, 1933 ; Czecho-Slovakia, 1929-1930. In addition, these studies show also proteins, fats and carbohydrates per consumption unit. In some cases, subdivision is made according to whether these are derived from animal or from vegetable sources. In four studies, those for the United States (Wage Earner Study), Sweden, China and Palestine, the data also show per consumption unit the amounts of calcium, phosphorus and iron ; in the case of the first three the four vitamins are also shown.

These data indicating the extent to which family living

¹ See " An International Survey of Recent Family Living Studies. II. Food Expenditure and Consumption Habits ", *International Labour Review*, Vol. XXXIX, No. 6, June 1939, pp. 814-846, and INTERNATIONAL LABOUR OFFICE : *Year-Book of Labour Statistics*, 1939, table XXII.

studies include analysis and discussion of dietary elements suggest the importance of an adequate and satisfactory treatment of the subject in connection with family living studies; for dietary surveys, the analysis is, of course, more detailed.

In international comparisons of the results of such studies difficulties arise from the fact that the consumption unit scales used differ from country to country. It is therefore difficult to interpret the results obtained by showing the amounts available per consumption unit in different countries unless the effect of differences in scales has been eliminated or the results corrected to a single standard scale. This is especially true where the scales used are constructed on different units, for example 2,400 calories or 3,000 calories. From the point of view of adequacy of nutrition, however, if in each country the results are presented in the form of the degree of adequacy of nutrition, the results should be comparable from country to country if the concept of adequate nutrition is based upon a comparable standard, since in estimating the adequacy of nutrition the studies in each country would base their conclusion on the methods used for estimating calories, waste, etc., from the data obtained in the dietary survey.

APPRAISAL OF DIETS IN TERMS OF ADEQUACY OF NUTRITION

The appraisal of diets as a whole in terms of adequacy of nutrition has recently received special attention in the United States. It requires, in addition to what has already been presented, a consideration of the standards to be adopted. This question is a highly technical one and reference will, therefore, be made again to Dr. Bigwood's Guide. In this connection, the "London standards" set up by a Technical Commission of the Health Organisation of the League of Nations, which met in London in November 1935 and June 1936 may be referred to. In general, the standard energy value was placed at 2,400 calories for a man in a sedentary occupation (or 3,000 for a man doing moderate work). Standard values are also given for proteins, but the requirements for other important elements in the diet were not standardised.¹

¹ See League of Nations Publication II. Economic and Financial, 1936. II.B.4. *The Problem of Nutrition*, Vol. II. *Report on the Physiological Bases of Nutrition*. The calorie standards are quoted above.

Appraisal of the diets consists in comparing the diets as realised, converted into their values of essential nutritive elements in terms of the consumption unit, with these standards and estimating the degree to which the diets as a whole give satisfactory nutrition.¹

Where quantities of foodstuffs consumed by individual families and their equivalents in terms of calories, etc., are not available, an alternative method is sometimes used. The minimum cost of an adequate diet in terms of the foodstuffs locally available is calculated and the actual food expenditure of the family compared with this cost. If the food expenditure is then less than the minimum cost of an adequate diet the conclusion is drawn that the diet is probably inadequate. Such methods have been used in certain family living or dietary surveys where the more detailed methods would have proved too costly for extensive use.

If it is desired to avoid classifying the diets in precise groups, the amounts of each nutritive element available per unit can be assessed in terms of the standard of reference, thus showing the diets as having an amount of nutritive element less than, equal to, or more than the standard, or as having a definite percentage of the requirements.²

Appraisal may also be made in terms of the lack of important sources of protective elements. For example, if little or no milk is consumed the protective elements that milk contributes are probably inadequate in the diet. A classification showing separately the amounts consumed of eggs, green, leafy and yellow vegetables, citrus fruits, tomatoes, etc., furnishes a basis for the diet expert to draw significant conclusions in terms of these food sources of the principal nutritive elements.

¹ See League of Nations, Health Organisation. Technical Commission on Nutrition. Hazel K. STIEBELING: *The Stake of the League in Investigations of Problems of Food and Nutrition*. C.H./Com.Ex. Alim./51, p. 9.

For an example of the results of this method in the United States, see *The Workers' Standard of Living*. INTERNATIONAL LABOUR OFFICE: Studies and Reports, Series B. No. 30, p. 66, Geneva, 1938.

See also Hazel K. STIEBELING and Esther F. PHIPARD: *Diets of Families of Employed Wage Earners and Clerical Workers in Cities*, U.S. Department of Agriculture, Circular No. 507, Washington, January 1939.

² For an example, see Hazel K. STIEBELING, "Nutritive Value of Diets of Families of Wage Earners and Clerical Workers in North Atlantic Cities, 1934-35." *Monthly Labor Review*, July 1936. (U.S. Department of Labor.)

ANALYSIS AND APPRAISAL OF DIETS ACCORDING TO COST¹

An interesting and important phase of analysis and appraisal is to relate the nutritive values of the different foodstuffs to their costs and thus to throw light upon the relative expense of providing adequate energy and protective foods. This analysis has three principal aspects.

In the first place, the principal foodstuffs in the locality or localities surveyed are analysed to show their contributions of various nutritive elements to the diet in relation to their cost. With the aid of such an analysis it is possible to plan alternative dietaries which satisfy the requirements for adequate nutrition at different levels of cost and to show how to obtain a satisfactory diet at reasonable or minimum expense.²

Secondly, the analysis of customary diets in different classes of the population at different income levels, or, in the case of the United States for example, among white and Negro population groups, throws light upon variations in the ability to obtain adequate diets with varying resources at command.

Finally, this analysis of customary diets in terms of costs of the various nutritive elements focuses attention upon the problem of obtaining adequate dietaries at less or at minimum cost, as well as on the related problem of improving the diets at least additional expenditure. From a comparison between the customary diets and recommended diets constructed with the aid of tables showing costs of the principal foodstuffs, it should be possible to make suggestions on questions of policy, for example, for substituting more economical foodstuffs or more nutritive foods at equal or less cost for the foods forming part of the customary diets. These analyses therefore are of particular importance from the point of view of framing policy.

CONCLUSIONS

This discussion of dietary surveys does not, of course, cover all the technical details which, within the limits of the present report, can scarcely be presented in full. Furthermore, it has been thought desirable not to present too complete a technical

¹ See, for example, H. K. STIEBELING and M. M. WARD. *Diets at Four Levels of Nutritive Content and Cost*. U.S. Department of Agriculture, Circular No. 296, Washington, November 1933.

² Bigwood, *op. cit.*, Chapter XI, pp. 113-119.

exposition since such a procedure would tend to lessen the incentive on the part of the reader to consult the fuller document prepared by Dr. Bigwood for the guidance of those planning dietary surveys. For the special needs of the food part of family living studies it is hoped that, on the one hand, adequate materials are given for their satisfactory development and, on the other, that valuable suggestions are included that will lead to improvements in the collection, classification and utilisation of dietary data.

APPENDICES

- I. List of recent family living studies used in the present report.
- II. Resolutions adopted by international conferences.
- III. Tables analysing the principal characteristics of the family living studies listed in Appendix I.

APPENDIX I

LIST OF RECENT FAMILY LIVING STUDIES USED IN THE PRESENT REPORT

Argentina

October 1933. DEPARTAMENTO NACIONAL DEL TRABAJO. *Costo de la Vida, Presupuestos familiares; Investigaciones especiales.* Serie C. No. 1. Buenos Aires, 1935.

1935. DEPARTAMENTO NACIONAL DEL TRABAJO. *Condiciones de Vida de la Familia obrera; Investigaciones especiales.* Serie C. No. 2. Buenos Aires, 1937.

