# Aoney Disbursements of Employed Wage Earners and Clerical Workers in Twelve Cities of the South 1934-36 

By

FAFTH M. WILLIAMS and ALICE C. HANSON sisted by GENEVIBVE B. WMMSATT of the Bureav of Lebor Statistica


## UNITED STATES DEPARTMENT OR LABOR <br> Erencea Perlking, Secretary <br> EURBAU OF LABOR STATISTICB <br> Imador Labin, Comswissioner <br> $+$

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of the Bureau of Labor Statistics


Bulletin No. 640

UNTTED ETATES
GOVERNMRNT PRINTING ORFICE
WASHINGTON : 1941

# UNITED STATES DEPARTMENT OF LABOR 

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## PREFACE

This bulletin is one of a series which present data on the incomes and expenditures of 14,668 families of wage earners and clerical workers in 42 eities with populations over 50,000 . In the present volume are set forth data covering the incomes, current expenditures, savings, and deficits of 2,710 white workers' families in 12 cities of. the South, 858 Negro workers' families in 9 of those cities, and 100 Mexican families in Houston. Figures are also shown on housing facilities, the amount and kind of food, clothing, and housefurnishings purchased in the year of the study, and the types of medical care received.

The investigation was undertaken in 1934-36 for the primary purpose of providing the basis for a revision of the weights used for the cost-of-living indexes published currently by the Buresu. The last comprehensive investigation had been made in 1917-19 when wartime price changes and wage adjustments had made imperative a study of the expenditures of workers' families. In the years intervening since that date, rapid changes in workers' purchasing habits had taken place. Changes in technology and in organization of production had served to bring within the workers' reach many items which had been nonexistent or prohibitive in price in the war days. These included silk stockings, rayon fabries, the widespread use of electricity, modern plumbing, the automobile, and the radio, as well as many other products of modern industry. Such fragmentary studies by private agencies and by the Bureau as had been made since 1919 pointed to impressive changes in workers' consumption habits. A comprehensive inquiry into these new levels of living was accordingly urgently required to obtsin an adequate list of the items properly entering into an index of the cost of goods purchased by wage earners and clerical workers.

The increasing importance of the South in the industrial life of the Nation makes the data presented in this volume of particular interest. When compared with comparable data for other regions, they make possible a comparison of the difference in levels at which families in varying regions of the country are actually living.

The study in Houston was made in cooperation with the Works Progress Administration and the Bureau of Social Research of the University of Texas. In Memphis, the Tennessee Relief Administration and the Shelby County Consumers' Council cooperated in the
investigation, while in New Orleans the School for Social Work of Tulane University and the Louisiana Emergency Relief Administration lent their aid. The study in Richmond was carried on in cooperation with the Richmond and Henrico County Consumers' Council, the Virginia State Tax Commission, and the Virginia Emergency Relief Administration. In Baltimore, Dallas, Louisville, and Norfolk, the investigation was carried on with the cooperation of the Works Progress Administration. The investigation was furthered by the assistance of many officials in these organizations and from interested individuals and civic bodies too numerous to be mentioned here by name. In addition, two groups must be recognized as having made the study possible: the individual worker who performed the field collection and office tabulation of the data, often under unfavorable conditions, on a high plane of professional responsibility; and the housewives who laid aside their household tasks long enough to furmish answers to the detailed questions in the schedules.

In the final analysis and preparation of this report, special contributions to problems of method were made by Jerome Cornfield, William S. Shelton, and Samuel E. Cohen. Mary C. Ruark was responsible for the final tabulations. Adrienne C. Mayer assisted in checking the table forms and preparation of text.

> Isador Lubin, Commissioner of Labor Statistics.

May 1939.

## Part V.-Appendixes

## Appendix A

## Notes on Tabular Summary

General.
Economic family.-An "economic family" as defined for this study consists of two or more persons living together and sharing their economic resources. In most cases, the members of an economic family are related by ties of blood, marriage, or adoption, but in some cases, an unrelated member was found to share income and family living. Persons related by blood, marriage, or adoption were not treated as members of the economic family if they lived as boarders and kept their funds separate from family funds, unless they gave a complete record of their incomes and expenditures. Persons who were members of the economic family for an entire year were not necessarily members of the household for the year. A member supported by the family in school, college, or hospital for all or part of the year, or a member working away from home for part of the year, sharing his income with the family for that period and able to report all his expenses for that period would be treated as a member of the economic family but not of the household for the entire year. In computing the number of persons who were part of the economic family for a. year, the number of weeks each member had shared his income with the family was listed, the numbers summed, and the total divided by 52 . This procedure yielded the number of equivalent persons who had made up the family for 1 year.

Household. - The household has been defined to include the members of the economic family living together in one dwelling, plus roomers and guests sleeping in the family dwelling, plus boarders and guests eating with the family. The number of persons in the household was computed by adding the number of weeks each member of the family had been part of the family's housekeeping establishment, the number of weeks each boarder, lodger, and guest had been with them, and dividing the total by 52 in order to secure the number of equivalent persons making up the household for 1 year.
Net family income or net money income.-Net family income has been defined to mean the sum of earnings (including net receipts from boarders and lodgers), net rent, interest, dividends, gifts, pensions, insurance annuities received during the schedule year, minus business losses and expenses. The money value of income received in kind, whether from services of the housewife, use of owned home, or from other sources, has not been included in computing income in this
investigation. No funds received as a result of the depletion of assets have been treated as income. Similarly, inheritances have not been regarded as income.

Current expenditures.-Throughout the report the term "current expenditures" is used to mean expenditures for ultimate consumer goods, including relatively durable consumption goods. Interest on money borrowed for family use has been included in such expenditures, but savings and investments have not. The time and funds available for the investigation have not made possible the presentation of separate totals distinguishing expenditures for the more slowly consumed, as distinguished from quickly consumed goods. Indeed, the data on depreciation rates for relatively durable consumer goods are so fragmentary that it would be extremely difficult to do so. Expenditures for such durable goods as automobiles, mechanical refrigerators, and other furnishings and equipment have been classified with expenditures for food and carfare and other quickly consumed goods as "current expenditures," while money spent for permanent improvements on owned homes and other real estate or as payment on the principal of mortgages has been classified as savings. The total cost of consumer goods purchased on credit was included in current expenditures and the amount of the obligations outstanding at the end of the year was taken into account when computing changes in liabilities over the 12 -month period. Money paid out for life-insurance premiums has been classified as savings.

The total obligations incurred in the year covered by the schedule for consumers' goods purchased on credit was included in current expenditures and the amount of the obligation outstanding at the end of the year was taken into account when computing changes in liabilities over the 12 -month period. For example, the total amount incurred for an item purchased on the installment plan (original price plus carrying charges) is entered as the amount of the expenditure, though the amount paid in the schedule year may be considerably less than the total contracted for; and the total amount of rent, taxes, etc., falling due in a year are entered as though paid, though they have been paid in part or not at all. The unpaid balances owing at the end of the schedule year on debts contracted during the schedule year are entered as increases in debts on table 4. Amounts paid during the schedule year on goods purchased on the installment plan before the beginning of that year are treated as savings. (See "Surplus," p. 633; "Payment of debts to: Firms selling on instaliment plan," p. 637; and "Increase in debts: Payable to firms selling on installment plan," p. 638.)

Expenditures as entered on tables are purchase price less trade-in allowance, in cases where such trade-in allowances were made, for example, automobile and furniture purchases.

Surplus or deficit.-Surplus or deficit represents the difference between current income and current expenditures. Since the figures on both these amounts as secured by the schedule method are subject to an undetermined error of estimate (see "Balancing difference," p. 634), the surplus and deficit data were obtained by asking in detail changes in individual asset and liability items over the schedule year. Net surplus or net deficit was computed as the net difference between the funds received during the schedule year not used for current expenditures and the funds made available for family use from sources other than money income (table 4; see also p. 18 of schedule facsimile, p. 684). It should be noticed that the emphasis is placed on net rather than gross figures for changes in assets and liabilities. That is, for an individual family, only net entries were made for an individual transaction such as a trade of property involving a net payment of $\$ 500$. Thus, the net change item is more siguificant than the absolute amount either of increase or decrease in assets or increase or decrease in liabilities.

Surplus.-Surplus, savings, and investment are terms used to mean net decrease in liabilities and/or increase in assets. This figure appears as the net change in assets and liabilities (when the total increase in assets and/or decrease in liabilities is greater than the total decrease in assets and/or increase in liabilities). Money paid on the principal of real estate mortgages or spent for permanent improvements to real estate (such as the addition of a room to a house) has been treated as an increase in assets and hence as investment, as has also money spent for the purchase of stocks and bonds, building and loan shares, and other forms of permanent assets. Money used, for example, for the payment of installment obligations for an automobile purchased prior to the schedule year, is treated as decrease in liabilities and hence as a part of savings. Thus, money used for decreasing the liabilities of a preceding year, as well as that used to increase assets, has been treated as savings.

Deficit--Deficit (or negative savings) is the term used to mean net increase in liabilities and/or net decrease in assets. This figure appears as the net change in assets and liabilities (when the total decrease in assets and/or increase in liabilities is greater than total increase in assets and/or decrease in liabilities) and is shown in tables 2, 5, 19, and 22 of the Tabular Summary. Money received through the sale of property, from the settlement or surrender of life insurance or endowment policies, and repayments by others of the loans made to them have been treated as money resulting from decreases in assets or changes in their form and thus may form part of deficits or negative savings, but not of money income. Money borrowed aither directly or as book credit is a form of increase in liabilities and hence may
comprise a part of deficits or negative saving but is definitely not a part of money income.

Inheritance.-Money received by inheritance, essentially a windfall, cannot be treated as income because it is nonrecurring, nor as investment, because it may be spent during the year, nor can it be regarded as a decrease in assets in the same sense es withdrawal of savings or sale of property. Inheritance has, therefore, been treated as an independent item, forming a part of total receipts and coordinate with but not a part of current income and net change in assets and liabilities. It is shown in tables 2, 4, 5, 19, and 22. It includes only cash inheritances received during the schedule year. Inheritances of property not sold during the schedule year are not recorded.

Total money receipts.-The term "total money receipts" has been used to describe total money income plus deficits or net negative savings wherever they occur, plus money received through inheritance. This item is not shown as such in the Tabular Summary but it may be computed by adding for any desired group of families the following items: annual money income, net changes in assets and liabilities where the sign of the net change is minus ( - ), and inheritance.

Total money disbursements.-The term "total money disbursements" has been used to describe total current expenditures plus surpluses or net savings or investment wherever they occur. This item is not shown as such in the Tabular Summary but it may be computed by adding for any desired group of families the following items: annual current expenditure and net change in assets and liabilities where the sign of the net change is plus ( + ).

Balancing difference.-The difference between total disbursements and total receipts on any schedule was the balancing difference, and represented discrepancies due to inability of families to recall to the last penny every financial transaction of the year. No schedule was accepted in which this difference was greater than 5 percent of the larger figure.

Schedule year.-All data shown in the tables are for a 12 -month period unless otherwise specified. The data secured from each family apply to the schedule year prior to the visit of the field investigator, ending with any one of four specified quarters: the winter quarter ending February 28, the spring quarter ending May 31, the summer quarter ending August 31, and the fall quarter ending November 30. For the purposes of the revision of the cost of living index, it was desired to secure material on seasonal variations in expenditures, and on this account data on purchases in different quarters were obtained for food, clothing, fuel and light, furniture and furnishings, automobiles and motorcycles, movies, and certain other items.

Averages based on all families.-All averages unless otherwise specified in the table are computed by dividing the appropriate aggregate
by the total number of families in the group to which the aggregate applies and not by the smaller number of families in that group actually making the expenditure for or having the indicated item. The average expenditure per family purchasing a given item may be readily computed by multiplying the average for all families in the group by the number of families in the group to obtain the aggregate expenditure and dividing this figure by the number of families purchasing.

Sales tax.-See appendix A, page 649, for method of handling sales tax.

## Notes on individual tables.

Notw.-For each table except 21, 22, 23, 24-A, and 25 comparable data for Negro and for Mexican families appear immediately following those for other white families. There are also no Negro data comparable to those for the other two groups given in tables 24-B and 24-C.

## Table 1.-Distribution of families, by economic level and income level

Families have been classified by economic level according to the amount of current expenditures per expenditure unit, a measure which takes into account total family expenditure and family size and composition. The explanation of this measure and its use will be found on page 688.

Families have been classified by income level according to the net family income, i. e., total family income minus nonfamily losses and business expense.

## Table 2.-Description of families studied, by economic level

(See also tables 5,19 , and 22 for the same data by other classifications)
For tabulation the classification of occupations was made on the basis of the Works Progress Administration occupational classification. See appendix D, page 658.

The homemaker is the person reporting herself responsible for the management of the housebold, or in the case of two-generation families, the wife of the "head of the family."

Household and economic family are defined on page 631. In this table, a person in the household or economic family for less than a year is treated as the appropriate decimal equivalent of a person.

The equivalent number of persons in the household is computed by adding the total number of weeks spent in the household by each member of the household, and dividing the resulting aggregate by 52 (the number of weeks in a year). Number of equivalent persons in other categories listed in the table are computed in the same manner.

Earnings.-Earnings include wages, salaries, tips, industrial bonuses, and commissions. Amounts deducted by employers for pensions, insurance, annuities, etc., are included in earnings, and also entered in table 4 as payment of premiums for insurance poligies. If a worker, as for example, in the building trades, pays a helper, the workers' earninge are entered as net, i. e., the pay to the helper is deducted.

Net earnings from boarders and lodgers are gross payments for board and lodging minus the calculated cost of food for boarders. The cost of boarders' food is computed by dividing each family's annual food expenditure by the number of food-expenditure units for all the persons eating in the household; the resulting
food expenditure per food-expenditure unit is then multiplied by the number of food-expenditure units for boarders.