Austria

1934. KAMMER FÜR ARBEITER UND ANGESTELLTE IN WIEN. *Wirtschaftsstatistisches Jahrbuch 1936.* Vienna, 1936. See also : *Löhne und Lebenshaltung der Wiener Arbeiterschaft im Jahre 1925.* Vienna, 1928.

Belgium

April 1928-March 1929. MINISTÈRE DE L'INDUSTRIE, DU TRAVAIL ET DE LA PRÉVOYANCE SOCIALE. Armand JULIN : *Résultats principaux d'une enquête sur les budgets d'ouvriers et d'employés en Belgique* (XXII^e session de l'Institut international de Statistique, London, 1934) ; The Hague, 1934.

Brazil

1934. ESCOLA LIVRE DE SOCIOLOGIA POLITICA DE SÃO PAULO (IN COLLABORATION WITH VARIOUS OTHER INSTITUTIONS). Horace B. DAVIS : *The Standard of Living of São Paulo Workers* (undated).

Bulgaria

June 1927-May 1928. DIRECTION GÉNÉRALE DE LA STATISTIQUE : *Annuaire statistique du Royaume de Bulgarie*, 1931 ; Sofia, 1931.

Canada

1937-1938. DOMINION BUREAU OF STATISTICS. Study in progress. Some preliminary results are published in mimeographed form : *Family Living Expenditures in Canada.*

China

April 1929-March 1930. CITY GOVERNMENT OF GREATER SHANGHAI, BUREAU OF SOCIAL AFFAIRS. *Standard of Living of Shanghai Labourers.* Shanghai, 1934.

Colombia

September 1936. CONTRALORIA GENERAL. "El costo de la vida de la clase obrera en Bogotá." (Article by P. HERMBERG in *Anales de Economía y Estadística*, Vol. I. No. 1), Bogotá.

Czecho-Slovakia

1929-1930. OFFICE DE STATISTIQUE. *Zprávy Slátního Urádu Statistického*, 1933 : No. 138-143, 199-207 ; 221-225 ; 1934 : No. 31-34, 35-38.

1931-1932. OFFICE DE STATISTIQUE. *Annuaire statistique de la République Tchécoslovaque, 1937*.

Denmark

1931. DÉPARTEMENT DE STATISTIQUE. "Comptes de ménages, 1931" ; *Communications statistiques*, 4^e série, tome 100, 1^{re} livraison ; Copenhagen, 1936.

Estonia

1925. BUREAU CENTRAL DE STATISTIQUE. *Budgets des familles ouvrières en 1925*. Tallinn (undated).

1937-1938. BUREAU CENTRAL DE STATISTIQUE. Study in progress. Some preliminary results are published in *Eesti Statistika*, Nos. 3, 5, 7/8, 1939.

Finland

1928. BUREAU CENTRAL DE STATISTIQUE. *Etude sur le coût de la vie en 1928*. (a) *Les ménages dans les villes et dans les autres centres d'habitation* ; Helsinki, 1936. (b) *Les ménages des ouvriers agricoles*. Helsinki, 1937.

Germany

arch 1927-February 1928. STATISTISCHES REICHSAMT. *Die Lebenshaltung von 2,000 Arbeiter-, Angestellten- und Beamtenhaushaltungen* ; Einzelschriften zur Statistik des Deutschen Reichs, No. 22 ; 2 volumes. Berlin, 1932.

1937. STATISTISCHES REICHSAMT UND DEUTSCHE ARBEITSFRONT. Study in progress. For general outline see : *Vierteljahrshefte zur Statistik des Deutschen Reichs*, Vol. 46, No. 1. Berlin 1937. Preliminary results are published in *Wirtschaft u. Statistik*, Nos. 4 and 8, 1939.

Great Britain

(a) Merseyside, 1929-1931. D. C. JONES AND OTHERS. *The Social Survey of Merseyside*. Liverpool University Press, 1934.

(b) Whole country, 1937-1938. MINISTRY OF LABOUR. Study in progress (*Ministry of Labour Gazette*, October 1937).

Hungary

1929. Kommunalstatistisches Amt. L. I. ILLYEFALVI : *Die sozialen und wirtschaftlichen Verhältnisse der Arbeiter in Budapest*. Budapest, 1930.

India

- (a) Bombay. September 1932-June 1933. LABOUR OFFICE, BOMBAY. *Report on an Enquiry into Working Class Family Budgets in Bombay City*. Bombay, 1935.
- (b) Ahmedabad. October 1933-January 1935. LABOUR OFFICE, BOMBAY. *Report on an Enquiry into Working Class Family Budgets in Ahmedabad*. Bombay, 1937.

Japan

September 1935-August 1936. BUREAU DE STATISTIQUE DU CABINET. *Rapport d'enquêtes sur les budgets familiaux, 1935-1936*; Tokyo, 1937.

Latvia

1936-1937. BUREAU DE STATISTIQUE. Study in progress. Some preliminary results are published in *Mēneša Bildešs*.

Lithuania

1936-1937. BUREAU CENTRAL DE STATISTIQUE. *Résultats de l'enquête organisée en Lithuanie durant les années 1936-37 sur les budgets de 297 familles ouvrières, d'employés et de fonctionnaires*. Kaunas, 1939.

Mexico

1 July-9 September 1934. DIRECTION GÉNÉRALE DE LA STATISTIQUE. F. BACH: *Un Estudio del Costo de la Vida*, Mexico, 1935. *Como se alimentan los Obreros en la Ciudad de México* (U. G. B. *Revista de Cultura moderna*—Jan. 1936).

Netherlands

- (a) Medium sized and small communities. 29 June 1935-26 June 1936 and 28 September 1935-25 September 1936. BUREAU CENTRAL DE STATISTIQUE. *Comptes de ménages de 598 familles*. The Hague, 1937.
- (b) Amsterdam (general enquiry). March 1934-February 1935. BUREAU MUNICIPAL DE STATISTIQUE D'AMSTERDAM. *L'enquête sur les comptes de ménages 1^{er} mars 1934-28 février 1935*.

New Zealand

March-June 1930. CENSUS AND STATISTICS OFFICE. *Monthly Abstract of Statistics*, Nov. 1930.

Norway

September-October 1927—August-September 1928. BUREAU CENTRAL DE STATISTIQUE. *Budgets de familles 1927-1928*. Oslo, 1929.

Palestine

1931. DEPT. OF HYGIENE, HEBREW UNIVERSITY, JERUSALEM. *An Inquiry into the Diets of Various Sections of the Urban and Rural Population of Palestine*, in *Palestine and Near East*. Vol. VI, Nos. 21-22.

Poland

1927. OFFICE CENTRAL DE STATISTIQUE. *Budgets de familles ouvrières 1927*. Warsaw, 1930.

Sweden

1933. ADMINISTRATION DU TRAVAIL ET DE LA PRÉVOYANCE SOCIALE. *Les budgets de ménage dans les villes et dans les agglomérations industrielles vers 1933*. Stockholm, 1938.

Switzerland

1936-1937. (a) OFFICE FÉDÉRAL DE L'INDUSTRIE, DES ARTS ET MÉTIERS ET DU TRAVAIL. Study in progress. (b) STATISTISCHES AMT DER STADT ZÜRICH: *Zürcher Haushaltungsrechnungen, 1936-37*. Zurich, 1938.

Union of South Africa

1936. OFFICE OF CENSUS AND STATISTICS. *Report on the Inquiry into the Expenditure of European Families in certain Urban Areas, 1936*. Pretoria, 1937.

United States

- (a) Study of Wage Earners and Clerical Workers. 1934-1936. BUREAU OF LABOR STATISTICS. *Money Disbursements of Wage Earners and Clerical Workers*¹: (a) *North Atlantic region, 1934-36*, Bulletin No. 637, Vol. I. New York City. (b) *Five cities in West North-Central-Mountain regions, 1934-36*, Bulletin No. 641. See also: U.S. DEPT. OF AGRICULTURE, BUREAU OF HOME ECONOMICS: *Diets of Families of Employed Wage Earners and Clerical Workers in Cities*, Circular 567, Jan. 1939; and *Expenditure Habits of Wage Earners and Clerical Workers*, by Faith M. WILLIAMS and Alice C. HANSON, in *Monthly Labor Review*, Dec. 1939.
- (b) Study of Consumer Purchases. 1935-1937. BUREAU OF LABOR STATISTICS AND BUREAU OF HOME ECONOMICS. BUREAU OF LABOR STATISTICS¹: *Study of Consumer Purchases*. (a) *Family income and expenditure in Chicago, 1935-36*, Bulletin No. 642, Vol. I. *Family Income*, Vol. II. *Family Expenditure*. (b) *Four urban communities in the Pacific North-West Region*, Bulletin No. 649, Vol. I. *Family Income*. BUREAU OF HOME ECONOMICS¹: *Family income and expenditures*: (a) *Pacific Region*, Part I, *Family Income*, U.S. Dept. of Agriculture, Miscellaneous Publication, No. 339. (b) *Plains and Mountain Region*, Part I, *Family Income*, U.S. Dept. of Agriculture, Miscellaneous Publication, No. 345. NATIONAL RESOURCES COMMITTEE. *Consumer Expenditures in the United States, Estimates for 1935-36*, Washington, 1939.

¹ Publications covering other parts of the United States are in the press or will be published shortly.

APPENDIX II

RESOLUTIONS ADOPTED BY INTERNATIONAL CONFERENCES

A. Resolution adopted by the third International Conference of Labour Statisticians, Geneva, 1926

METHODS OF FAMILY BUDGET ENQUIRIES

(1) In order to provide adequate information with regard to actual standards of living, enquiries should be conducted at intervals generally of not more than ten years into the income, expenditure, and conditions of living of families representative of large homogeneous sections of the population.

The families should be selected to include a sufficient number from different income classes within the sections of the population under consideration, and also from different industries and districts.

It is preferable to ask for less detailed information rather than to reduce the number of families covered by the enquiry.

(2) In order that the results of the enquiries may be as complete and comparable as possible, information should be based on daily records of income and expenditure kept by a member of the family for a period of twelve months.

Where it would be impracticable to obtain annual records, every effort should be made to secure from as large a number of families as possible budgets covering at least four periods of not less than a week, one in each quarter, or two periods of at least a fortnight in different seasons of the year. These records would supply adequate information regarding items of expenditure which recur daily. In the case of items of income and expenditure (clothing, furniture, etc.) which recur only at considerable intervals, annual records kept by a smaller number of families or information on which annual estimates could be based should be sufficient.

Special forms or account books should be distributed to the families for their use in making these records of income and expenditure. It is desirable that competent persons should be appointed to visit the families during the course of the enquiry and advise them regarding the keeping of the records.

(3) The records should show the district in which the family resides, the industry and occupation to which members of the family who are gainfully occupied belong, and the composition of the household, including the sex of each member and the age of juvenile members. They should show in sufficient detail the nature of the housing accommodation.

Information should be given for each important item of income and expenditure. By income should be understood earnings in money and kind, sums received from boarders and lodgers, from insurance funds, pensions, and investments, together with income from allotments or in the form of gifts. The chief items of income and expenditure should be specified on the forms, or account books, distributed. In the case of items of expenditure, the quantity purchased, as well as the cost, should be recorded wherever practicable. Where a family includes boarders, lodgers, or domestic servants, information should be given to show the proportion they represent in the family consumption. In the calculation of expenditure, the cost of maintenance of domestic servants should be added to their money wages.

(4) In compiling the results of an enquiry, if the number of budgets secured is adequate, separate averages should be given for important districts and industries. Families of manual and non-manual workers should be shown separately. Averages calculated for different income groups should be shown.

In addition to averages per family and for families classified according to size, the data expressed in terms of some more precise unit of consumption, for example the consumption of an adult male, should be given. For reducing data for families of different size to terms of a common unit, it is desirable, where suitable scales showing the relative consumption of persons of different age and sex are available, to apply one scale to food commodities and a second scale to other items.

The tabulated results should show the average income from different sources, and the quantity of and expenditure on each of the chief commodities consumed. Separate information should be given for each item of income and of expenditure which constitutes on the average not less than 1 per cent. of total income or expenditure. Other items of interest may be shown separately as desired. The items of expenditure should be classified into the following groups : food, clothing, housing accommodation, fuel and light, furniture and furnishings, and miscellaneous. It is desirable that payments of direct taxation should be given as a separate item. It is also desirable to determine the nutritive value of the principal articles of food together with the cost of a thousand calories of each commodity.

(5) Where the sole object of an enquiry is to provide weights for the calculation of cost-of-living index numbers, satisfactory results may be obtained from a less detailed investigation than that indicated above. Information regarding district, industry, composition of family, and

expenditure upon each of the several items to be included in the index numbers only is necessary. It is desirable, however, to have, in addition, information as to quantities.

The results will be tabulated to meet the requirements of the series of cost-of-living index numbers which it is proposed to publish in each country. Thus if separate series of cost-of-living index numbers are to be published for a number of districts or categories of workers, the results of the family budget enquiries will be tabulated separately for each district or category; if a single national index is to be calculated, the results may be shown in the form of general averages only.

B. Resolutions adopted by the Labour Conference of the American States which are Members of the International Labour Organisation (Santiago de Chile, January 1936)

RESOLUTION CONCERNING THE COST OF LIVING IN AMERICAN COUNTRIES, SUBMITTED BY THE GOVERNMENT DELEGATION OF THE UNITED STATES OF MEXICO

The Labour Conference of the American States which are Members of the International Labour Organisation :

Considering the importance of enquiries concerning the cost of living of the working classes in town and country alike and of the subsequent calculation of periodical indexes of fluctuations in the cost of living, from the point of view of social policy in general ;

Considering that systematic studies concerning the cost of living have not yet been carried out in all countries on the American Continent, and that the indexes at present calculated for certain items in the cost of living in some of those countries are based on theoretical estimates of the probable consumption of typical families and not on actual family budgets obtained as a result of adequate previous investigation ;

Considering that the variations that are constantly taking place in the cost-of-living indexes of the said American countries deserve special attention and study on the part of the International Labour Office, which is at present the body best fitted to stimulate and direct such enquiries ;

Decides to request the Governing Body of the International Labour Office :

(1) to take such action as may lie within its competence in order to have enquiries carried out simultaneously in all the American countries on the cost of living ;

(2) that the above-mentioned Office should prepare uniform questionnaires for the various groups to be studied, and should decide, what, in its opinion and subject to conformity with the desires

of each Government, would be the right period to fix for the enquiries, and that it should also determine the scale of units of consumption to be used for each country ;

(3) that the above-mentioned Office, after making a special study of the subject, should determine the basis that it may consider most appropriate for such enquiries, and should undertake to direct those enquiries, bearing in mind that separate studies should be devoted to town workers, the various categories of agricultural workers, and, where these exist in a particular country, the various ethnical groups whose organisation in respect of social economics is relatively undeveloped ; on the understanding that the enquiries should cover not merely food and clothing, but more particularly conditions as to housing, health and culture, including education and recreation ;

(4) that the above-mentioned Office should, in so far as it is competent to do so, promote the publication by the said countries and within a specified time limit of the results of their respective enquiries, which will be summarised by the International Labour Office in a comparative survey ;

(5) that the Office should propose basic principles for the subsequent calculation of cost-of-living indexes based on the family budgets recorded as a result of the enquiries.

(6) to consider the possibility of having adopted a draft Convention by which the States Members of the International Labour Organisation shall undertake to carry out simultaneously every five years or every ten years enquiries concerning the cost of living in accordance with plans to be drawn up for the purpose by the International Labour Office.