Other net rents are gross rents received from tenants less current expenditures paid out by the scheduled family in connection with the rented property.

Pensions and insurance annuities include veterans' pensions, pensions from employers, compensation received under workmen's compensation laws, unemployment benefits from trade-unions, etc., income from annuities purchased, and benefits from sickness, accident, theft, and fire insurance.

Gifls include money received from persons not members of the economic family. Such persons include persons members of the natural but not the economic family.

Other sources of income include net receipt from sale of home produce, winnings from gambling, court settlements, payment for child support, rebates, and dividend checks received on purchases bought through cooperative organizations, etc. In those cases in which a worker away from home received a cash subsistence allowance, the allowance was entered as other money income and the expenditures for mesls, lodging, ete., were included in the proper expenditure tables. This case would be distinguished from that in which a salesman, for exampla, received an allowance for mileage; in such a case the travel expenditure was considered business expense and no entry was made either for expenditure or corresponding income with the exception that net gains on such an account are entered as other money income.

Deductions from income (business losses and expenses) includes nonfamily losses, i. e., net losses on rented property (current expenditures for property minus gross rents received) and current expenditures on any unrented real estate other than own home, etc., and net losses on traveling or subsistence allowances, and any other business expenses.

Nonbusiness losses, i. e., family losses, are not deducted from income but are treated as other family expenditures in table 16. For example, contents of a purse lost, or bail forfeited which had been posted for a friend; are treated as miscellaneous family expenditure.

Surplus or defficit.-See page 633.
Inheritance-See page 634.
The number of gainful workers per family is the total number of persons gainfully employed at any time during the year. Each person is counted as one regardiess of the length of his employment. The definition differs from that of the "geinfully occupied" as used by the census in that a person continuoualy unemployed throughout the year is not counted as a gainful worker. On the other hand a person is so counted even if his earnings were occasional and he does not necessarily regard himself as regularly in the labor market.

The chief earner is the member with the largest money earnings.

## Tanle 3.-Expendituret for groups of items, by sconomic level

(See tables 6, 20, and 23 for same data by other classifications)
For the items included in each group of expenditurea see table 8, Food; table 17 Clothing; table 10, Housing; table 11, Fuel, light, and refrigeration; table 12, Other household operation; table 18, Furnishings and equipment; table 13, Automobile and motorcycle purchase, operation, and maintenance, and other transportation; table 14, Personal care, medical care; table 15, Recreation; table 16, Education, vocstion, community welfare, gifts, and contributions to persons out--ide economic family and other items.

Housing includes water, fuel, light, and refrigeration for familiea not making payment for these items separately from rent. (See tablea 11 and 12.)

Percentages are based on rounded dollar averages.

Table 4.-Disposition of money received during the schedule year not used for current family expenditure and funds made available for family use from sources other than family income, by economic level
In these tables only the cash or credit changes in assets or liabilities as shown in transactions during the schedule year are entered. That is, purchase of a share of stock is entered as "Increase in assets: Investment in: Stocks and bonds," but increase in the value of a share owned but not sold during the year is not recorded.

For each individual family only the net amount of the change in any individuad item, where the items correspond in the two tables, is entered on the schedule. For instance, if a family deposits $\$ 200$ in a savings account during the year and withdraws \$250, an entry of $\mathbf{\$ 5 0}$ is made under "Decrease in assets: Reduction in cash: In savings account," and no entry is made under "Increase in assets: Increase in cash: In savings account." The aggregate upon which the average for the item "Decrease in assets: Reduction in cesh: In savings account," in table 4 is based is then the sum of the net reductions of savings account balances of all families having net reductions in their savings account balances. Similarly, the aggregate upon which the average for the item "Increase in assets: Increase in cash: In savings account" is based is the sum of the net increase in savings account balances of all families having net increases in their asvings account balances.

A transaction affecting two different items, such as the payment of a mortgage and the receipt of a loan with which to make the payment, is generally not entered as a single net amount, but the total amounts of both the payment and the loan are entered separately.

It ahould be noted that not all items in the two seotions of the table oorrespond. Payments of premiuma of insurance policies are listed under "Average amount of funds disposed in: Increase in assets." The corresponding item, receipts in the form of annuities, is not listed under "Average amount of funds received from: Decrease in assets," but is entered in tables 2, 5, and 22 under "Receipts." Money from the sale of goods and chattels is entered in table 4, but purchases of goods and chattels are entered in the appropriate expenditure tables. Money from inheritances is entered in table 4, but contrasting payments by the family scheduled (bequeste to nonmembers) are listed under ourrent expenditures as Gifts and contributions (table 16).

Investment in: Improvement in own home includes permanent improvements such as the addition of a porch or room, or installation of wiring for electricity. Repairs and replacements are not considered improvements, and are entered in table 10 as current housing expenditures.

Investment in: Other real estate inchuding real estate morigagea inciudes both improvements made on and purchase of real estate other than owned home. This item also includes purchase by the scheduled family of real estate mortgages.

Payment of premiums for insurance policies includes amounts deducted from wages for company insurance; trade-union dues when these entitled the payer to nnsurance benefits; payments to other organizations when they entitied the payer to insurance benefits; payments for combined life and aickness and disability insurance when the amounts assignable to sickness and disability insurance are considered the smaller part of the total; "burial insurance" and payments to burial societies; and payments for life-insurance premiums for persons not membera of the economio family.

Increase in outstanding loant to others includes increase in loans to any persons not members of the eoonomic family.

Payment of debte to: Firms selling on installment plan includes only paymenta for purchasea made prior to the beginning of the schedule year. The entire
amounts due for goods purchased on installment during the schedule year are entered in the appropriate expenditure tables.

Payment of debls to: Individuals includes payment of debts incurred prior to the schedule yesr to tradesmen, physicians, landlords, and other persons.

Payment of debts to: Oher includes payment of debts incurred prior to the schedule year on charge accounts, taxes, assessments, etc.

Sale of property: Goods and chaltels does not include articles "traded in" on the purchase. When, for instance, an allowance was made for the trade-in of an old ice box in the purchase of a refrigerator, the amount of the allowance is not entered in any of the tables and the expenditure shown for the refrigerator (in table 18) is the price less the allowance. The same procedure was followed for automobiles, radios, and other items for which articles were "traded in" for credtt.

Increase in liabilities includes debts incurred during the schedule year even though these were later wiped out by bankruptcy proceedings.

Increase in debts: Payable to firms selling on inatallment plan includes balances due at the end of the schedule year on goods purchssed on installment during the schedule year. For example, if a family incurred a bill of $\$ 250$ during the schedule year for a suite of furniture purchased on the installment plan and paid installments totaling $\$ 150$ during the year, having a balance still owing of $\$ 100$ at the end of the schedule year, the following entries would appear: In table 18, current expenditure for furniture suite, $\$ 250$; in table 4 , increase in debts payable to firms selling on installment plan, $\$ 100$.

Increase in debts: Payable to individuals includes unpaid debts incurred during the schedule year to tradesmen, physicians, landlords, and other persons.

Increase in debts: Other debts includes unpaid debts incurred during the schedule year on charge accounts, taxes, assessmenta, etc.

Inheritance.-See page 634.

## Table 5.-Description of families studied, by income level

(See tables 2, 19, and 22 for same data by other classifications)
Data presented in this table are the same as those in table 2, except that the families have been classified by net family income level rather than by economic level. (See notes on table 2.)

## Tabis 6.-Expenditure for groupe of items, by income level

(See tables 3, 20, and 23 for same data by other classifications)
Data presented in this table are the same as those in table 3, except that the families have been classified by net family income level rather than by economic level. (See notes on table 3.)

Table 7.-Food used at home and purchased for consumption at home during 1 week, by economic level

In order to svoid overburdening the housewives who cooperated in the study the details of food purchases were requested only for the week preceding the agent's visit. In most cities the field work extended over more than one season. The differences between the averages secured in the several quarters in such instances reflect not only seasonal differences in food purchases, but also accidental differences in the economic level and the national backgrounds of the familiea in the subsamples interviewed in the diferent quarters. It was therefore decided to publish in full for each city only the eatimates for that season in which data were secured from the largeat number of families.

The number of equivalent full-time persons shown in table 7 is obtained by countiug the total number of persons eating 21 meals at home during the week as the appropriate decimal equivalent of a person. A lunch prepared at home but carried and eaten sway from home is included as a meal eaten at home.

For the method of obtaining the number of food-expenditure units, see sppendix G, page 638.

The quantities and expenditures antered in table 7 are for all food purchased for use by the household at home or prepared at home to be taken out during the week, ineluding that for boarders, guests, and servants.

Dats were obtained for each of the following items-"number of families purchasing," "number of families using"; "average quantity purchased," "average quantity used"-as well as "expenditure." Since the quantities purchased and quantities used in 1 week were in the great majority of cases identical, only data on quantities purchased are presented in table 7, these figures may be compared with the figures on expenditure. Likewise, for most, although not all of the food items, the number of families purchasing and the number using was the same. Because of limitation of printing space, only the figures for number of families using are presented, they being needed to obtain a complete picture of food consumption habits of the families studied.

If comparisons are made between expenditurea for quantities of foods at different economic levels, it should be noted that the composition of the families changes from one level to another. There are in general a larger proportion of adults at the higher economic levels. Since human needs for and customary consumption of various specific foods vary considerably for persons of different age and ser and occupation, it becomes impossible to make a etrict comparison of food consumption with needs at the different economic levels. Thus the needs for carbohydrates, protein, vitamins, etc., increase in differing ratios for different sex-age groups; children's need for milk is approximately twice as great as that for adults, while the need of hest-producing foods (starches and augare) of adulte is about twice as great as that of children. Children's meat consumption varies from that of adults at a still different rate. In order to secure figures on quantities of and expenditures for individual foods purchased which would provide a reasonably satisfactory basis for comparison and yet not present a misleading appearance of refinement, data on family purchases of individual foods have been converted to a per capita basis.

Expenditures or quantity per food expenditure unit may be computed by multiplying the average expenditure or quantity per person shown by the average number of persons per family and dividing the product by the sverage number of food expenditure units per family. However, in interpreting such results, the factor pointed out in the preceding paragraph muat be considered, namely that a single food relative scale cannot be correctly descriptive of needs of persons of different sex and age for varying types of specific foods.

In considering quantities purchased it must be remembered that "pounds" are a measure of weight only, not of nutritional equivalence.

## Table 8.-Annual jood expenditures, by economic level

The figures for average annual expenditures for food exclude the computed cost of food consumed by boarders.

For the method of obtaining the number of food-expenditure units aee appendix G, page 688.

Meall bought and eaten aroay from home include tips.
Candy, ice cream, drinks, etc., bought and eaten away from home includes expenditure for all between-meal food and drink consumed away from home.

## Table 9.-Housing facilities, by economic level

The facilitfes described in this table apply to the dwelling occupied by the family at the end of the achedule year, and which may or may not have bean the family's dwelling unit during the entire schedule year. No attempt war made by the field agents to determine whether or not a facility met any defined atandard either as to quslity or $2 s$ to state of repair.

Average monthly rental rate is the rental rate for the house inhabited by the family at the end of the schedule year. (Note that this rate is not necessarily the same as that shown in table 10, Housing expenditures, which is the average rate paid throughout the year.)

A defached house is free, stavding with open space on all sides; a semidetached house has open space on three sides; a row house has open space on two sides; a two-family house is one designed for occupancy by two families, one above the other.

Multiple dwelling.-A building designed for occupancy by three or nore families has been classed as a multiple dwelling.

Garden space is defined as space actually devoted to a garden or to a lawn on the premises or belonging to the dwelling.

## Table 10.-Housing expenditures, by economic level

The type and amount of expenditure by a family for housing necessarily vary with type of tenure, dwelling, and manner of payment for heating. Separate sections of the table are therefore presented for families who can be classified into homogeneous groups with respect to bousing expenditures. These sre: II, "Home owners"; III, "House renters"; IV, "Apartment renters with beat included in rent"; V, "Apartment renters with heat not included in rent." Families whose housing arrangements changed during the year are not shown separately, but are included in section $I_{\text {, " All families in survey." Section I therefore in- }}$ cludes families shown in sections II, III, IV, and V, and families with the following housing arrangements: Owning a principal home during part of the year and renting a principal home during part of the year; having as a principal home a house for a part of the year and an apartment for a part of the year; renting as principal home an apartment with heat included in rent for a part of the year and an apartment with heat not included in rent for a part of the year.

A vacaion home is one which the family has for vacation purposes, and rents or owns simultsneously with its principal home. Simultaneous rental or ownership of a vacation home does not exclude farmilies in sections II, III, IV, and V.

Investment in home includes down payments, payment of principal on mortgages, and permanent improvements (not repairs) on home.

In cases where the home owned and occupied by the family was a two-family house, only that portion of the investment or expenditure which applied to the owner's own liying quarters has been included under "Average amount inveated" or "Average current housing expenditure." The proportions used in making this allocation were based on the comparative monthly rental values of the two dwellings under consideration. The amount of housing expenditure allocated to the rented portion of the house was deducted from the grose rent received from the tenant to arrive at "Other net rents" (tablea 2, 5, 19, and 22). The amount of the investment allocated to the rented portion of the house was entered as "Investment in other real estate" (table 4).

Taxes.-Amounts due on "taxes" or "rent" are entered under these respective headings even if unpaid at the end of the schedule year. The amounte unpaid
at the end of the schedule year are also entered in table 4 as "Increase in debts: Other debts."

Fire insurance and liability insurance-No attempt was made to prorste payments for previous or coming years. The total amount paid during the year was considered current expenditure.

Rent.-The rent reported covered the use of such facilities heat, light, furniture, and water when these were provided by the landiord.