**C. Recommendation adopted by the Inter-American
Conference for the Maintenance of Peace (Buenos Aires,
December 1936)**

(The Conference recommends) :

That the Governments represented carry out, as soon as possible, a careful survey of the standards of living and the economic indices of the various regions within their territories.

The Pan-American Union shall be charged with the responsibility to determine the outlines which these surveys shall follow, and to co-ordinate the results on a basis to make them so far as possible open to study and comparison. These studies shall be carried on without affecting those undertaken by the International Labour Office, and shall be additional to those of Geneva.

**D. Resolution adopted by the 20th Session of the International
Labour Conference (1936)**

(Extract from a resolution concerning the nutrition of the workers)

In regard to the work of the Office in this connection, the Conference considers it particularly desirable to initiate and co-ordinate enquiries into family budgets of rural and urban workers established on a uniform basis, with a view to obtaining comparable statistics concerning the present food consumption by working families, and to supplement these studies by collecting information on prices and available supplies of foodstuffs.

APPENDIX III

TABLES ANALYSING THE PRINCIPAL CHARACTERISTICS OF THE FAMILY LIVING STUDIES LISTED IN APPENDIX I

- I. Scope of family living studies :
 - (a) Economic classes covered and geographical scope.
 - (b) Types of families included or excluded.
 - (c) Duration of study and income limits.
- II. Information asked for in the studies.
- III. Information published on family constitution.
- IV. Information published on receipts and disbursements.
- V. Definitions of receipts and disbursements in family living studies.
- VI. Consumption unit scales used in certain family living studies.

TABLE I.—SCOPE OF FAMILY LIVING STUDIES

(a) *Economic Classes covered and Geographical Scope*

Ref. No.	Country	Date	Number of families included			Geographical scope
			Wage earners	Salaried employees	Civil servants	
1a	Germany	1927-28	896	546	498	61 large and medium sized towns. 265 communities (including all towns of over 50,000 inhabitants.)
1b		1937	3,000	.	.	
2a	Argentina	1933	196	112	.	Buenos Aires. Buenos Aires.
2b		1935	50	.	.	
3	Austria	1934	69 ¹	.	.	Vienna.
4		1928-29	809	224 ²	.	
5	Belgium (Food)	1928-29	116	57 ²	.	Whole country.
6		(Other)	221	.	.	
7	Brazil	1934	221	.	.	São Paulo.
8	Bulgaria	1927-28	93	.	173	Whole country.
9	Canada	1937-38	1,439	.	.	12 towns.
10	China, Shanghai	1929-30	305	.	.	Shanghai.
11	Colombia	1936	225 ¹	.	.	Bogotá.
12	Denmark	1931	484	.	35	(a) Copenhagen ; (b) provincial towns ; (c) rural districts.
11a	Estonia	1924-25	187 ³	.	.	Tallinn and Narva.
11b		1937-38 ⁷	255	32	179	
12a	United States : ⁴ Wage Earner Study	1934-36	16,000	.	.	55 cities (42 with over 50,000 inhabitants).
12b	Consumer Purchases	1935-37	.	.	.	2 metropolises (New York and Chicago), 6 large cities, 14 middle size cities, 140 villages and 64 farm counties.
13	Finland	1928	581	242	131	14 towns and 15 urban industrial centres.
14a	Great Britain : Merseyside ⁵	1929-31	332	.	.	Merseyside.
14b	Whole country ⁶	1937-38	10,000 ¹	.	.	Whole country.
15	Hungary	1929	50	.	.	Budapest.
16a	Bombay	1932-33	1,469	.	.	Bombay.
16b		Ahmedabad	1,293	.	.	
17	Japan	1935-36	1,107	566	.	10 urban industrial centres.
18	Latvia	1936-37	32	.	41	Riga.
19	Lithuania	1936-37	179	.	118	All except 3 families were living in Kaunas (Kovno), Siauliai or Klaipėda (Memel).
20	Mexico	1934	281	.	.	Mexico City.
21	Norway	1927-28	135	.	31	Oslo, Bergen, Trondhjem, Stavanger, Drammen.
22	New Zealand ⁷	1930	220 ¹	.	.	Whole country.
23	Palestine ⁸	1931	.	.	.	Urban and rural Jewish, rural Arab groups.
24a	Netherlands : General ⁹	1935-36	278	206	.	118 communities (excluding large towns).
24b	Amsterdam	1934-35	75	.	109	Amsterdam.
25	Poland	1929	84	.	.	Warsaw, Lodz and Dombrova Basin.
26	Sweden ¹⁰	1933	526	524 ²	.	Whole country.
27	Switzerland, Zurich	1936-37	149	197	.	Zurich.
28	Czecho-Slovakia	1931-32	414	379	155	Bohemia and Moravia.
29	Union of S. Africa	1936	1,618 ¹	.	.	9 urban areas.

¹ A small number of other groups (as specified) included. ² Including lower middle class. ³ 283 families for enquiry into food expenditure. ⁴ In cases of studies not yet completed the figures are estimates. ⁵ General sample about 700,000; details of earnings, income, family composition, housing and rent, about 330,000; details of expenditure, about 60,000; details of quantities and expenditure on food 37,000. ⁶ Includes a large proportion of families of unemployed and assisted persons. ⁷ The enquiry covers agricultural or farm families besides the economic classes indicated in the table. ⁸ 195 middle class families are also covered. ⁹ Relates to lower salaried employees and civil servants' families. ¹⁰ Urban Jewish group, 74 families; rural Jewish groups, 4 rural communal settlements and 150 families; rural Arab groups, 2 Bedouin camps, 2 fellah villages and 24 families.

(b) *Types of Families or Households Included or Excluded*

Ref. No.	Country	Date	No restrictions	Exclusion of households					
				of single persons	of two persons	lacking husband or wife	with dependants other than children	with boarders or lodgers	Other
1a	Germany	1927-28	.	×	of 7 or more children ¹
1b		1937	.	×	×	×	.	.	
2a	Argentina	1933	.	×	×	×	×	×	
2b		1935 ¹	.	×	×	×	×	×	8 or more persons
3	Austria	1934	.	×	.	.	.	.
4	Belgium	1928-29	.	×	.	×	×	.	
5	Brazil	1934	×	.	.	.	.	.
6	Bulgaria	1927-28	.	.	.	.	.	.
7	Canada	1937-38	.	×	×	×	.	.	
8	China, Shanghai ..	1929-30	.	×	×	.	.	.	
9	Colombia	1936	.	×	×	.	.	.	
10	Denmark	1931	.	×	.	.	.	.
11a	Estonia	1924-25	×	.	.	.	.	.
11b		1937-38	×	.	.	.	.	.
12a	United States : Wage-Earner Study ⁴	1934-36	×	8 or more persons
12b	Consumer Purchases	1935-37	×	.	.	.	.	.
13	Finland .. .. .	.	×	.	.	.	.	.
	Great Britain :								
14a	Merseyside	1929-31	.	.	.	.	.	×
14b	Whole country ..	1937-38	×	.	.	.	.	.
15	Hungary	1929	.	×	×	.	.	.	
	India :								
16a	Bombay	1932-33	×	.	.	.	.	.
16b	Ahmedabad	1933-35	×	.	.	.	.	.
17	Japan	1935-36	.	×	.	.	.	×	3 persons 7 or more persons
18	Latvia	1936-37	×	.	.	.	.	.
20	Mexico	1934	.	×	×	.	.	.	
21	Norway	1927-28	×	.	.	.	.	.
22	New Zealand	1930	.	×	.	.	.	.
23	Palestine	1931	×	.	.	.	.	.
	Netherlands :								
24a	General	1935-36	.	×	.	.	.	.
24b	Amsterdam	1934-35	.	×	.	.	.	.
25	Poland	1929	.	×	Families living in one room shared with another family are excluded.
26	Sweden	1933	.	×	.	.	.	.
27	Switzerland, Zurich ..	1936-37	.	×	.	×	.	.	
28	Czecho-Slovakia ..	1931-32	.	.	.	.	.	.
29	Union of S. Africa ⁵ ..	1936	.	×	.	.	.	.

¹ Families of husband, wife and 3 children under 14, only included. ² A few are included. ³ Not stated. ⁴ In one part of this study, persons living alone are excluded, but a special enquiry was made covering families of this type. ⁵ In general, husband and wife and one or more children. ⁶ Families with lodgers are excluded, families having boarders are covered. ⁷ Families living in one room shared with another family are excluded. ⁸ Families with no children and those with boarders not members of the family are excluded.

Duration of Study and Income Limits.

Ref. No.	Country	Date	Duration			Income limits stated
			One year	One month	Other	
1a	Germany	1927-28	×	.	.	Husband's monthly earnings : m\$ ⁿ /115 to m\$ ⁿ /525. Husband's monthly earnings : m\$ ⁿ /115 to m\$ ⁿ /135.
1b		1937 ¹	×	.	.	
2a	Argentina	1933	.	×	.	
2b		1935	×	.	.	Yearly family earnings : \$450 to \$2,500. Monthly family earnings : \$20 to \$60.
3	Austria	1934	×	.	.	
4	Belgium	1928-29	×	2	4 fort- nights ²	
5	Brazil	1934	.	×	.	Yearly family earnings : \$450 to \$2,500. Monthly family earnings : \$20 to \$60.
6	Bulgaria	1927-28	×	.	.	
7	Canada	1937-38	×	2	3 weeks ^{3,4}	
8	China, Shanghai ..	1929-30	×	.	.	Lower limit : Yearly family in- come \$500. Upper limit : No family member earning over \$2,000 per year. ¹⁰
9	Colombia	1936	.	×	.	
10	Denmark	1931	×	.	.	
11a	Estonia	1924-25	×	4	×	Lower limit : Yearly family in- come \$500. Upper limit : No family member earning over \$2,000 per year. ¹⁰
11b		1937-38	×	.	.	
12a	United States : Wage Earner Study	1934-36	×	.	4 weeks ^{3,7}	
12b	Consumer Purchases	1935-37	×	.	4 weeks ^{3,7}	Upper limit : monthly earnings of principal earner : 100 yen.
13	Finland	1928	×	.	.	
14a	Great Britain : Merseyside	1929-31	No information available			
14b	Whole country ..	1937-38	×	4	4 weeks ⁷	Upper limit : monthly earnings of principal earner : 100 yen.
15	Hungary	1929	×	.	.	
16a	India : Bombay	1932-33	.	×	.	
16b	Ahmedabad	1933-35	.	×	.	Upper limit : monthly earnings of principal earner : 100 yen.
17	Japan	1935-36	×	.	.	
18	Latvia	1936-37	×	.	.	
19	Lithuania	1936-37	×	.	.	Upper limit : monthly earnings of principal earner : 100 yen.
20	Mexico	1934	.	2 months	.	
21	Norway	1927-28	×	.	.	
22	New Zealand	1930	.	.	13 weeks	Upper limit : Yearly family income : £600.
23	Palestine	1931	.	.	6 months to 1 year	
24a	Netherlands : General study ..	1935-36	×	.	.	
24b	Amsterdam	1934-35	×	.	.	Upper limit : Yearly family income : £600.
25	Poland	1929	×	.	.	
26	Sweden	1933	×	.	.	
27	Switzerland, Zurich ..	1936-37	×	.	.	Upper limit : Yearly family income : £600.
28	Czecho-Slovakia ..	1931-32	×	.	.	
29	Union of S. Africa ..	1936	×	.	.	

¹ The enquiry was planned to include families with husband's monthly earnings not exceeding 150 RM., but the preliminary results cover a number of families with husband's earnings exceeding this limit. ² Other than food. ³ Food. ⁴ One week in February, June and October. ⁵ General enquiry into income and expenditure. ⁶ Detailed enquiry into food expenditure. ⁷ One week in each quarter. ⁸ Clothing. ⁹ Data based on accounts kept for one year or less or on estimates. ¹⁰ Upper limit applies to clerical workers only.

TABLE II.—INFORMATION ASKED

Country	Date	Methods used in securing information	Composition of the households							
			Number in household	Relationship to head or sex	Age	Occupation	Industry	Period present with family	Temporary absences	Guests present
Germany.. . . .	March 1927- Feb. 1928 1937	(a) Account book .. (b) Schedule ¹ .. Account book ..	x	x	x	x	x	x	x	x
Argentina	Oct. 1933	(a) Account book .. (b) Schedule ¹ ..	x	x	x	x ¹	x ¹	.	.	.
Austria	1925	Account book and schedule ..	x	x	x	x	x	x	.	.
Brazil	April- June 1934	(a) Account book ¹ .. (b) Schedules ¹ ..	.	.	x	x	.	.	x	x
Canada	Oct. 1937- Sept. 1938	(a) Schedule .. (b) Account book ..	x	x	x	x	x	x	.	.
China	April 1929- March 1930	Account book ¹ ..	x	x	x	x	x	x	.	.
Columbia.. . . .	Oct. 1936	Account book ¹ ..	x	x	x	x	x	.	.	.
Denmar	1931	Account book ..	x	x	x	x	.	x	.	.
Estonia	Oct. 1925 1 Oct. 1924- 1 Oct. 1925	(a) Account book ¹ .. (b) Schedule ¹ .. Schedule ¹ ..	.	.	.	.	.	.	.	.
United States	1934-1936	Schedule ..	x	x	x	x	x	x	.	.
Wage Earner Study	1935-1937	(a) Family schedule .. (b) Expenditure schedule ..	x	x	x	x	x	x	.	.
Finland	1928	Account book ..	x	x	x	x	x	x	x	x
Great Britain	1937-1938	Schedule ¹ ..	x	x	x	x	x	.	x	.
India	Oct. 1933- Jan. 1935	Schedule ¹ ..	x	x	x	x	.	.	.	.
(Ahmedabad)										
Japan	Sept. 1935- Aug. 1936	Account book ..	x	x	x	x	.	x	x	x
Mexico	July- Sept. 1934	Schedule ..	x	x	x	x	.	.	.	.
Norway	Sept.-Oct. 1927 Aug.-Sept. 1928	Account book and schedule ..	x	x	x	x	x	x	x	x
Netherlands	1935-1936	Account book ..	x	x	x	x	x	x ¹	x ¹	x ¹
Poland	1927	Account book and schedules ..	x	x	x	x	x	x	x	x
Sweden	1933	Account book ..	x	x	x	x	x	x	x	x
Switzerland	1936-1937	Account book ..	x	x	x	x	x	x	x	x
Czecko-Slovakia	1929-30	Account book and schedule ..	x	x	x	x	x	x	x	x
Union of South Africa	1936	Schedule ..	x	x	x	x	x	.	.	.