Families living in rented homes and subrenting portions as apartments were scheduled provided there were separate meters for gas and electricity, that heat costs could be eatimated, and that not more than two families (including the scheduled family) had dwelliags there. In such cases only that smount of the rent, operating expenditures, and expenditure for repairs which applied to the portion of the house occupied by the scheduled family was entered. The remaining expenditures for rent, operating, and repairs were deducted from the gross rent received from the tenant to arrive at "Other net rents" (tables 2, 5, 19, and 22). The proportions used in allocating housing expenditure between the two families were based on the comparative rental rates of the two dwellings.

No attempt was made to allocate the cost of space rented to roomers.
Amounts due on rent are entered here even if unpaid at end of schedule year. The amounts unpaid at end of year are also entered on table 4 as "Increase in debts: Other debts."

Concessions are defined as the money value of rent given free by the landlord for a short time as an inducement to the family to rent the living quarters or to offset the expense of moving.

Apartmenta are defined as dwellings in multiple dwellings or in two-family houses designed for occupancy by two families, one above the other. (See notes on table 9, p. 640.) A dwelling consisting of rooms set spart for the use of the scheduled family within a house originally designed for occupancy by one family was also classed as an apartment.

Rooms.-In the count of the number of rooms, dining roome, living rooms, bedrooms, libraries, sewing rooms, kitchens, kitchenettes, snd enclosed porches are included. Halls, closets, storerooms, pantriek, open porches, lsundries, alcoves, rooms used for business purposes, dinettes, and bathrooms are not included.

## Table 11.-Full, light, and refrigeration expenditures, by economic level

The type and amount of expenditure by a family for fuel, light, and refrigeration necessarily vary with type of dwelling and manner of payment for heating. Separate sections of the table are therefore presented for families whose expenditures for fuel, light, and refrigeration may be considered homogeneous. Families Whose type of dwelling or arrangement for payment for heating changed during the year are not shown eeparately but are in section I, "All families in survey." Section I therefore includes tamilies shown in sections II, III, IV, and V and families with the following arrangements for type of dwelling or payment for heating: having a house part of the year and an apartment for part of the year; having heat included in rent or ownership payments during part of the year and not so ineluded during part of the year; renting a home for part of the year and owning \& home for part of the year.

It should be noted that several items listed in this table might have been used for purposes other than heating, cooking, lighting, and refrigerstion. For instance, electricity is uaed for radios, curling irona, ete; gasoline is used for cleaning

Table 12.-Household operation expendifures other than for fuel, light, and refrigeration, by economic level

Water rent includes only water rent paid separately from rent for dwelling.
Telephone includes both subscription and pay-station costs.
Domestic service includes maid service, laundress, furnace man, etc.
Household paper includes toilet paper, wax paper, shelf paper, ete.
Stationery, pens, pencils, ink.-Expenditures for school supplies are entered in table 16 under "Formal education."
Insurance on furniture is generally paid for a 3 -year period. The entire expenditure was entered without regard to the period covered.

Interest on debts does not include interest paid on mortgages on home (table 10).
Other Liems includes shoe polish, candles, clothes pins, clothes lines, grass cutting, snow shoveling, and tips to maids, janitors, elevator boys, and garbage collectors, etc.

## Table 13.-Transportadion expenditurea, by economic level

The expenditure shown for purchase of automobilea and motorcycles is the purchase price less allowances for the trade-in of old cars and includea carrying charges for installment purchases.

Reni of automobile and/or motorcycle includes expenditures for gasoline, oil, etc. for a vehicle not owned by the family. It uaually covered psyment to a neighbor for rides to work in his ear, or payment for gasoline and oil for operation of a borrowed car.

Other transportation expense includes dues for membership in automobile eluhs.
Tablin 14.-Personal care expenditures, and medical care expenditures, by economic level

Personal care services.-A combination beauty or barber service charge was prorated among the services supplied.

Other waves includes marcel, water, or finger wave.
Other personal care services includes facial treatments, masaage, etc.
Toilet soap does not include laundry sosp used for personal care.
Tooth powder, tooth paste, mouth washes does not include sods and salt used for the cleaning of teeth.

Cosmetics and toilet preparations includea paper handkerchiefs and sanitary napkins as well as face powder, rauge, perfume, etc.

Under "Brushes, razor blades, and other toilet articles" are included compants and mirrors.

Medical cars.-Frequently families knew definitely the total expenditure incurred for an illness but were not sure of the correct allocation among such items as physicians' services, hospital room, operating room charges, and medicines. Whenever possible flat rate charges for such services as obstetrical care or tonsillectomy were prorsted among the services received. Where information for such prorating could not be furnished, the entire charge was entered as expenditure for general practitioner, apecialiat, or clinic as the case might be. Therefore expenditures for total medical care are probably more accurate than expenditures for individual items of medical service.

Specialist and other practitioner includes heart specialists, pediatricians, eye, ear, nose, and throat specislists, osteopaths, chiropractors, midwives, Christian Science practitioners, eto.

Medicine and drugs includes the cost of filling presoriptions, home remedies, patent medicines, adhesive tape, bandage, etc. Cod-liver oil was olasaified as a food. (See table 7.)

Eyeglasses includes the cost of exsmination when the examination was given by the same person or firm from whom glasses were purchased.

Medical appliances includes hot water bottles, crutches, etc.
Accident and healh insurance.-When accident and health insurance premium payments are included with payments for life insurance and the life insurance portion is considered the greater, the expenditures are not entered in table 14 but in table 4 under "Pryment of premiums for insurance policies: Life insurance."

Other medical care includes expenditures for X-ray, operating room, blood transfusions, circumcision, ete.

## Tasle 15.-Recreation expenditures, by economic level

Cameras, films, and photographic equipment includes cost of films and developing.
Athletic equipment and supplies does not include clothes for sports. Expenditures for sport clothes are entered in table 17.

Pets (purchase and carc) includes dog licenses and food purchased especially for pets.

Enterlaining: In home, except foad and drinks includes bridge prizes, etc.
Other recreation includes amusement park and dance hall admissions, 1-day boat excursions, losses at cards, gambling and betting, cost of lottery tickets, Christmas-tree decorations, expenditures for hobbies not elsewhere classified, admission to fairs, spending money assigned to individual family members of which no account could be given.

Table 16.-Formal educalion, yocation, community welfare, gift and contributions, and miscellaneoua expenditures, by economic level

## Formal educalion

Expenditures for members away from home include tuition and school supplies but not the cost of board and lodging or school uniforme for members attending school sway from home.

Expenditures for members at home include tuition, books, stationery and supplies, fees for music and dancing lessons, etc., paid for by the economic family.

## Vocation

Union dues or fees.-Payments to trade-unions with life insurance plans, where dues and life insurance premium payments cannot be separated, are entered on table 4 as "Payments of premium for insurance policies: Life insurance."

Other items of vocational expense include chauffeurs ${ }^{3}$ licenses, tools, fees to employment offices, etc.

## Communily welfare

Taxes.-Does not include taxes on owned home (see p. 640) or on other real estate (see p. 636), or sales tax (see p. 649), or indirect taxes, or automobile licenses and taxes.

## Gifts and contributions

This section includes ooly gifta to persons not members of the economic family. Gifts to organizations or institutions are not included, but are listed under "Community welfare."

Chrisimas, birthday, eic., gifts include money, gifts, and purchase price of items given to nonmembers of the economic family.

Support of relatives includes money sent to relatives whether living in the United States or in foreign countries. It also includes contributions to the funeral expense of a relative not a member of the economic family.

## Miscellaneous expenditures

Losses includes only family or nonbusiness losses. Examples of such losses are payment of notes of personal friends endorsed by members of the economic family; bail forfeited which had been posted for a friend; premiums paid during the schedule year on insurance or annuities forieited through failure to keep policies up to date; accidental loss of cash; payments on items bought on the installment plan and loat for nonpsyment on instailments, without recompense for amounts paid. Business losses are deducted from family income, see page -

Other includes dues and contributions to political organizations, expenses for marriage licenses, christenings, bail, fines not connected with traffic violations, etc.

## Tablis 17.-Clothing expenditures, by economic level

All figures in table 17 with the exception of those in section I are based upon data for persons dependent on family funds for 52 weeks, Expenditures for persons dependent on family funde for less than 52 weeks are not shown in the sections for different sex and age groups but are included in the total shown in section I. These expenditures have been excluded from the detailed sections for the reason that clothing expenditures for a person dependent on family funds for only part of the year would be unrepresentative, since the family might buy all or none of the year's clothing supply for that person during the period he was dependent on family funds.

In addition to the data shown in the clothing table, the following totals and averages, if desired, may readily be computed from the data in the table:

1. Average number of articlea purehased per person purchasing. ${ }^{1}$
2. Average expenditure per person purchssing. ${ }^{1}$
3. Average number of articles purchased per family hanving members in the designated group.
4. Average expenditure per article per family having members in the degignated group.
5. Average price paid per article purchased.
6. Average number of articles purchased per family (all families).
7. Ayerage expenditure per family (all families).
(1) To secure the sverage number of articles purchased per person purchasing ' in a given sex and age group at a given economic level, multiply the average number of articles purchased per person (all persons) by the total number of persons in the specified group. This result is the total number of articles purchased. This figure divided by the number of persons purchasing ${ }^{1}$ yields the average number of articles purchased per person purchasing. ${ }^{1}$ For example, using figures on number of felt hats purchased for white men 18 years of age and over in families with unit expenditure under $\$ 400$ :
a. Total number of familiea ..... 1, 027b. Number of families having men 18 years of age andover973
c. Number of men 18 years of age and over- ..... 1, 273
d. Average number of men per family having men. ..... 1. 31
c. Number of persons purchasing ..... 537
f. Average number of articles per person (all persons).- ..... 0. 44
g. Average expenditure per person (all persons) ..... $\$ 1.10$
h. Total number of hate purchased ( $\mathrm{f} \times \mathrm{c}$ ) ..... 560
i. Average number of bata purchased par person pur- chasing ${ }^{1}(h+s)$ ..... 1.04
Hats (felt):

[^0](2) Similarly to obtain the average expenditure per person purchasing ${ }^{1}$ in a specified ser and age group at a given economic level multiply the average expenditure per person (all persons) by the total number of persons in the specified group. This result is the total expenditure for hats for this group, which when divided by the number of persons purchasing ${ }^{1}$ yields the average expenditure per person purchasing.' For example, using the figures given above:
j. Total expenditure for hats by the group ( $g \times c$ )
$\$ 1,400.30$

1. Average expenditure for hats per person purchasing I ( $5+6$ )
2. 61
(3) To obtain the average number of articles purchased per family having members in a designated sex and age group at a given economic level, divide the total number of articles purchased in that group (computed in accordance with the instructions in paragraph (1) above) by the number of families in the group. For example, again using the figures given above:
h. Total number of hats purchased $(f \times c)$.....-.................. 560
(Note this total has already been computed above.)
L. Average number of hats per family in the group $(h \div b) \ldots$
(4) To obtain the average expenditure per article per family having members in a designated sex and age group at a given economic level, divide the total expenditure per article (computed in sccordance with the instructions in paragraph (2) above) by the number of families in the group. For example, using the same figures given above:

> j. Total expenditure for hats by the group $(6 \times c)$ _-.....- $\$ 1,400.30$
> (Note this total has already been computed above.)
> m. Average expenditure for hats, per family in the group $(j+b)$
(5) To obtain the average price paid per article purchased divide the total expenditure for a given article for a giver sex and age group at a given economic level (as computed in accordance with the instructions in paragraph (2) above) by the total number of articles purchased (as computed in accordance with the inatructions in paragraph (1) above). For example, using figures shown above:

$$
\begin{aligned}
& \text { j. Total expenditure for hats by the group }(g \times c) \\
& \quad \text { (Note this total has already been computed.) } \\
& \text { h. Total number of hats purchased }(f \times c) \\
& \quad \text { (Note this total has already been computed.) } \\
& \text { n. Average price paid per article purchased }{ }^{2}(j \div h) \\
& \text { n. }
\end{aligned}
$$

(6) To obtain average number of articles purchased per family (all families) at a given economic level, divide the total number of articles purchased by all families at that economic level. For example, using the same figures:
h. Total number of hats purohased
560
a. Average number of hata per family ( $h+a$ )
0.55
(7) To obtain average expenditure per family (all families) at a given economio level, divide the total expenditure for the given article by all families at that economic level. For example, using the same figures:

[^1]j. Total expenditure for hate by the group ( $g \times c$ ) $-\ldots-\ldots$ - $\$ 1,400.30$
p. Average expenditure for hats per family $(j+a) \ldots \ldots$

Section I.-For method of computation of number of clothing expenditure units per family see appendix G, page 690. This computation is based on all members of the economic family, whether or not they were dependent on the family fund for 52 weeks.

Ready-made clothing, dry cleaning, and accessories includes all items listed in sections III through XI for persons dependent on family funds for 52 weeks plus such expenditures for persons dependent on family funds for less than 52 weeks.

Yard goods and findings.- Findings include thread, needles, scissors, buttons, etc.
Clothing received as gifts includes neckties, stockings, ete., received as Christmas and birthdsy gifts from persons outside the economic family. It also includes second-hand clothes given to the family.

Expense for uniforms, etc., for work are included in clothing expenditures (not as vocational expense in table 16 nor as losses or business expense in tables 2,5, 19, and 22).

Section II.-The figures in section II are based on date only for persons dependent on the family funds for 52 weeks.

Sections III through XI.-In these sections the figures are based on data only for persons dependent on the family funds for 52 weeks. Total for each sex and age group does not include expenditures for yard goods and findings and paid help for sewing. These are presented only in section I for all sex-age groups combined.

Boys: Play suits.-Are heavy suits for children's outdoor wear.
Men nd Boys: Shoes, work.-Are shoee for heavy work, not, for example, shoes worn to work by a white-collar employee.

Men and Boys: Shoes, othor.-Includes bedroom slippers.
Men and Boys: Accessories.-Includes belts, suspenders, collar buttods, shoestrings, etc.

Men and Boys: Other.-Includes jeweiry and watches, and rental charges for uniforms and aprons. In cases where rental and laundering charges for uniforms and aprons sould not be separsted, the entire amount is entered here.