FOR IN THE STUDIES

Receipts					Disbursements ¹					Other information								
Earnings				Other receipts	No list of items printed	Number of items printed in groups				Whether cash or credit	Quantities purchased	Meals taken outside the home ²	Own garden or livestock	Housing	Home owned	Accounts balanced ³	Stocks on hand	Cash on hand
Husband or head of family	Wife	Children	Other family members			Food	Housing	Fuel and light	Clothing										Miscellaneous
x	x	x	x	x	x	.	.	.	.	.	x	x	x	x	x	N	.	.
.	x ¹	.	.	.	.	.	.	.	.	.	.	.	.	.	.	N	.	.
x ¹	x ¹	x ¹	x ¹	x	x ²	36	.	2	.	.	x	x	x	x	.	N	.	.
x	x	x	x	x	x	1 ¹	2 ¹	4 ¹	1 ¹	10 ¹	.	x	x	x	x	N	.	.
x	x	x	x	x	x	1	1	10	83	92	.	x	x	x	x	.	.	.
x	x	x	x	x	x	197	1	13	127	57	.	x	x	x	.	M	.	.
x	x	x	x	x	x	44	1 ¹	8 ¹	4	17	.	x	x	x	x	.	.	.
x	x	x ¹	.	x	x	55	2	6	9	19	.	x	x	x	x	W	.	x ¹
x	x	x	x	x	x	.	.	.	.	.	.	x	.	x	x	M	x ¹	x ¹
x	x	x	x	x	x ¹	16 ¹	1	11	176	91	.	x	x	x	x	.	.	x ¹
x	x	x	x	x	.	.	.	.	.	.	.	.	.	x	x	.	.	.
.	.	.	.	x ¹	.	8	6	8	1	115	.	x	x	x	x	.	.	x ¹
x	x	x ¹	.	x	x	47	3	5	5	19	.	x	x	x	x	W	.	x ¹
.	.	.	.	.	.	33	8 ¹	8 ¹	9	25	.	x	x	x	x	.	.	.
x	x	x	.	x	.	45	11	9	33	37	.	x	x	.	x	.	.	.
x	x	x	x	x	x	.	.	.	.	.	x	x ¹	x	.	.	D	x ¹	x ¹
x	x	x	x	x	.	39	9	8	41	23	.	x	.	.	x	.	.	.
x	x	x ¹	x ¹	x	x	.	.	.	.	.	x	x	x	.	x	N	.	x ¹
x	x	x	x	x	x ¹	.	.	.	.	.	.	x	x ¹	x	.	D ¹	x ¹	x ¹
x	x	x	x	x	x	.	.	.	.	.	x	x	x	x	x	N	.	x ¹
x	x	x ¹	.	x	x	53	5	6	6	18	.	x	x	x	x	W	x ¹	x ¹
x	x	x ¹	x ¹	x	x	.	.	.	.	.	.	x	x	x	x	D	.	x ¹
x	x	x	x	x	x	.	.	.	.	.	x	x	x	x	.	D	x	x ¹
x	x	x ¹	x ¹	x	x	34	4	9	8	26	.	x	.	x	x	.	.	.

*Notes to table 11: Information asked for.**General notes:*

¹ The classification adopted groups expenditure on drink with food, on furniture and equipment with housing, on cleaning and cleaning materials with clothing and on tobacco with miscellaneous expenditure. ² A cross is inserted where queries are contained on this subject in the account books or schedules, or where expenditure on meals taken outside the home is shown as a separate item of expenditure. ³ Entries are made only in cases where account books are used for securing information. The letters indicate whether the account keeper is asked to balance the accounts, the letter "M" indicating that the accounts are balanced at the end of each month, "W" at the end of each week, "D" at the end of each day; the letter "N" indicates that no balances are made.

Notes by countries:

Germany: ¹ Detailed information on housing. ² Quantities of potatoes and fuels available at the beginning of each month. Other foods were also stated where stocks of more than 1 kg. are available. ³ Beginning and end of each month.

Argentina: ¹ Information for head of the household is only given. ² Schedule asking for information on expenditure on clothing and durable household goods.

Austria: ¹ Pooled income only. ² Excluding expenditure on food, coal and wood.

Brazil: ¹ The information asked for was obtained by means of several schedules, one of which served as account book. ² Income from boarders and lodgers only. ³ Estimates of monthly expenditure. ⁴ Information for boarders only.

Canada: ¹ Relates to weekly record of food supply. ² 4 queries for tenants and 11 queries for owners were asked; in addition data were requested for expenditure on household operation (9 queries) and on furnishings and equipment (84 queries). ³ Queries as to the number of persons present at each meal were asked. ⁴ Amount and value of foods from own garden. ⁵ Information requested as to foods purchased for storage and foods consumed from stocks on hand.

China: ¹ The account book used not being available in the I.L.O., the statements are made on the basis of the information published on the report.

Colombia: ¹ See note for China. ² Including water and light. ³ Excluding light.

Denmark: ¹ Pooled income only. ² Beginning and end of each week.

Estonia: ¹ See note ¹ for Brazil. ² Beginning and end of the enquiry.

United States: ¹ Net change of assets and liabilities. ² Annual expenditure only; in addition information was requested on food consumed in last 7 days, asking for expenditure on 203 food items. ³ 5 queries for "renters" and 12 queries for "home owners" were asked; in addition data were requested for expenditure on household operation (19 queries) and on furnishings and equipment (77 queries). ⁴ Reduction in cash on hand. ⁵ 5 queries for "renters", 12 queries for "owners", 3 queries for "vacation home" were asked, in addition data were requested for expenditure on household operation (14 queries), furniture and equipment (14 queries) and money value of housing received (3 queries). ⁶ The total clothing expenditure of each member of the household was entered. ⁷ Equipment (piano, radio, refrigerator, vacuum cleaner, etc.) owned by family.

Finland: ¹ Pooled income only. ² Beginning and end of each week.

Great Britain: ¹ In addition to this schedule (household form), two further schedules were used for securing information: a first requesting data on personal expenditure other than that already given in the household form, and a second for details on weekly clothing expenditure. ² Including expenditure on rent, asked for in a special table. ³ Including expenditure on gas and electricity, asked for in two special tables.

Japan: ¹ Data for rice only. ² Beginning and end of each day. ³ Quantities of foods and fuels available at the beginning of each month.

Norway: ¹ In a number of households pooled income only. ² Beginning and end of the year.

Netherlands: ¹ No questions on these subjects are contained in the account book; this information seems however to have been secured, since the report gives data on these items. ² The account keepers were advised to balance the accounts daily, no provisions for balancing the accounts were however made in the account books. ³ Foods available at the beginning of the enquiry. ⁴ See note ².

Poland: ¹ End of each month.

Sweden: ¹ Pooled income only. ² Quantities of foods and fuels. ³ Beginning and end of each week.

Switzerland: ¹ Pooled income only. ² Beginning and end of each day.

Czecho-Slovakia: ¹ Beginning and end of each day.

Union of South Africa: ¹ Pooled income only.

TABLE III.—INFORMATION PUBLISHED

Country	Date	Families	Persons	Consumption units	Geographical distribution	Families in each social class	Industry or occupation of	
							All earners	Head of household only
		Total number covered						
Germany	1927/28	x	x	.	x	x	.	x
Argentina (Buenos-Aires)	Oct. 1933 1935 ⁴	x	.	.	.	x ¹	.	x
Austria (Vienna)	1925 1934	x	x	x	.	.	x ¹	x ¹
Belgium	1928/29	(a) x (b) x	x	x	x ¹	x	.	x
Brazil	1934	x	x	.	.	.	.	.
Bulgaria	1927/28	x	x	x	.	x	.	.
China (Shanghai)	1929/30	x	x	.	.	.	x	x
Colombia	1936	x	x	x	.	x	x	x
Denmark	1931	x	x	x	x	x	.	.
Estonia	1925	(a) x (b) x	x	x	x ¹	.	.	x
United States, Wage Earner Study ¹	1934/36	x	1	1	x	x	.	x
Finland	1928	x	x	.	x	x	.	x
Hungary	1929	x	. ¹	. ¹	.	.	.	x
India (Ahmedabad)	1933/35	x	x	.	.	.	.	x
Japan	1935/36	x	x	x	x	x	.	x
Mexico	1934	x	x	x	.	.	.	.
Norway	1927/28 ¹	x	x	x	x	x	.	x
New Zealand	1930	x	.	.	x	.	.	x
Palestine	1931 ¹	x	x	x	x	.	.	.
Netherlands	1935/36	x	x	x	x	x	.	x ¹
Poland	1927	x	1	1	x	.	.	.
Sweden	1933	x	x	x	x ¹	x	.	x
Switzerland (Zurich)	1936/37	x	x	.	.	x	.	x
Czecho-Slovakia	1929/30	x	x	x	x	x	.	x ¹
Union of South Africa	1936	x	x	x	x	.	.	x

Notes to Table III : Information published on family constitution.