Women and Girls: Dresses, cotton, houss.-Are defined as cotton dresses bought for housework.

Women and Girls: Accessories.-Includes hairpins, hairnets, belts, sanitary belts. dress ornaments, ete.

Women and Girls: Other.-Includes jewelry and watches, and rental charges for uniforma and aprons. In cases where rental and laundering charges for uniforms and aprons could not be separated the entire amount is entered here.

## Table 18.-Furnishings and equipment sxpenditures, by sconomic level

For the method of entry of expenditures for items bought on the installment plan and with trade-in allowances see page 638.

For computation of averages other than those presented in this table, for example, "average number of articles purchased per family purchasing" or "average expenditure per family purchasing," oalculations similar to those outlined for table 17 can be made (see pp. 644 and 645).

Textile furnishings: Other,-Includes paid help for making curtains, furniture covers, ete., yard goods used in making home furnishinge.

Miscellaneous equipment: Other.-Includes paint and lumber for repair of household equipment, play pens ior children, and typewriters.

Note that radios are not classed as "Furnishings and Equipment" but an "Recreation," table 15.

Tables 19 and 20.-Description of families studied at three economic levels and

- expenditures for groups of ilems af three economic levels (See tables 2, 3, 5, 6, 22, and 23 for same dats by other classifications)

These tables are presented with families classified into three economic levels in onder to facilitate comparison with the data from other cities which will be classified for these three levels and published in other bulletins. The greater size of the sample in larger cities permitted a finer breal-down in tables 2 and 3 than was justified by the data for the smaller samples. In tables 19 and 20 the same data as in tables 2 and 3 are grouped into identical clasaifications regardless of size of sample, as follows: Families spending under $\$ 400$ per expenditure unit per year, those spending $\$ 400$ to $\$ 600$, and those spending $\$ 600$ and over.

Table 21.-Distribution of families of types comparable with those studied in 1917-18, by economic level and income level

Table 22.-Description of families of types comparable with those atudied in 1817-18, by income level

Table 23.-Expenditures of families of types comparable with those studied in 1917-18 for groups of items, by economic level
(See tables 1, 2, 3, 5, 6, 19, and 20 for same data for all families in present study)
Since the rules for inclusion of families in the 1917-18 study differed from those in the 1934-36 study, data for the family typea in the latter study most nearly meeting the eligibility requirements of the former atudy are presented in these tsbles to facilitate comparison. Deta for families of the following types are included: Man, wife, and one child; man, wife, snd two to four children; man, wife, and five or more children; man, wife, and children and adults (four to six persons) ; and man, wife, children, snd adults (seven or more persons).

## Table 24-A.-Coefficiente of variation of money disbursements

and
Table 24-B, C and D.-Coefficients of pariation of money disbursements at suocessive income levels

The coefficient of variation is computed by dividing the etandard deviation by the average expenditure and multiplying by 100 . The atandard deviation represents the square root of the mean of the squares of the differences between each item and the arithmetie sverage of the items.

The purpose of the coefficient of variation is to express as a percentage the dispersion about the average, independently of the size of that average. The varistion of expenditures for items of different magnitude can thus be compared directly. For example, in dollara, expenditures for food are typically much greater than those for personal care. Nevertheless their variation may be compared through a figure which expresses dispersion about the mean in relative terms, the coefficient of varistion.

When families are distributed by the amount of their expenditures for various groups of items, it is found that the curves for food and housing most nearly resemble the normal curve, although more families are to be found above the mode than below It. Among the other major categories of expenditure, those for furnishinga and equipment, transportation, and medical care have a distribution far from that of the normal curve. Many families made no expenditures or spent very small sums for thess items; a few families spent relatively large sums. Only
a small number of the families spent sums near the average expenditure; in other words such distributions are very much skewed. Therefore, the ccefficients of variation are of value in showing the extent of the dispersion but they should not be used to estimate the range within which a given proportion of the values from a new sample would fall.

## Tably 25.-Expenditures for groups of items estimated from regression squation

The figures in this table were computed by fitting a regression line to the actual expenditure data, using the equation $Y=a+b X^{i}+c X$, where $X$ is annual net income. The average actual expenditure of each three hundred dollar-income group was given equal weight in fitting the curve.

Experiments were carried out with straight lines and other forms of eurves and with various systems of weighting. For personal care, medical care, household operation other than fuel, light, and refrigeration, gifts, and miscellaneous items there appeared to be a true linear relationahip. For food, clothing, housing including fuel, light, and refrigeration, transportation, recreation, and furnishings and equipment, the equation $Y=a+b X+c X^{3}$ gaye a better fit than did the equation $Y=a+b X$. However, for several cases, particularly that of housing, the curve yielded by the equation $Y=a+b X+c X^{3}$ turned downward at the higher income levels, so that at very high income levels there appeared to be actuslly a negative expenditure for housing. The equation $Y=c+b X^{\frac{1}{2}}+c \bar{X}$ gave an equally good fit for those expenditure items which appeared to have a definitely linear relationship to income and also had the added merit that it did not turn downward at higher income levels for those items for which a curvilinear relationship was indicated.

Use of the average actual expenditure for each income group yielded practically the same results as would have been obtained by using each individual observation, and resulted in a material economy of time. Weighting by number of cases, total expenditure, or the ratio of total expenditure to the number of cases, etc., materially increased the amount of worl and time required for fitting, but did not yield significantly better results.

## Local conditions affecting the data.

Cost of living.-Bureau of Labor Statistics indexes of changes in costs of goods purchased by wage earners and clerical workers are available for 9 of the 12 cities covered in this region. Taking average costs in 1923-25 as 100, the indexes applying to the period covered in these cities are as follows:


These index numbers represent weighted averages applying to the entire period covered by the schedules. They indicate that in the period covered, prices in Birmingham stood at the lowest level, relative to those that had prevailed before the depression, and highest in

Baltimore. It must be remembered that the base used for the index in each city is not identical, but varies with the income and consumption habits of the workers of the city. These indexes, therefore, can only be used to measure relative changes in costs within a given city, and not to measure costs between cities.

Employment.-In general, employment in the area was increasing over the period covered by the investigation in the South. Data on variations in employment in particular cities are not available, but the low points in the Bureau of Labor Statistics indexes of employment and pay rolls in manufacturing for the United States as a whole were reached in July 1932 and March 1933, respectively. The former date is approximately 2 to 3 years before the dates to which the bulk of the data for the Southern cities apply.

Sales tax.-No general sales tax was in effect in 10 of the 12 Southern cities during the period to which the data in the respective cities apply. The exceptions were Jackson and Louisville. In Jackson there was a tax of 2 percent on retail sales. In Louisville a tax of 3 percent on retail sales became effective on July 1, 1934. From that date until July 1, 1935, the tax was computed as a straight 3 percent of the amount of the retail sale. On and after July 1, 1935, to January 15, 1936, when the tax was repealed, a bracket system was used for computing the tax, as follows:


The amount of tax is included in the expenditure for the indicated article. An exception occurs in Tabular Summary, table 7, where sales tax is computed on all the articles of food purchased during the week combined and entered as a separate item. The tax is not showni n Tabular Summary, table 7, for Louisville since the data on detailed food expenditures apply to the period when the tax was not in effect.

Relief.-Since families having received relief at any time during the year were excluded from the investigation; it is important to have some estimate of the proportion of families which were made ineligible for the study on this account.

Table A shows the number of families of two or more persons on relief during the month of the survey when the relief load reached a maximum. These figures and the average size of such relief families were furnished by the Division of Social Research of the Works Progress Administration. The last column of the table shows the percentage which such families formed of the total number of two-or-more-person families reported in the 1930 Census of Population.

Table A.-Families of $\&$ or more persons on relief in the month during the period of the survey when relief was al a maximum White familieg other than mexican

| Reperting mem | Months of maximum reBef loed duxing period of survey | Number of families of 2 or more persons on reHef in that month | Average alze of famitien on relle | Fercentana which rellef farniliea were of totai num. ber of famille of 2 or more persoms in 1030 |
| :---: | :---: | :---: | :---: | :---: |
| Battimore. | March 183\%. | 14.700 | 4.2 | 9.8 |
| Birmingham | March 1935................ | 13, 100 | 48 | 2.4 |
| Daltas ${ }^{\text {a }}$ | March 1935 | 6,300 | 3.4 | 8.7 |
| Houston: | Fobreary 1835...........- | 6,010 | 3.9 | 0.3 |
| Jackson: | September 1934........ | 1,800 | 3.9 | 23.4 |
| Jacksonvilito | November 1934.........- | 4.200 | 40 | 17.7 |
| Louisvilis | March 1985............... | 3,100 | 42 | 5.0 |
| Memphis | March 1934 ----------- | 3.980 | 4.8 | 4.4 |
| Moble:-.. | Septamber 1934-.------- | 咸,000 | 40 | 38.0 |
| New Orleans | November 1934.....---- | 7,800 | 4.1 | 10.9 |
| Richmond. | November 1934. | 1,800 | 16 4.2 | 8.1 |
| NEGRO FAMILIES |  |  |  |  |
| Baltimore | M8rch 1935._............- | 10, 500 | 42 |  |
| Birmingham ${ }^{\text {1 }}$ | April 1834... | 18.300 | 40 | 47.2 |
| Jecisson:- | September 1034.......-. | 2.600 | 41 | 22.2 |
| Louisvill | March 1935-............. | 2. 100 | 4.1 | 10.0 |
| Memphis | Marca 1934 - | 5.800 | 4 | 19.6 |
| Mobito ? | Septomber 1934.......... | 4600 | 4.1 | 50.7 |
| New Orleans | November 1934.......... | 14.480 | 38 | 4.0 |
| Norfolk. | April 1935. | 3,400 | 3.4 | 38.8 |
| Richmond | Novambar 1934.-.......- | 2,200 | 4.1 | 19.2 |
| MEXICAN YAMILIES |  |  |  |  |
| Houston ${ }^{\text {- }}$ | March 1935. | 1,500 | 8.3 | 39.9 |

[^2]
## Appendix $B$

## Scope of the Investigation

Geographic area covered in the Southern region.
The investigation was confined to the city limits in the following 10 Southern cities:

Baltimore, Md. Dallas, Tex.
Houston, Tex. Jackson, Miss. Jacksonville, Fla.

Louisville, Ky.
Memphis, Tenn.
Mobile, Ala
New Orleans, La.
Richmond, Va.

In Birmingham and Norfolk it was found that such a large proportion of the industrial population lived in the aras inmediately outside of the city limits that the sample would not be representative without the inclusion of families living in certain suburbs. The suburbs included in the Birmingham area were Fairfield, Tarrant City, Irondale, and Bessemer. Those included in the Norfolk area were Portsmouth, South Norfolk, Craddock, Berkely, Ocean View, and Money Point.

## Scope of the $\boldsymbol{N a t i o n - w i d e ~ s t u d y . ~}$

In addition to the 12 Southern cities, 30 other cities with population over 50,000 were covered in the investigation of the money disbursements of wage earners and lower-salaried clerical workers. Data from both native and foreign-born white families were secured in all cities and from Negro families in the cities indicated in the following list. The results of investigations in the other large cities are summarized in 6 bulletins, as follows:
North Allantic Region, New York City (B. L. S. Bull. 637, vol. D: White and Negro families.
North Allantic Region, Eleven Cities (B. L. S. Bull. 637, vol. In):
Boston, Mass. Pitteburgh, Pa. (white and Negro

Buffalo, N. Y.
Johnstown, Pa.
Lancaster, Pa -
Manchester, N. H.
Philadelphia, Pa. (white and Negro families).
families).
Portland, Maine.
Rochester, N. Y.
Seranton, Pa.
Springfield, Mass.

East North Central Region (B. L. S. Bull. 636):
Cinainnati, Ohio (white and Negro families).
Cleveland, Ohio.
Columbus, Ohio.
Detroit, Micb.

West North Central and Mountain Region (B. L. S. Bull. 641):

Denver, Colo.
Kansas City, Mo. and Kansas City, Kans. (white and Negro families).
Minneapolis and St. Paul, Minn.
Pacific Region (B. L. S. Bull. 639):
Los Angeles, Calif. (white other than Mexican, and Mexican families).
Sacramento, Calif.

St. Louis, Mo. (white and Negro families).
Salt Lake City, Utah.

Sen Diego, Calif. San Francisco, Calif. Seattle, Wash.

42 Cities in the United States (B. L. S. Bull. 638).
With the cooperation of various State authorities correlated studies of the money disbursements of wage earners and clerical workers have been made in the following cities under 50,000 population: (1) In New Hampshire-Berlin, Claremont, Concord, Conway, Dover, Keene, Laconia, Littleton, Nashua, Portsmouth; (2) in MichiganMarquette; (3) in California-Modesto; (4) in Nevada-Reno.

Summaries of the data secured in these smaller cities have been published in the Monthly Labor Review for March 1936; June 1936; and September 1937.

Early in 1936 the Bureau of Labor Statistics undertook a study of consumer purchases which covers all income groups in 32 different cities. Funds were alloted to the project by the Works Progress Administration. At the same time a coordinated study was undertaken by the Bureau of Home Economics in 66 farm counties, in 140 villages, and in 19 amall cities. Both of these investigations were made in cooperation with the National Resources Committee and the Central Statistical Board.

The cities covered in the coordinated studies of consumer purchases are as follows:

## BURRAU OF LABOR GTATISTICB



Denver, Colo. New York, N. Y. Dubuque, Iowa Everett, Wash. Gastonia, N. C. Haverhill, Mass. Logansport, Ind. Mattoon, 11. Mobile, Ala. Muncie, Ind. New Britain, Conn. New Castle, Pa .

Omaha, Nebr.-Council Bluffis, Iowa
Peru, Ind.
Portland, Oreg.
Providence, R. I.
Pueblo, Colo.
Springfield, 11.
Springfield, Mo.
Wallingford, Conn.
Willimantic, Conn.