Germany: ¹ Data for individual families. ² For children and head of household.

Argentina: ¹ Data for individual families. ² Husband's earnings. ³ Number of consumption units according to size of family and husband's earnings. ⁴ Enquiry limited to families consisting of husband, wife and 3 children under 14 years, the head having an income between *m\$*n 115 and *m\$*n 135 per month.

Austria: ¹ Adult persons only. ² Data for individual families. ³ A classification by single years of age is published up to 20 years. ⁴ Classification by expenditure groups.

Belgium: (a) Food enquiry. (b) Enquiry into other expenditure. ¹ Data for 515 wage earners' families only.

Brazil: ¹ Two groups only (under and over 13 years).

China: ¹ Separate data including and excluding boarders.

Colombia: ¹ Percentage distribution only. ² Classification by expenditure groups. ³ The total number in each expenditure group is given (instead of the average).

Denmark: ¹ Data for individual families. ² Only families with children of 15 years or less. ³ Families without boarders, servants or grown-up children.

Estonia: (a) Food enquiry. (b) General enquiry into income and expenditure. ¹ Tallinn and Narva; data for Tallinn are in general available by expenditure groups. ² Total number of persons (or consumption units) in each expenditure group.

United States: ¹ The information given is based on the report for New York City (see list of sources). It relates to white families only. ² Data are available on the number of persons (and consumption (expenditure) units) in each expenditure group. ³ Average number of persons under 16 years, and 16 years and over for each expenditure group. ⁴ Data for 13 family types. ⁵ Classification by expenditure groups.

Finland: ¹ Distribution by single years of age up to 24 years; by age groups over 24 years. ² Two distributions according to number of children are available: (a) distribution of 954 families according to number of children, and (b) distribution of 276 families according to number of children and age of oldest child.

Hungary: ¹ Data are available for individual families. ² For heads of household.

India: ¹ Distribution of all earners by age-groups is available also. ² Distribution of heads of household according to age and earnings. ³ Data including and excluding dependants living away from the family.

Mexico: ¹ Five age-groups only are distinguished: 0 to 3 years; 4 to 6; 7 to 10; 11 to 14; 15 years and over.

Norway: ¹ Working-class households only—information on civil servants' households being available in less detail. The data are classified according to expenditure groups.

Palestine: ¹ Data on urban Jewish population only. ² For persons over 6 years of age. ³ The groups are: less than 6; 6 to 9; 10 to 13; 14 years and over.

Netherlands : ¹ Data for individual families. ² Single ages up to 15 years, age-groups over 15 years. ³ Percentage distribution.

Poland : ¹ Data on number of persons and number of consumption units in each family are available.

Sweden : ¹ Families without boarders and lodgers. ² By single years of age up to 20 years. ³ Ages of heads of family by age-groups. ⁴ Classification according to age of oldest child.

Czecho-Slovakia : ¹ Also given for each family. ² Data for each family.

Union of South Africa : ¹ A distinction is made between adults and minors only. ² Average age of heads of household.

Notes on Table IV: Information published on Receipts and Disbursements.

General Note:

The information contained in this table does not cover all the information published on receipts and disbursements, but only answers to the specific questions indicated.

Germany:

¹ Data on income (per family) and expenditure (per family and per consumption unit) for 3 income levels and 6 industrial groups. ² Data on income (per family) and expenditure (per family and per consumption unit) for 5 income levels and 3 occupational groups. ³ Data on income (per family) and expenditure (per family and per consumption unit) for various income levels and 4 occupational groups. ⁴ Detailed data on expenditures per family and per consumption unit for families of different income levels (income per family or income per consumption unit) having 0; 1; 2; 3; 4 and more children under 15 years of age. ⁵ Quantities per family and per consumption unit at different income levels.

Argentina:

¹ Husband's earnings from main occupation only are available. ² Families consisting of husband, wife and 0; 1; 2; 3; 4 or 5 children. ³ For families consisting of husband, wife and 3 children only. ⁴ Excluding clothing. ⁵ This enquiry covered only families consisting of husband, wife and 3 children under 14 years, the husband having monthly earnings between m\$n. 115 and m\$n. 135.

Austria:

¹ Classification by expenditure groups.

Belgium:

¹ Food enquiry. ² Enquiry into other expenditure. ³ Only the number of families in each group is available. ⁴ For general averages; data for the 4 groups of income per "quet" are available for 27 items as regards expenditures per "quet" and for 35 items as regards quantities consumed per "quet".

Brazil:

¹ Earnings per day and per hour. ² Expenditures on food and rent as percentage of total expenditure. ³ Percentages spent on groups of foodstuffs according to average expense on food per "fammain" per day (9 income groups).

Bulgaria:

¹ Data per "normal family" for the 7 income groups.

China:

¹ General averages only; no data by income groups. ² Detailed information is available on clothing and miscellaneous items also.

Colombia:

¹ Includes a small number of salaried employees and farm families. ² Data on receipts relate to daily periods. ³ Data on families consisting of 3, 4, 5 to 12 members. ⁴ Data as to the number of families in each group. ⁵ Data according to expenditure groups.

Denmark:

¹ General averages are available for families living in (a) Copenhagen (b) provincial towns and (c) rural districts. No averages are given for the whole country. ² Data classified according to expenditure per family or per consumption unit. ³ Families consisting of less than 2; 2-2.99; 3-3.99; 4 and more consumption units. Families with boarders and domestic servants are excluded.

Estonia:

¹ Data available for families consisting of 1; 2; 3; 4; 5 and more members. ² Tallinn and Narva; families living in Narva are not classified according to expenditure groups. ³ Separate data for Tallinn and Narva. ⁴ Families are classified according to their expenditures per month. ⁵ Data on food consumption only.

United States:

¹ The information given is based on the report for New York City (see list of sources). It relates to white families only. ² Data according to expenditure per consumption (expenditure) unit. ³ Data for 3 types of renting families: husband and wife; husband, wife and one child; husband, wife and 2 to 4 children. ⁴ This figure is higher if items of women's and girls' clothing are taken into account, instead of men's and boys' clothing. ⁵ The information given is based on the reports for Chicago (see list of sources). It relates to white families only. ⁶ Data for 8 family types. ⁷ Data for 7 family types.

Finland:

¹ Families with 0; 1; 2; 3; 4 and more children according to age of children. ² Data per "normal family". ³ Food expenditure only, according to annual expenditure groups.

Hungary:

¹ Includes seven groups of food items.

India:

¹ Miscellaneous expenditure only.

Japan:

¹ Separate data for wage earners in (a) factory, (b) transport. ² Separate data for (a) officials, (b) teachers, (c) clerks. ³ Rice only.

Mexico:

¹ Families with less than 3.50; 3.51-4.50; 4.51 and more consumption units.

Norway:

¹ According to size of expenditures per consumption unit. ² Data per expenditure groups or family size relate to Oslo only. ³ Expenditures on and quantities of food and drink consumed per consumption unit by families of: less than 2.10; 2.10-3.09; 3.10-4.09; 4.10 and more consumption units. ⁴ Separate data for Oslo and for the whole country.

New Zealand:

¹ Summary information only. ² According to number of persons in household. ³ Items accounting for 1 per cent. or more of total expenditure.