## BUREAU OF HOME ECONOMICS

Astoria, Oreg.
Beaver Dam, Wis.
Boone, Iowa.
Columbis, Mo. Dodge City, Kans. Eugene, Oreg.
Greeley, Colo.

Greenfield, Mass. Moberly, Mo.
Griffin, Ga. Klamath Falls, Oreg. Olympia, Wash.
Lincoln, II .
Logan, Utrh
Mount Vernon, Ohio

New Philadelphia, Ohio
Provo, Utah
Sumber, S. C.
Westbrook, Maine

## Appendix $\mathbf{C}$

## Period Covered by the Study

Table B shows the time period to which the schedules collected in the Southern region apply.

The periods to which the largest proportion of the data secured in each city apply are as follows:


Table B.-Period to which data in schedules for cities in the Southern region apply

| Clty, color of semple, ate 1 period to which data on schedule apply | Namber of sehedulas covering the schodule year of- |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 薄 |  |  |  |  |  |  |  |  |  |
| EALTIMORE (THETE FAMILIES |  |  |  |  |  |  |  |  |  |  |
| Schodule year. | 418 |  |  |  |  |  |  |  |  |  |
| Schedule quarter: <br> May 1, 1935 to M8y 31,1085 | 410 |  |  |  |  |  |  | 419 |  |  |
| June 1, 1935, to Aug. 31, 1035 | 410 |  |  |  |  |  |  | 419 |  |  |
| Sept. 1, 1935, to Nov. 30,1935 | 419 |  |  |  |  |  |  | 419 |  |  |
| Dec. 1, 1935, to Feb, 29, 1036 | 419 |  |  |  |  |  |  | 419 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 8chedule year- | 107 |  |  |  |  |  |  |  |  |  |
| 8chedule quarter: ${ }^{\text {a }}$ |  |  |  |  |  |  |  |  |  |  |
| Mar. 1, 1835, to May 31, 1935..---- | 107 |  |  |  |  |  |  | 107 |  |  |
| June 1, 103s to Aug. 31, $1835 . \ldots \ldots$ | 107 |  |  |  |  |  |  | 107 |  |  |
| Dec. 1, 1885, to Feb. 29, 1038. | 107 |  |  |  |  |  |  | 107 |  |  |
| RIRMMAHAM (whity fimilisa) |  |  |  |  |  |  |  |  |  |  |
| Schedule ysar. | 302 |  |  |  |  |  |  |  |  |  |
| Schedule quartar: <br> Dee 1 1933, to Feb. 28, 1964 | 202 |  | 202 |  |  |  |  |  |  |  |
| Mar. 1, 1933, to May 31, 1834........ | 202 |  | 202 |  |  |  |  |  |  |  |
| June 1, 1833, to Aug. 31, 1934. | 202 |  | 202 |  |  |  |  |  |  |  |
| Sept. 1,103 , to Nov. 30,1831 | 202 |  | 202 |  |  |  |  |  |  |  |

Table B.-Period to tohich data in schedules for cities in the Southern region apply-Continued

| City, color of semplo, and period to Fhich data on schedule appiy | Number of schedule covering the schednie year of- |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { 莶 } \\ & \text { E } \end{aligned}$ |  |  |  |  |  |  |  |  |  |
| bmatemak teroro rammies |  |  |  |  |  |  |  |  |  |  |
| Echedule yeer |  |  |  |  |  |  |  |  |  |  |
| Dec. 1, 1933, to Feb. $\mathrm{Sg}_{2}$ 1984........ 101 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| dellas cmerty ramolisy |  |  |  |  |  |  |  |  |  |  |
| Gobedole quarter: |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Sept. 11935 , to Nov. $30,1835$. | 24 |  |  |  |  |  |  | 294 |  |  |
| Dee. 1, 1935, to Feb. 28, 1086. $\qquad$ 294 294 HOVSTOM (witiry Finmiss) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Sept. 1, 1935, to Nov.30, 1935....-. 258 , |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| HOVSTOR, (METICAT FAMLIES) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Schotule year 100 Schedule guarter: $\qquad$ |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Eept. 1, 1835, to Nor 30, 1835....... 100 [..... |  |  |  |  |  |  |  |  |  |  |
| Dec. 1, 1935, to Feb. 29, 1936......... | 100 |  |  |  |  |  |  | 34 | 33 |  |
|  |  |  |  |  |  |  |  |  |  |  |
| June 1, 1036, to Aug. 81, 1838......... | 33 |  |  |  |  |  |  |  |  |  |
| 1actsom (\%utim famins) |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Mar. 1, 1934, to May $\mathbf{5 1}, 1034$ |  |  |  |  |  |  |  |  |  |  |
| June 1, 193, to Aug. 31, 1934, | 150 |  |  | 42 | 108 |  |  |  |  |  |
| Sept. 1, 1834, to Nor. 30,1284 ...... | 150 |  |  | 42 | 108 |  |  |  |  |  |
|  | 108 |  |  |  | 108 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Schedult yesr........................----- 100 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | 48 45 | ${ }_{53}$ |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Mar. i, 1835, to May 81. 1588........ 65 [-.... |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Schedule pear........-..................- 178 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Sopt. 1, 1934, to Nop. 30. 1881 | ${ }^{178}$ |  |  |  |  | 178 |  |  |  |  |
| Mar. i, 1035, to Mas 31, 1835 | 178 |  |  |  |  | 178 |  |  |  |  |
| June 1, 1935, to Aus. 31, 1985 | 178 |  |  |  |  |  |  |  |  |  |

Table B.-Period to which data in achedulet for cities in the Southern region apply-Continued


Table B.-Period to which data in schedules for citien in the Southern region apply-Continued

| Clity coior of sample, and period to which data on schedulo apply | Number of schedules eovering the schedule year of- |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ' |  |  |  |  |  |  |  |  |  |
| MFW ORLEATE ONEGRO Ya |  |  |  |  |  |  |  |  |  |  |
| Eahedria year |  |  |  |  |  |  |  |  |  |  |
|  | 8 |  |  |  |  |  |  |  |  |  |
| Mar. 1, 1034, to May 31, 1034. | 8 | 7 | 76 |  |  |  |  |  |  |  |
| June 1, 183, to Aug, 31, $1034, \ldots .$. | ${ }_{8}^{88}$ | 7 | 78 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Bchedule quartert ${ }_{\text {Mar, }}^{1,1935, ~ t o ~ M a y ~ 31, ~} 1935$ |  |  |  |  |  |  |  |  |  |  |
| Jame 1, 1933, to Aus, 81, 1935... | 162 |  |  |  |  |  |  | 162 |  |  |
| Sept. 1, 1035, to Nov. $30,1835$. | 182 |  |  |  |  |  |  | 182 |  |  |
| Dec. 1, 1935, to Feb. 29, 1033. NORFOLE CNEOBO FAMTKES | 168 |  |  |  |  |  |  | 182 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Bchedule quarter: |  |  |  |  |  |  |  |  |  |  |
| Mar. 1, 1936, to May 81, 1085....... | 109 |  |  |  |  |  |  | 109 |  |  |
| Sept. 1,1835 , to Nov. $30,1935 . \cdots \cdots$ | 109 |  |  |  |  |  |  | 109 |  |  |
| Dee. 1, 1835, to Feb. 20, 1836..--...- | 109 |  |  |  |  |  |  | 109 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Schedule quartert |  |  |  |  |  |  |  |  |  |  |
| Sept. 1, 1033, to Nov. 30,1883 | 68 |  |  |  |  |  |  |  |  |  |
| Dee 1, 1038, to Feb. $28,1934 . . . .$. | 182 | 50 | 133 |  |  |  |  |  |  |  |
| June 1, 1934, to Aug. 81, 1934. | 192 | 50 | 133 |  |  |  |  |  |  |  |
| Sept 1, 1834, to Mov. 80,1834 | 133 |  | 183 |  |  |  |  |  |  |  |
| gamiond (NEORO FAMmixs) |  |  |  |  |  |  |  |  |  |  |
| Schedule year $\qquad$ 0 |  |  |  |  |  |  |  |  |  |  |
| Sohedule quarter:Sopt. 1, 1933, to Nov. $80,1883 \ldots \ldots . . . . .$. 21 |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| Mec. 1, 1, 1934, to May $11,1934 \ldots$ | ${ }_{6}$ | 21 | 78 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |

## Appendix D

## Selection of Families to be Interviewed

The method of choosing the sample.
The method to be used in choosing the sample to be included in a study of the families of employed wage earners and clerical workers presents a serious problem in the absence of a recent census giving for every family, at each address, the occupation of all the earners in the family, and the relief status of the family in the last year. Since no census data were available for use in this investigation, it was decided to use employers' current lists of employees as the basis for sampling in all the cities where the study was carried on. The methods used differed from city to city only insofar as the available data on the names and addresses of employers, and the number of their employees differed from city to city.

In order to provide for an adequate representation of establishments of all types the number of employees in an organization was taken into account in drawing the sample. Wherever possible a complete list of the employers within the city area with the number of their employees was secured, including industrial establishments, banks, insurance companies, wholesale and retail distributors, hotels and restaurants, transportation companies, public utilities, Federal, State, county, and city Governments. The names of the employers with the numbers of their employees were arranged by industry, and the numbers of employees were added in such a way as to secure cumulative totals.

In cities where it was possible to obtain complete lists of employers, the grand total of employees was divided by the number of families planned for the survey in the given city, to obtain a sampling ratio. This ratio was applied to the cumulative totals of employees on the employer list (beginning with a number chosen at random) to secure a new list of employer names, selected at random, and the number of sample employee names to be drawn from the personnel lists of each selected employer. In cities where complete lists of employers ware not available, separate sampling ratios were derived for each industrial or trade group, following the same procedure for each group as outlined above for the city as a whole. This procedure was adopted to prevent underrepresentation of a given industry or trade group due to the fact that its list of employers was incomplete, and permitted a reasonable distribution of the sample among the various lines of business on the basis of 1930 census data adjusted to take account of known changes in business conditions since 1930.

Since the employer lists did not give the information necessary to determine whether employees were members of families, whether their families had been on relief during the past year, and what was the amount of the family income, at least five names listed directly after the name of the "sample employee" were drawn, to provide for substitutes in case the first employee whose name was drawn had no family or his family was not eligible for the sample. (See p. 660 for rules for determining eligibility.) If the name of the "sample" employee to be chosen from a given employer's list was drawn too near to the and of the list to secure the five or more substitute names in the usual way, the quota of substitutes was completed by taking the names at the beginning of the list of employees in the same establishment.

The necessity for having a file of substitute names made it seem advisable to limit the sampling to employers of five or more workers in the smaller cities and 10 or more in the larger cities, since the time and funds available for drawing the sample were limited, and visiting employers for the purpose of drawing sample names was a very time-consuming process.

The method of drawing the sample employees may be illustrated by the procedure followed in Richmond. In that city, a composite list of all employers hiring 5 or more employees, together with the number of their employees, was compiled from varied sources. Partial lists were obtained from each of the chamber of commerce, the industrial commission, the N. R. A. code authorities, and the Bureau of Labor Statistics. Visits were made directly to State and city offices to obtain the numbers of public employees. In counting the numbers of public employees, those earning over $\$ 2,000$ per year were excluded from the total. Direct visits were also made to the public utility companies and to headquartars of certain chain stores to ascertain the numbers of their employees. Trade association officials furnished lists of the principal employers and approximate numbers of their employees in several lines of service and retail trades. Names of employers were arranged alphabetically and any duplications eliminated. The number of employees in each of these establishments was then cumulated, the grand total being 46,202 . Dividing this total by 300, the number of schedules desired for Richmond, the sampling ration 1: 154 was obtained. The first employer's name was chosen by adding down the cumulative total of employees to 71 (a number chosen at random from among the numbers I to 154). Thereafter, the other firms from whose personnel lists the sample employees were to be drawn were selected because they were the employers of workers number 225, 379,533, and so on through the cumulative list of employers. The field agents then visited those firms and from their personnel lists drew the sample employees whose names occurred at
the position on the list of the individual firm corresponding to those numbers. Thus if it chanced that employees 687 and 841 were employed by the same firm $X$ and a total of 649 employees had been employed by firms ahead of this firm $X$ on the employer list, employee 687 would be the 36th employee on the pay roll or personnel list of firm $X$ and employee 841 would be the one hundred and ninetieth employee of firm $X$.

In all the cities except Baltimore, Dallas, Houston, Louisville, and Norfolk, a single sampling ratio was used. In these cities, the composite list obtained did not provide 100 percent representation for each of the industrial groups. To offset differences in the completeness of the employer lists in given types of employment, separate sampling ratios were used for different industry and trade groups. It is believed that this procedure provided a sample as nearly as possible like that which would have been secured if complete employed lists had been available and a single sampling ratio had been used.
Rules for determining eligibility of families.
After the sample names had been drawn in the manner outlined above, field agents were sent to visit the families of all the employees whose names were the first drawn for each number ascertained by application of the sampling ratios. A schedule was obtained from that family if it was willing and able to furnish the information and met the requirements specified below. If the family failed to meet any of the following specifications, or was for some reason unwilling to give the information, the family of the employee whose name hed occurred immediately next on the list of the same employer was visited. If the family of the second employee proved ineligible, the third was visited, and so on.

1. Contact through chief earner.-When families are selected by names of individuals from lists of employees, multiple earner familios would be overrepresented unless some measure were taken to prevent it. A family with three earners on the lists of employees would have approximately three chances ${ }^{\text {a }}$ to be drawn in the sample as against one chance for the family with one earner. Since families with several earners are more likely to have higher incomes and less likely to have young children than are families with only one earner, such overexposure would have impaired the representativeness of the sample.

In order to prevent such over-representation in the cities studied in the South, two methods were employed, either of which reduced to equality the chance of each family to be included in the final sample. In Baltimore, Dallas, Houston, Jackson, Jacksonville, Louisville, and Norfolk, schedules were secured only from families in which the name of the employee drawn from the lists of employees

[^3]was the name of the chief earner in the family, i. e., member earning the largest amount of money during the year. If a visit to the family disclosed that a name of a member other than that of the chief earner had been drawn, the family was not scheduled. Since a family can have only one chief earner, this procedure effectively equalized the chances of inclusion in the sample for all families. By this method the number of families with more than one earner in the sample was kept to a number proportionate to the number of multiple-earner families in the entire wage earner and lower-salaried clerical group. In Birmingham, Memphis, Mobile, New Orleans, and Richmond, the alternative procedure was used: a family was scheduled regardless of whether the name drawn from the employee list was that of the chief earner and an adjustment was made in the course of tabulation of the data to correct for this possible over-representation. ${ }^{4}$
2. Occupation of chief earner.-In each family, included in the survey, the chief earner is either a wage earner or a lower-salaried clerical worker. The classification of occupations according to economic groups presented by A. M. Edwards ${ }^{5}$ in an article based on census data was used in determining whether a person of given occupation should be considered a wage earner or a clerical worker. An exception was made in that the chief earner might not be a foreman, overseer, or domestic servant in private families, although these occupations are treated as wage earners in the Edwards classification. As the study progressed, the need for a more detailed classification of jobs became urgent. When the Works Progress Administration issued a manual, giving more detailed specifications adapted from definitions of the census of 1930, the new classifications ${ }^{5}$ were employed to assist in the problem of determining whether a specific type of work should properly be treated as part of the occupational group being covered by this investigation. The investigation included families of chief earners in the groups classified as office workers, salesmen, and kindred workers; skilled and semiskilled workers in building and construction; skilled and semiskilled workers in manufacturing and other industries; and unskilled laborers and domestic and personal service workers (except in private families). In a few instances where the chief earner was found to have pursued two occupations during the year prior to the visit of the field investigator, one an occupation classified as wage earner or clerical, and the other as a profession or as the proprietor of owned business, it was ruled that the family was to be included in the study unless the earnings from the profession

[^4]exceeded the earnings from the wage-earner or clerical occupation, or unless the income from the owned business was more than one-half the earnings from the wage-earner or clerical occupation, or the expenses of the business could not be separated from the family expenses.
3. Earnings of chief earner.-No family in which the chief earner had not earned at least $\$ 300$ during the schedule year was included. The family of a chief earner classified as a clerical worker, who earned $\$ 2,000$ or over during the schedule year, or $\$ 200$ or over during any one month, was excluded. No upper limit was placed on the earnings of wage earners, nor on total earnings of all members of the family combined, i. e., on family income as such.
4. Occupation and income of subsidiary earners.-No restriction was placed upon the occupation of subsidiary earners with one exception noted below. A family in which there was a subsidiary earner who was, for example, a professional worker or domestic servant in a private home was included provided the annual earnings of this worker were less than those of the chief earner. Families were excluded if a subsidiary earner was in business for himself and his business income and expenditure were so intermingled with the family's that it was impossible to separate them (as for example, a family where the wife carried on a small hair-dressing business in or adjacent to the family's living quarters and used for the business, gas and electricity recorded on the same meters as those recording the gas and electricity used for the operation of the household). Families in which a subsidiary oarnor whs in business for himself were included if the business income and expenditure could be separated from that of the family and the net income from the owned business was less than half of the chief earner's earnings.

If a subsidiary earner was a clerical worker and earned over $\$ 2,000$ during the schedule year or over $\$ 200$ during any one month, the family was ineligible for inclusion in the sample.
5. Employmeni minimum.-In order to avoid the distortion of spending which results from prolonged unemployment and unanticipated curtailment of employment the Study was limited to employed wage earners and lower-salaried clerical workers. Figures as to the number of days of employment characteristic of wage earners and clerical workers not being available, it was necessary toset limits below which a worker could not be regarded as having been employed for the schedule year. Only those families were included in which one wage earner or lower-salaried clerical worker within the economic family had worked a minimum of 1,008 hours spread over a minimum of 36 weeks during the year. (This minimum was chosen to represent an average employment of $31 /$ days of 8 hours in each of 36 weeks.) Families in which the chief earner was employed in distinctly seasonal industries
as clothing manufacturing and building were scheduled if the chief earner had employment for as much as 28 hours in each of 30 weeks. These minima, however, are not to be regarded as criteria representing adequate employment.
6. Definition of family.-The Study was limited to private economic families of two or more persons sharing their incomes and living together, sharing the same table, eating not less than two meals a day prepared at home for at least 11 months. In addition families whose situation during the year just previous to the visit of the Bureau's investigator was difficult or impossible to analyze on a statistical basis were excluded from the survey. Specific reasons for such exclusion were as follows:
(a) The homemaker worked away from home both day and night for more than 78 days in the year.
(b) Families boarding for more than 1 month.
(c) Presence of more than the equivalent of two boarders and/or lodgers, i. e., more than 104 boarder and/or lodger weeks (not including related persons giving complete records of their incomes and expenditures).
(d) Families having guests for more than the equivalent of 26 guest weeks.?
(e) Families having another family or two unrelated dependent persons over 21 years of age living with it and completely dependent on it (unless the dependents were parents of the homemaker, husband, or chief earner).
7. Families not on relief.-No families whe received direct relief or work relief during the schedule year were included.
8. Family income.-(a) No family was included which had an annual family income less than $\$ 500$ during the schedule year.
(b) No upper limit was placed upon family income as such but no families were included who received more than one-fourth of their incomes from interest, dividends, royalties, speculative gains or rents (not including net receipts from boarders and lodgers).
(c) No family which received income from an owned business equal to more than half of the chief earner's earnings was scheduled.
(d) No family which received gifts or income in kind of a value equal to a fourth of its total money income was scheduled.
(e) No family which received rent in payment for services was scheduled.
(f) No family which received 3 months or more free rent was scheduled.
9. Residence.-Families must have resided in the area of the investigation for 9 months or more.

[^5]
## Appendix E

## Nativity of Homemakers in Families Studied

## White families.

In all cities except Baltimore, 95 percent or more of the homemakers in the white families in the 12 Southern cities who furnished information were native-born. These percentages compare closely with, and in general are slightly higher than, those for all married white women in the respective cities according to the 1930 census. The corresponding figures are shown in table $\mathbf{C}$.

Tabli C.-Homemakers born in the United States

| City | Perventage born to the United states |  | Clisy | Percentage born in the United Statea |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | White homomakers in samples studied in 1934-36 | Marien Fbite women (1930 renbuls) |  | White homemakery samples studied in $1934-36$ | $\begin{aligned} & \text { Married } \\ & \text { White women } \\ & \text { (1030 :REsux) } \end{aligned}$ |
| Battimore | 89.0 | 86.2 | Lousrille. |  | 92 |
| Birminehsm. | 986 | 96.9 | Memphis.. | 99.5 | 97.4 |
| Dallas........ | 88.2 | 97.1 | Mobile .-...- | \%8. 6 | 9.3 |
| Houston.... | 97.1 | 95.4 | New Oricans. | 07, 8 | 95.2 |
| Jackson..... | 100.0 | 99.3 | Norfors .....- | 95.6 | $\mathrm{SO}_{5}$ |
| Jacksonville. | 8.3 | 05.1 | Richmond. | 98.0 | 87.0 |

Among the small numbers of foreign-born homemakers in the Southern samples, women from Italy, Germany, and Russia predominate. This corresponds with the census data.
In part, the smaller proportion of the foreign-born among the families covered by the present survey is due to the fact that the various causes restricting immigration in the period since 1914 have resulted in progressively reducing the proportion of foreign-born in our entire population year by year. In addition, other studies have shown that the incomes of the foreign-born are on the average lower than those of the native-born, and that a larger proportion of the foreign-born have been on relief during the depression. Both of these situations are due to the relative difficulties of economic adjustment of immigrants, as compared with native-born families. These factors may have operated in placing a larger proportion of foreign-born than of native-born families below the lower limits of the group covered by the present study. (See appendix $\mathbf{D}$ for the limits set by the investigation.) In the Southern cities, inability of foreign-bora homemakers to speak English was a negligible factor in reducing the number of schedules
successfully completed by families of the foreign-born. In no city was this problem of sufficient magnitude to require the addition of foreign-speaking field agents to the staff.
Negro families.
As would have been expected on the basis of census data, in all of the 9 southern cities in which a Negro sample was taken, 100 percent of the homemakers furnishing information were born in the United States.

## Mexican families.

Approximately one-third of the homemakers of Mexican descent who furnished information were born in the United States, and twothirds in Mexico. Only one reported birth outside these two countries. (See Tabular Summary, table 2.) Mexican field agents were employed in Houston.

## Appendix F

## Field Procedure

Interview method of securing data.
The original data for this report came from families who estimated and calculated their various expenditures, with the help of special forms interpreted by trained field workers. The investigators were provided with a schedule which called for the entry of data on income and outgo in considerable detail, partly because the details themselves are of value and partly because it is easier for informants to remember the individual items of their family transactions than it is to provide the investigator with summary figures. This method was used rather than asking the families to keep records of disbursements at the time disbursements were made, because the procedure followed makes possible the inclusion of many families who would have been unwilling or unable to keep regular household accounts. (For facsimile of schedule used, see fig. B.)

No schedule was accepted for summarization in the present study unless the figures on total money receipts and total money disbursements agreed at least within 5 percent of the larger figure. It is not to be hoped that all the figures in each schedule were accurate to that extent, but there is no reason to suppose any persistent bias in the estimates has appeared in the course of the aurvey.

Figure B.-Schedule facsimile
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## Schedule No.

$\qquad$

## Check interviewing.

At the beginning of the ficld work one out of every five schedules submitted by each agent was checked by one of the supervisors in an interview with the family having originally provided the schedule data. The Washington office provided the field office with specific instructions concerning the methods of handling the check-interviews. The schedules to be checked were chosen at random. The name of the agent making the first call was not known to the check-interviewer, thus eliminating any possible personal bias. In returning to the family for a check-interview, the investigator provided the informant, usually the homemaker, with a brief summary of the family expenditures and the balance of receipts and disbursements, checked it with her, and checked also the details of some section of the schedule, selected at random.

Later in the course of the field work, if the check interviews disclosed that certain agents were having difficulty in obtaining accurate information, a larger proportion of the schedules collected by these particular agents was checked. When the check showed that the work of certain agents was very accurate, only 1 out of 10 schedules was verified by a return interview. As the work progressed in the cities where relief workers were used in the field work, some of the relief workers whose schedules had proven wholly reliable were advanced to the position of check-interviewers.

## Food check lists for 1 week.

Previous experience in collecting statistics on the details of annual food expenditures has shown the difficulty of securing reliable estimates of the year's purchases. The schedule for this investigation was, therefore, prepared with two sections dealing with food expenditures. The first was in effect a check list providing in detail for the entry of the quantities of foods purchased and used, and expenditures for foods in the week immediately preceding the interview. The second section was prepared to contain a summary of food expenditures during the year. The section for entry of foods during 1 week (which listed over 194 foods) served two purposes. It secured from each family detailed estimates of food purchases with as high a degree of accuracy as is possible unless supervised records of purchases are obtained, and it served to remind the homemaker of her customary expenditures, thus making it easier to estimate the family's total outlay for food in the four quarters of the year covered by the schedule.

## Weekly records of food consumption.

In order to obtain as much information as possible on seasonal differences in food purchases and food consumption, each family interviewed was asked in addition to keep a record of food purchases
and food consumption for 1 week in at least two, and preferably four, different quarters. The following numbers of weekly food records were obtained in the respective cities:

Number af food recorde obtained
Baltimore ..... 191
Birmingham ..... 309
Dallas ..... 65
Houston ..... 328
Jackson ..... 0
Jacksonville ..... 209
Louisville ..... 265
Memphis ..... 228
Mobile ..... 252
New Orleans ..... 186
Norfolk ..... 63
Richmond ..... 291

These food records are being used by this Bureau for a report on seasonal variations in food expenditures which will appear at a later date. They were turned over to the Bureau of Home Economics, United States Department of Agriculture, where they have been analyzed for dietary adequacy. Preliminary results of that analysis are included in "Nutritive value of diets of families of wage earners and clerical workers in North Atlantic cities, 1934-35" which appeared in the Monthly Labor Review for July 1936. A more complete report is that by Hazel K. Stiebeling and Esther F. Phipard entitled "Diets of families of employed wage earners and clerical workers in cities," United States Department of Agriculture Circular No. 507, January 1939.

## Appendix G

## Analytical Procedure

## Income classification.

Data on family composition, earnings and income, and group expenditures are summarized by income levels at $\$ 300$ intervals to provide a basis for comparison of the results from this investigation with earlier studies. The same data are also presented by income level for families of types comparable with those studied in the 1917-18 investigation.

## Classification by economic level.

The analysis of data on family expenditure is complicated by the fact that, although, in general, the family spends as a unit, families are not comparable units, because of variation in size and age composition. A family of two adults with an income of $\$ 1,200$ is obviously on an economic plane considerably higher than a family of six adults with the same income. Statistical analyses of the expenditures of a sample of families chosen at random is further complicated by the fact that in most cities the size of the family among wage earners and clerical workers increase as income increases, as larger family incomes are more apt to come from increases in the number of earners, than from the higher wages of the husband.

To meet these difficulties as well as to take into account the fact that consumer demand varies with age, sex, and occupation, the families were sorted according to economic level as measured by amount spent per total-expenditure unit. To ascertain the economic level of each family the first difficulty arose in the necessity of taking into account the variations in consumer demand within each family due to differences in family composition.