Palestine:

¹ Food and rent.

Netherlands:

¹ Families with less than 2; 2-3; 3-4; 4-5; 5 and more consumption units.

Poland:

¹ According to expenditure groups.

Sweden:

¹ Data per "normal family". ² Per family, according to number and age of children.

Czecho-Slovakia:

¹ Separate data are available for households of metal and machine workers in Prague, miners, foremen, skilled, and unskilled workers. ² Separate data are available for families of railway employees. ³ Data according to number of persons and to number of consumption units per family. ⁴ Separate data for families living in Prague and outside Prague. ⁵ Separate data for households of female civil servants. ⁶ Food, housing, clothing, other current expenditure and other expenditure.

[illegible]

Notes on Table V : Definition of Receipts and Disbursements.

General Note :

The terms current expenditure and other disbursements, current income and other receipts in this table do not have the meaning assigned to these terms in the text, but are used in the sense given in the original reports. This meaning is defined and exemplified in relation to the specific items of receipts or disbursements listed in the first column.

Germany :

¹ Boarding sons and daughters may be treated as boarders not members of the family, in which case their contributions (minus cost of food and room) are entered as income from boarders and lodgers and no report is made of their income or other expenditures.

Austria :

¹ The part of husband's earnings not contributed to the household is also excluded in many cases. ² No families who owned their homes were included in the sample.

Bulgaria :

¹ The gross amount is entered if receipts from home industry or independent business are considered as "income from principal or subsidiary occupation of any member of the family".

China :

¹ "Hui" (mutual benefit society) funds. ² Receipts from pawning, which the report states is in many cases the equivalent of sale of property.

Colombia :

¹ Free housing. ² Apparently none of the families studied had boarders or lodgers. ³ Laundry done in the home for others. ⁴ Actual payments, including amortisation of mortgage, are considered to be the equivalent of rental value, and are entered as "expenditure". ⁵ It is possible that receipts from these sources are included in "other income", but they are not mentioned. ⁶ Included in expenditure, if this is what is meant by "debts".

Denmark :

¹ Mortgage of real property. ² Investment in real property.

United States :

¹ Sons and daughters are entered either as members of the economic family (in which case their total incomes and expenditures are recorded) or as boarders or lodgers (in which case only their payments for board (net) or lodging (gross) are considered as income and the sons and daughters are not considered family members).

India :

¹ Free housing. ² Sale of milk. ³ "Agriculture" is listed as a source of income, but is not further explained. The schedule form mentions as income, "income from agricultural land". ⁴ Amortisation of mortgage on homes being acquired by hire purchase is, however, included in "Expenditure". ⁵ Rental value is estimated only for families owning their homes without mortgages, and entered as Income and Expenditure. The total payments (including amortisation) by families acquiring homes by "hire purchase" are entered as Expenditure.

Japan :

- ¹ Families with owned business (other than agriculture) were excluded.
² Total, not net, value of home production.

Norway :

- ¹ For adult children, only payments for board and lodging are included.

Netherlands :

- ¹ In several cases a proportion of the family's rent was deducted from receipts from lodgers. ² Included if considered as " Net reduction of capital in form of goods ". ³ Included if considered as " Net reduction of capital in form of specie ". ⁴ If interest on debts is considered as " administrative costs " of the household it is " expenditure " (E).
⁵ Included if considered as money savings.

Poland :

- ¹ " Public assistance " (not including medical assistance from sick funds) is included in income (I).

Sweden :

- ¹ Redemption of pawned articles is Expenditure (E). Repayment of other debts is (D).

Switzerland :

- ¹ Pooled income only.

Union of South Africa :

- ¹ Free housing (not clear in source whether wages or gifts). ² Sometimes included and sometimes not. ³ Households with boarders were excluded from survey.

FAMILY LIVING

Age	Germany 1927-28				Argentina 1933	Austria 1934		Austria 1934		Belgium 1927-28		China (Shang- hai) 1929-30		
	Food expen- diture		Other expen- diture			Food expen- diture		Switzer- land ¹ 1936-37		Bulgaria 1927-28		Hungary 1929		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Under 1 year . . .	50		20		20		29		10		100		30	
1 and under . . .	50		20		20		25		10		110		30	
2 " " " . . .	50		20		20		30		10		120		40	
3 " " " . . .	50		20		35		35		10		130		40	
4 " " " . . .	50		20		35		45		20		140		40	
5 " " " . . .	50		20		35		50		20		150		40	
6 " " " . . .	50		30		50		53		20		160		50	
7 " " " . . .	50		30		50		57		30		170		50	
8 " " " . . .	50		30		50		60		30		180		50	
9 " " " . . .	50		30		50		63		30		190		50	
10 " " " . . .	75		50		65		66		40		200		60	
11 " " " . . .	75		50		65		70		40		210		60	
12 " " " . . .	75		50		65		73		40		220		70	60
13 " " " . . .	75		50		80	70	76		50		230		80	70
14 " " " . . .	75		50		80	70	80		50		240		80	70
15 " " " . . .	100	90	70		80	70	83	80	70	60	250		90	80
16 " " " . . .			70		80	70	86	80	70	60	260		90	80
17 " " " . . .			70		100	80	89	80	90	70	270		100	80
18 " " " . . .			70				93	83	90	70	280			
19 " " " . . .			70				96	83	100	80	290			
20 " " " . . .			100	90			100	86			300			
21 " " " . . .											310	300		
22 " " " . . .											320	300		
23 " " " . . .											330	300		
24 " " " . . .											340	300		
25 and over . . .											350	300		
Over 60 . . .														

Age	Colombia 1936, Denmark 1931, Finland 1928, Mexico 1934, Norway 1927-28, Sweden 1933	Estonia 1925		United States * (Wage Earner Study) 1934-36 Food expenditure		Japan 1931-36		Palestine 1931 Food expenditure		Nether- lands 1935-36		Poland 1927		Estonia* 1937-38		
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	
Under 1 year . . .	15		10		48		30		50		15		25		20	
1 and under . . .	15		30		48		30		50		20		30		20	
2 " " " . . .	15		30		51		40		50		30		40		30	
3 " " " . . .	15		30		51		40		50		35		50		30	
4 " " " . . .	40		30		58		40		50		40		50		40	
5 " " " . . .	40		30		58		50		50		45		50		40	
6 " " " . . .	40		30		58		50		70		50		50		50	
7 " " " . . .	75		55		77	58	50		70		55		50		50	
8 " " " . . .	75		55		77	77	70		70		60		60		60	
9 " " " . . .	75		55		84	77	70		70		65		60		60	
10 " " " . . .	75		55		84	77	70		83		70		60		70	
11 " " " . . .	90		55		90	84	80		83		75		60		70	
12 " " " . . .	90		55		90	84	80		83		80		70		80	
13 " " " . . .	90		55		100	84	80		83		85		70		80	
14 " " " . . .	90		80	60	100	90	80		100	83	90		85	75	100	80
15 " " " . . .	100	90	80	60	100	90	90				100	90	85	75		
16 " " " . . .			80	60	102	90	90						85	75		
17 " " " . . .			80	80	102	90	90						85	75		
18 " " " . . .			100	80	102	90	90						100	85		
19 " " " . . .					102	90	90									
20 " " " . . .					100	92	100	90								
21 " " " . . .																
22 " " " . . .																
23 " " " . . .																
24 " " " . . .																
25 and over . . .																
Over 60 . . .			80	60											80	

General note : The scales here given are used as expenditure scales e.g. income or expenditure per unit. For calorie requirement, protein requirement, etc., scales, see Chapter VI, pp. 104-107.

* If no figure is inserted the last one applies also to higher ages. * Total expenditure. * Over 55 years. * This figure applies to full time workers : the figure for unemployed and part time workers being 90. * This figure applies to active women, the figure for women

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