## Expenditure unit-food relatives.

The problem was met in the present investigation by computing separately for food, clothing, and for other items, the customary expenditure of persons of different age, sex, and occupation. The scale used in computing the relative expenditure for individuals for food was based on data secured from the Bureau of Home Economics, showing quantities of food estimated as actually consumed by persons of different age, sex, and physical activity. These estimates were based partly on the energy requirements of persons of different age, sex, and occupation, and partly on data on actual food consumption of families of urban wage earners and clerical workers. (To have secured an adequate number of records of the actual food consumption
of individuals for this purpose would have required an expenditure far beyond the resources of either of the Bureaus concerned.)
It was necessary to convert estimated quantities of food consumed by persons of different age and sex into estimated food costs. This was done by multiplying these quantities of food by retail food prices to find the ratio which expenditures for women and boys of various age groups bore to expenditures for full-time employed men aged 20 and over. The problem arose as to whether the prices used as multipliers should be individual city prices or averages for the United States. A test was conducted on a sample of 12 cities where the study was in process in the winter of 1935. For each of these cities, the same quantities of food were multiplied by the respective retail food prices for the given city. It was found that, despite the use of varying prices from city to city, the relative expenditures for women and children bore approximately the same ratio to those for employed men in each city. It was therefore decided to use, for all 12 of these cities, a scale of consumer expenditure for food based on United States average prices in 1934. The same procedure was followed for all other cities, with adjustment for changes in food prices as the investigation advanced. The food expenditure scales were recalculated on the basis of average prices in the year ending May 31, 1935, and on average prices in the calendar year 1935 and these food relatives were used for schedules in cities where the field work was completed later. Within a given city, where field work extended over a considerabie period, each schedule was coded with the food relatives for the period most nearly corresponding to the schedule year.
Table D.-Relative food expenditures for persons of differeni age, sex, and ooeupation ${ }^{1}$

| Agesex-ecoupation group | Calculated on the basis of- |  |  |
| :---: | :---: | :---: | :---: |
|  | Average pricen calendar year 1034 | Averare prices ycar Madigg 1035 | Average Drices calendar year 1835 |
| Sale |  |  |  |
| Boys under 2 | 0.51 | 048 | 0.48 |
| Boss 4 and under 7 . | : 81 | +. 59 | . 58 |
|  | . 79 | . 77 | . 76 |
| Bogs 9 and under 11. | . 88 | . 84 | . 84 |
| Boys 11 and under 13 - | . 92 | . 81 | . 80 |
| Boys 18 and under 16. | 101 | 1.00 | 1.00 |
|  | 1.02 | 1.02 | 1.02 |
| Men, 20 and over, unemployed and part-time employed..........-- | 1.00 | .80 1.00 | .89 1.60 |
| Femate |  |  |  |
| Grits noder 2... | 81 | . 48 | . 48 |
|  | . 64 | . 58 | . 61 |
| Gtriss and under il: | . 79 | $\stackrel{77}{ }$ | . 78 |
| Giths 11 snd under 14. | . 88 | . 84 | . 84 |
| Gtrls 14 and under 20 ........ | . 02 | . 91 | .00 |
| Wramen, 20 and over, moderately metive | . 88 | - 88 | . 82 |
|  | .92 | . 92 | . 2 |

I Based on estimated setual diets of urban wage asmers and lowgr-salaried clerical workers grepared by the Bursen of Eame Eoonomion, V. \&. Department of Agriculture.

## Expenditure unit-clothing relatives.

The data secured in the present investigation were used as the basis for computing the scales of expenditure for clothing of persons of different age, sex, and occupation. The average annual clothing expenditures of white men wage earners and clerical workers, 21 through 35 years old, in all the cities covered in the present study were $\$ 56.68$. This amount is regarded as unity ( 1.00 ) in arriving at standard scales of expenditure for persons of other ages, sex, or occupation. In the following table average clothing expenditures of each class of persons are expressed as percentages of the average clothing expenditures of this group of employed men.

Table E.-Relative clothing expenditures for persons of different age, set, and
[ $1.00=(\$ 550.68)$, expenditare of mato wase cearners and cterfesl workers agod 21 and under 3e]

| Age | Male |  |  |  | Fermale |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 5, and at school | $\underset{\text { nowe }}{\text { At }}$ | Clerical | Wage earner | Upder 5. sna at schoch | ht | Clarical | Wape earner |
| Under 2 | 0.19 |  |  |  | 0.19 |  |  |  |
| 2 Bnd ander 6. | . 34 |  |  |  | . 38 |  |  |  |
| 98 and under 32. | . 48 |  |  |  | . 58 | ------- |  |  |
| 12 and under 15. | . 63 |  |  |  | .77 | - |  |  |
| 18 and under 18. | . 85 | 074 | 1.02 | 1. 02 | -i.01 | 0.9 | 1.8 | 108 |
| 15 and under 21. | 1.01 | . 30 | 1.14 | 1, 13 | 1. 28 | 1.05 | 1. 80 | 1.68 |
| 21 and under 24 |  | . 37 | 1. 14 | 1.07 |  | 1.04 | 1.88 | 1. 80 |
| 24 and under 27. |  | . 88 | 1.13 | 1.00 |  | 1.02 | 1. 64 | 1.46 |
| 27 snd under 30 |  | . 46 | 1.10 | . 26 |  | 1.00 | 1. 62 | 1.36 |
| 30 and under 36 |  | . 44 | 1.04 | . 92 | ----- | . 96 | 1. 38 | 1.23 |
| 38 and under 42 |  | . 48 | . 84 | . 81 | ------ | . 88 | 1.48 | 1.07 |
| 42 and under 48 |  | . 41 | . 87 | . 81 | ------ | . 78 | 1. 35 | . 94 |
| 48 and under 54. |  | . 39 | . 80 | . 76 | - | . 88 | 1.15 | . 34 |
| 54 and under 60. 00 sad over |  | . 37 | . 75 | . 69 | - | . 68 | 1.08 .78 | . 76 |
| 60 sud over.. |  | . 83 | . 60 | . 0 |  | .40 |  | . 6 |

Data besed on white families in 42 cettes combined.
As there were not a sufficient number of cases of Negroes or Mexicans, it was not possible to develop separate Negro or Mexican clathing relative scales. It was therefore necessary to use the same scale in computing number of clothing-expenditure units in the family for the Negro, Mexican, and other white families.

Since it was necessary to begin the coding and the tabulation of the schedules before the field work was completed, the computations of unit clothing expenditure ${ }^{1}$ were at first made on the basis of preliminary scales computed from the clothing expenditure data in the schedules available at the time for the given city or group of cities within a rogion. After the field work had been terminated and much of the tabulation completed for all 42 cities, the scales given in the foregoing table were constructed on the basis of data for all these cities, all of which had populations over 50,000 .

[^6]It was desired that the scales should represent only those differences in clothing expenditure which are due to the three factors (age, sex, and occupation) which were being measured in the computation of the scales. To compute the scales, after elimination of the influence of the other variables of family income and family size in the computations, the following steps were taken.
(1) Cards representing each person in all the families studied in cities with populations over 50,000 were sorted into cells such that all persons classified in a given cell were from families with the same income and of the same size, and the group of persons whose clothing expenditure was being studied were of the same age, sex, and occupation.
(2) The average clothing expenditure for all the persons in each cell was then computed.
(3) These averages were then combined for each age-sex-occupation group. In making this combination, each age-sex-occupation group within each family-income family-size class was given the same weight. These weights were determined by the number of persons in each family-income family-size cell for all age-sex-occupation groups combined. The resulting averages for each age-sex-occupation group are the averages that would have been obtained if the distribution of persons by family income and family size had been the same in each age-sex-occupation group. The procedure followed in combining averages by the use of constant weights is similar to the procedure of a standard population frequently used by biologists in attempting to compare rates while eliminating differences caused by differing distributions by sex, age, marital status, etc. (cf. Raymond Pearl, Medical Biometry and Statistics, Philadelphia and London, 1930, ch. IX, "Standardized and corrected death rates," pp. 265-277).
(4) For each sex-occupation group there were now a series of average clothing expenditures for each age. These results weresmoothed to eliminate minor irregularities.
(5) Absolute clothing expenditures at each age were converted to relatives by dividing the smoothed averages for each sex-occupation group for each age by the smoothed average expenditure for employed men aged 21 through 35.

The revised scales developed on this basis are still subject to the limitations of the nature of the population sampled, but they represent what seem to be the most definitive scales yet available showing effective demand for clothing among families of wage earners and clerical workers.

The revised scales were used to recode and reclassify the schedules for unit expenditure ${ }^{2}$ in order to test the magnitude of the differences in final results which would have been obtained had the revised scales been used at the outset. The new distribution of families was not substantially different from the distribution for which the preliminary clothing scales were used. Since clothing expenditures represent a fairly small proportion, ranging from one-eighth to one-tenth of family expenditures, it will be seen that even a fairly large revision in the clothing expenditure scales would yield only a slight change in total unit expenditure. The nature of the process will be clear from the sample code sheet, p. 694. Consequently, the distribution of families by economic level did not shift much with the introduction of revised relative clothing expenditure scales. Since, upon analysis, the changes were not found to be important, in all tables in the Tabular Summary and in the text, the distribution of families by economic level remains as it was established by the coding based, among other elements (see sample code sheet, p.694) on the preliminary relative clothing expenditure scales.

The revised clothing scales did, however, produce a more pronounced change in the item "everage number of clothing-expenditure units per family," and correspondingly in the figure "unit clothing expenditure." : The figure for "average number of clothing expenditure units per family," based on the revised scales is therefore used throughout in the Tabular Summary and in text tables. Correspondingly the figure "everage number of expenditure units" " per family, whenever it appears in the Tabular Summary or in a text table, is based, among other elements including food and "other" expenditure, upon unit clothing expenditure computed from the revised relative clothing expenditure scales.

The item "average number of clothing expenditure units" or "average number of expenditure units" or both, occurs in tables 2, 3, $5,6,19,20,22$, and 23 of the Tabular Summary.

The change in "average number of expenditure units" resulting from use of the revised scales was much smaller than the change in "average number of clothing expenditure units" for the reason discussed in a preceding paragraph on the small change in the distribu-

[^7]tion of cases according to unit expenditure. Nevertheless the figure on the revised basis appears in the text and the Tabular Summary since it is consistent with the revised figure for clothing expenditure units. The latter figure is published rather than the preliminary figure since it is believed, after extensive analysis and experimentation, that it represents a better approximation, based on more complete data and a more satisfactory summary technique, to a definitive answer to the question: how does the elothing demand or customary clothing need of one family of given composition compare with that of another family of different composition? Lacking any absolute scale of clothing need, any such scale of clothing expenditure can, at best, only be an approximation. Nevertheless, the figures set forth on the basis of the revised scales are presented as the result of considerable study and experimentation as the most definitive yet available (granted the assumptions that age, sex, and occupation do create real differences in the social situation of individuals, which in turn affect their need to make clothing expenditures as much or more to meet social custom as for reasons of health). A further reason for presenting the revised clothing expenditure unit figures is that the figures stand as such independently of any other figures in the tables. That is, since the preliminary figures were used simply as a means to classification of cases and nowhere in the tabulations as an end product, the presentation of revised figures for this one item in no way disturbs the usefulness of the other items not affected by the revision.

## Expenditure unit-other items.

Any attempt to compute customary expenditures on items other than food and clothing for persons of different age, sex, and occupation in the wage earner and clerical groups would have required securing data on the expenditures for individuals in greater detail than seemed practical. It was, therefore, decided to compute expenditure per adult male equivalent for "other times" on the assumption that in actual practice with a given income a family divides the use of its goods, and its expenditures for all items other than food and clothing, about equally among the members of the family.

## Total expenditure unit.

In finally computing the amount spent per total-expenditure unit for a given family, three measures of family size were calculated, one in terms of food-expenditure units' (i. e., food relatives), another in terms of clothing-expenditure units (i. e., clothing relatives), and a third giving equivalent full time members of the economic family (i. e., a relative of 1.00 for each member in the economic family for 52 weeks). In computing each of these measures for an individual, the length of time the individual was dependent on the family funds was taken into account. This was done by multiplying the appropriate
relative by the decimal equivalent of a year during which the person was dependent on family funds.
Expenditures by the given family for food were then divided by the number of food-expenditure units in the economic family, expenditures for clothing by the number of clothing-expenditure units in the economic family, and expenditures for other items by the number of equivalent full-time persons in the economic family. The number of dollars spent per total-expenditure unit was secured by adding together the three quotients and this sum was used as a measure of the economic level of the family. The following sample code sheet shows the method of coding for a specific family:

Figure C.
Sample code sheed

| Cisy: Mobile. |  | Persons | Age | Occtapation |  | Week in sconcmic tamily |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Color: Whte. |  |  |  |  |  |  |
| Schedule No. 98. <br>  |  | a. Homemaker <br> b. Hasband <br> c. San (midower) <br> d. Dughter <br> e. Daughtar- <br> f. Granddaughter. |  | ... 45 | At home Clerical.$\qquad$ .....d $\qquad$ At chool do. athome. |  | 5252525076525252 |
|  |  | --- 47 |  |  |  |  |  |
|  |  | --7 |  |  |  |  |  |
| Persons in economla pamily | Itam |  | Food | Clothing | Other | Food, eothing, and other |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| a...---, | Expenditure units. | 0.83 | 0.78 | 1.00 | xixix |  |  |
| b............ | do. |  |  | 1.00 |  |  |  |
|  | do | 1.00 | 1.13 | 1.00 |  |  |  |  |  |
|  | do | . 48 | . 64 | +50 |  |  |  |
|  | do | . 32 | . 77 | 1.00 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| An. |  | 4.78 | 4.57 | 5. 50 |  |  |  |
| Do...... | Farolly expenditure. $\qquad$ Amount spent par expenditure anlt. | 9708.00 \$160. 88 <br> xIx | $\$ 188.35$ 830.81 <br> XIXX | $\$ 1,044.15$ <br> $\$ 189.85$ y $5 \times x$ |  |  |  |
| Do. |  |  |  |  |  |  |  |  |  |
| Do. | Total expenditure units |  |  |  |  | $\infty(E+5)$ |  |

It should be noted that the computation of family size in terms of expenditure units is based on estimates of customary relative expenditures without regard to the adequacy of the goods consumed to meet physical or psychological needs. These units are not adapted for use in setting up or in revising ideal or normal budgets. That is, it is impossible to use these units in calculating the family budget needed if a child is to be added to the family without disturbing the level which the family budget was originally prepared to meet, nor may they be used to determine the subtraction possible if a budget computed for a family of given size is to be applied to a family with one less child, but without disturbing the standard which the budget was calculated to purchase. Such additions or subtractions can properly be made for the purpose indicated with these expenditure units only if the standard by which the budget was originally computed was in
terms of these same units. Thus, if a budget for a family of given size has been calculated on the basis of a given number of expenditure units, using the relatives described in this study, along with some predetermined sum taken as meeting the needs of an adult man, the budget may be increased to care for the addition of a person to the family by use of this series of units. But if the original budget for, let us say, a family of two adults and two children was calculated on some other basis, the increase of the total budget by the decimal equivalent represented by an expenditure unit from this study corresponding to a child of specified age will not assure the continuance at the same standard of living of the family when a third child is added.

The measures used in calculating size of family in expenditure units in the present study are intended to represent customary behavior in families where the addition of a child is not as a rule accompanied by any addition to income, and the family must adapt its expenditures to meet the new situation. In arriving at the scales used to measure family size, no adjustments were included for possible differences in the economy of purchasing for larger as compared with smaller families.

## Adjustment for contact with families through other member than chief earner. ${ }^{5}$

In Birmingham, Mobile, New Orleans, and Richmond, a substantial number of families included in the sample were those of persons whose names had been drawn from employee lists in the usual manner, but who proved to be subsidiary rather than chief earners. This method of scheduling required that the resulting overrepresentation of multiple-arner families be eliminated by a process of adjustment during the course of tabulation. Throughout this report all data for these 4 cities have been adjusted in accordance with the procedure set forth hereafter. In Baltimore, Dallas, Houston, Jackson, Jacksonville, Louisville, and Norfolk, since the ruling of contact only through the chief earner was followed in scheduling; the data could be tabulated without adjustment. In Memphis, schedules obtained through contact with other members than chief earner were so few that they could be discarded and the data accordingly tabulated without adjustment.

The purpose of the adjustments described in the following paragraphs was to keep the importance of families with more than one earner in the sample in Birmingham, Mobile, New Orleans, and Richmond proportionate to the number of two-earner, three-earner,

[^8]etc., families in the entire wage-earner and clerical groups in these cities. The only available information on the distribution of families by the number of gainful workers was that contained in the 1930 Census of Population. These data were not used for the derivation of adjustment factors, however, first because the employment situation had changed drastically since 1930, and secondly because the data were available only for the population as a whole, whereas there were strong reasons for believing that the importance of different earner groups varied with economic level. ${ }^{7}$ It was, therefore, necessary to construct adjustment factors from the data at hand.

The problem was to increase the importance of single-earner families and decrease the importance of multiple-earner families in the sample to the same proportions that would have been obtained had only families contacted through the chief earner been scheduled. The principle observed, was that if it had been possible to draw a truly random sample from the desired population of families of employed workers, one-earner families would have had the same chance to be included as they had in the sample as actually drawn, while twoearner families would have had one-half and three-earner families one-third the chance to be included which actually obtained when the sample was chosen from lists of workers. ${ }^{8}$

To accomplish this objective, the data were adjusted by a factor which took into account three elements: (1) The number of earners in the family, (2) the total number of families in the sample, and (3) the distribution of families according to their number of earners at successive income levels or economic levels, whichever was under consideration.

The first element is inherent in the basic problem of the adjustment of the relative proportions of one-earner and multiple-earner families. By multiplying the total number of families in the first earner ${ }^{9}$ group by a number in the neighborhood of 1 , the total number in the second earner group by approximately one-half, the total number in the third earner group by approximately one-third and so on, a number of families for all the earner groups combined could be obtained which was corrected for the overrepresentation of multiple-earner families.

[^9]The application of the factors symbolized by $1,1 / 2,1 / 2$, etc., to the number of families, however, would have reduced the number of families in the sample below the number actually scheduled and necessitated the second element of the adjustment factor. This element was a constant computed by dividing the actual number of families scheduled by the reduced number of families obtained as outlined in the preceding paragraph. This ratio ${ }^{20}$ ( $R$ on table D) was then multiplied by the factor $1,1 / 2,1 / 2$, etc. (or in practice the reciprocal of the average number of earners in each earner group (see column 4 on table F) to obtain the adjustment factor for each earner group. The final adjustment factor is shown in column 6 of table $D$.

Table F.-Derivation of adjustment factors for earner groups

| Earner groups ${ }^{\text {1 }}$ (1) | Namber of familites scheduled <br> $F$ <br> (2) | Number of ecuivalent full-time earnary <br> E <br> (3) | Aversge number of equifalont call-tims earners $a=\frac{E}{F}$ <br> (3) + (2) <br> (4) | Redweed number of familias $\begin{gathered} \frac{F}{\pi} \\ (2) \div(4) \end{gathered}$ <br> (5) | Flnal sdjustment factor* $\frac{R}{a}$ $R+(1)$ <br> (E) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1.0 or less <br> 1.1 to 2.0 <br> 2.1 to 3.0 <br> 3.1 to 4.0. | $\begin{gathered} 109 \\ 525 \\ 18 \\ 4 \end{gathered}$ |  | 0.9578 1.6780 24794 3.125 | $\begin{array}{r} 107.54 \\ 74.49 \\ 7.20 \\ 7.02 \\ 1.02 \end{array}$ | 1. $\qquad$ $\begin{aligned} & 8728 \\ & .828 \\ & .3368 \end{aligned}$ |
| city total. | 250 |  |  | 100.31 | -...----* |

tI. e., mumber of equivalent tull time earnern in family on pay rolls in nesrost quartor to date sample was drapa, by earner groups. $A$ warker anployad 13 weeks fin the quartar was ceunted 1.0 , and workers amployed for shortar periods wrere counted as appropriate decimas.

$$
F=\frac{\text { footing of column }(2)}{\text { footing of column }(5)}-\frac{250}{190.31}-1.3136
$$

Correction for the third element, namely the differing proportions of multiple-earner families found at differing income levels or differing economic levels, does not appear in table F, but is in fact operative when the adjustment factors shown in table $F$ are applied to the actual data. This can be demonstrated from the illustration of this procedure in table G. Though the adjustment factor shown in column (3) of table $G$ is numerically the same for each given earner group in each income level, and in each economic level, as the case may be, the procedure followed results in effect in averages or percents which are weighted by the constant adjustment factor (column 3) multiplied by the ratio of the varying number of unadjusted families in each earner group (column 2, line $\mathbf{f}, \mathrm{k}$, etc.) to the total number of adjusted families in the expenditure or income group (column 4, line s).

[^10]It can be seen from table $E$ that the weighted average for the first economic level is
$\frac{1}{35}\left[\frac{78.50}{19} \times(1.3715) \times 19+\frac{57.00}{10} \times(0.7828) \times 10+\frac{15.40}{2} \times(0.5298) \times 2\right]$.
It is apparent that $\frac{78.50}{19}, \frac{57.00}{10}$, and $\frac{15.40}{2}$ are averages for the successive earner groups, and $\frac{1.7715 \times 19}{35}, \frac{0.7828 \times 10}{35}$, and $\frac{0.5298 \times 2}{35}$ are
the weights. Following the same line of reasoning, the corresponding weights for the second economic level are

$$
\frac{1.3715 \times 44}{70}, \frac{0.7828 \times 9}{70}, \text { etc. }{ }^{11}
$$

From the fact that $\frac{1.3715 \times 19}{35}$ does not equal $\frac{1.3715 \times 44}{70}$ it is
apparent that the weight for the first earner group varies from level to level in accordance with the varying proportions of families with different numbers of earners, at each level. In this respect, the process of adjustment used is superior to the use of even up-to-date census data, since the adjustment takes account of the variation in the importance of families with a given number of earners from economic level to level, while census data would not have given this information by level.

A very close relationship existe between number of earners and economic level. The need of adjustment as between proportions of families having differing numbers of earners consequently implies the need of adjustment as between proportions of families at different economic levels. It will be seen from table $G$ that the process of adjustment, while it maintained the same total number of families in the entire city sample as were actually scheduled, provided the necessary adjustment as between economic levels.

[^11]
## ANALYTICAL PROGEDURE

Table G.-IMustration of application of adjustment factors to schedute data


## EHECKE? <br> 20\%2-04

Table E shows how, in practice the data from individual schedules were classified by earner groups within economic levels, the data for each earner group approximately adjusted, and the adjusted totals combined into grand totals and averages for the respective economic levels.

The unadjusted number of families in the sample is shown in column (2). The final objective was always to obtain the appropriate total or average for a given economic level (or income level) as a whole and not for each separate constituent earner group, even though to obtain this result it was necessary to use different adjustment factors for the different earner groups comprised within the economic level. Accordingly the adjusted number of families shown in column (4) is obtained by multiplying the total unadjusted number of families (column 2, lines $f, k$, etc.) for each earner group by the appropriate adjustment factor (column 3) derived in table D. The adjusted aggregate expenditure (columns 6, 8, etc.) for each earner group is obtained in a corresponding manner. The adjustment factor required for a given earner group is the same regardless of whether the expenditure item under consideration is the total of all categories of expenditure, or a given category, such as food or medical care, or a specificitem such as groceries or dental care.

In order to obtain the average for the entire economic level (lines t , tt , etc., on table E ) the adjusted aggregate (column 6, lines s , ss, etc.) was divided by the rounded adjusted number of families (column 4 , lines s, ss, etc. $)^{18}$

[^12]
[^0]:    1 Qr person for whom purohasest.

[^1]:    IOr persson for whom parchased.
    *The average prics peid tor se article purchased should not be computed by dividing the "average expendtrars per person" by the "avergge number of articles per person." Such a computation would lead to alight ingocuracten in the necond dechnal plece because of rounding both the dividend and difisor before dividon.

[^2]:    ${ }^{1}$ Dats are for Jefterson County.
    ${ }^{2}$ Dista are for Dallas County.
    Dats ars for Harris Connty.
    4 Data are for Binds County.
    Data ars for Duval County.
    -Dats are for Shelby County.
    ? Data are for Moblio County.

    - Dats are for Orieans Parish.

[^3]:    Ses eppendin G, p. 69, footnate $\%$

[^4]:    - See appandir G, pp. 608-698.
    * A Socio-Economio Grouping of the Gaingil Forierstin the Onited States. Journal of the American 8tatistical Assoolation, 188s, vol. 28, pp. 877-387,
    - Worke Progress Administration Cire. No. 2: Ocoupational olassification and code, July 1985; and Warks Progress Admintistration Ciro. No. 2A: Index of ocxupations (aiphabetical arrangemant), cocupational elrasaification and code, September 1086

[^5]:    Guests wery delined as persons not entirely dopendent on the family funds Fho received board and lodging from the family without monay paymant but from whom it was fmpessible to semure date on incore and expenditures.

[^6]:    ${ }^{1}$ By unit clothing expenditurs is mesnt the annual amount spent for clothing per clothing expenditare untt.

[^7]:     erpendture, which is used as synonymous with "economic level" and vith "emonnt spent per expendifure undt ${ }^{3}$ is the sum of the following thres itams:
    2. Untt food expendizure, or total thmily food erpenditme per food-expenditurs unit;
    2. Dalt clothing expenditare, or total tamily clothing arpenditure per clothing-appondtare unlt;
     elothing, por person to the economie femily for 52 weeks.
     average tetal family clothing expenditare for any group by the myerage momber of ciothing expanditart prita per tamily in that aroup. It is shown in taxt tables 8 and $g$.

    - This figure is derived by dividing total family erpenditure by total nalt expenditurt. The compuition
    

[^8]:    The methematical belation to the problem of weighting to ediust for averrepresentation of multiplecerner fomilies in the sample, ditscussed in thte section, was developsed by S . W. Wheox.

    Eet appendix $\mathrm{D}_{2}$ p. 438 .

[^9]:    : For arample, the census itself showed that 68.0 percent of the femilles renting their houses, bat ondy 87.0 percent of the familiss owning their homes had one gainful worker.
     from one-half and with a threeearner family would be slightly different from one-third. For aa elaboration of this potnt see appendir G, Bullotin No. 641.
    -In the actual process of tabulation, the scbedules were sorted into groups aceording to the number of equivalent full-tme earners at the quartar nearest the date whan the sample was selected. This Agure was the nearest apprarimation to the axact pumbar of persons in the family on payrolls at the date of sampling. Thus familics were classined in the first earner group if their namber of tull-time earners were 1.0 or less; as In the secand sarner group if their total number of fuli-time esiners was between 1.1 and 2.0; as to the third earner group if between 2.1 and 3.0 , etc. Thns the first element of the adjustment factor would be the reciprocal of the average number of earners in a group rather than the simplitied 14, \%/ ate. Actusily the two figures were very close. For purposes of discussion, the simplited Agures of 13, ate., are used.

[^10]:    "The introduction of the denomintars $1,2,3$, etc, takes care of correct adjustment in securing the avarages; the use of $R$ edjusts the count of tamilles to the number actually scheduled. The facter $R$, which could be eanceled out of the formula for the ayerage, is nevertheless proseryed tor the sake of symmetry, so that the welghts mould be the same in the formola for average and the formula for count. (See footnote 12.)

[^11]:    n For fame information in algebraic tarme, tee Bulletin No. ©4, Bppendir C.

[^12]:    ${ }^{15}$ For the raader Fho grefers an Agebrate statement of the sifugtmant proceduras followed, see Builiz No. 64, appendix $G$.

