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Volume Author/Editor: Harold Barger

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Chapter Author: Harold Barger

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Chapter V

QUARTERLY ESTIMATES: INCOME

THERE remains the problem of deriving quarterly estimates of income, for which basic annual data have been summarized in Tables 4 and 5. In the present chapter as large a fraction as possible of the annual data in those tables will be placed upon a quarterly basis. For this purpose it will be convenient to start at the foot of Table 4 and work upward. Having completed the interpolation of Table 4, we can then turn to the adjustments in Table 5. Accordingly, the first four sections of this chapter will be concerned with income originating in private industry (Tables 12, 13, 14, 15 and 16), the succeeding section with income distributed by Government (Table 17), and the final section with such of the adjustments to income as can be made quarterly, together with the resulting totals (Table 18).

Unlike the annual data for outlay presented in Table 3, substantially the whole of the material relating to income is drawn from a single source—Kuznets' *National Income and Its Composition*. Table 4, it will be recalled, is no more than an abstract of the data to be found there; and in Table 5 these same data are adjusted for comparability with outlay. The scope of the National Bureau estimates of national income and the methods used in deriving them are fully discussed in that work, and will not be described here except where our immediate purpose makes such treatment necessary. A somewhat more detailed breakdown of the National Bureau income data will be found in

Appendix D (Tables 38–41) toward the end of this volume. Further breakdowns are presented in *National Income and Its Composition*. In arriving at the estimates given in this chapter, however, I have drawn upon data from the entire range of unpublished worksheets upon which the National Bureau income estimates are based.

§1. *Residual Income*

Residual income, as described in Chapter I, comprises profits accruing in all parts of the economic system, except for Agriculture and for the net income of individual entrepreneurs in the Service and Miscellaneous industrial divisions. The annual figures in Table 38 of Appendix D, which have not been adjusted to exclude inventory profits and profits on the sale of assets, provide the quarterly data in Table 12. For most industrial groups the method of interpolation followed did not permit us to trace the seasonal movement. It seemed best, therefore, to present the results uniformly on a seasonally adjusted basis, and this course has been followed in Table 12.

The basic material for this part of the study was, of course, the quarterly income statements of such corporations as have at one time or another chosen to make these public. The character of the sample, and the results it yields, are presented and discussed in detail in Appendix B. The various industrial groups fall into three broad categories determined by the availability of the data: those in which quarterly figures for the net incomes of individual business corporations are plentiful and easily manipulated; those in which such data are more or less adequate, but not so easily manipulated; and those in which the data are either entirely absent, or too scattered to be usable.¹

¹ See Appendix B, §2.

I. The first category embraces only Public Utilities,² and the Steam Railroads and Communication groups. In the case of the last two industrial divisions, the coverage of the quarterly series is very high, and in the case of Public Utilities it is adequate.³ Because the samples used in these groups are of unchanging composition, no problem of year-to-year comparability arises; moreover, since individual enterprise is an altogether negligible factor in these industries, there is no problem of adjustment on that score. The only adjustment necessary relates to interest payments. In all three groups (except for Public Utilities since 1928) we have to work with quarterly net income before interest charges. Since interest payments can be assumed to fluctuate in a slow and even fashion, their removal from the data, in order to show residual income quarterly, presented no special difficulty.⁴

II. The second category distinguished above, in which data exist but require considerable spadework before they can be used, includes Mining, Manufacturing, Construction, Other Transportation,⁵ Service and Miscellaneous. In these groups there are substantial numbers of individual corporations which, over a longer or shorter period of time, have published quarterly earnings statements.⁶ The coverage of the corporate field furnished by this sample, and the relative importance of corporate as compared with noncorporate enterprise, varies considerably from group to group, and among subgroups as well. By making various assumptions described and justified during the course of the discussion to be found in Appendix B, it is possible with the help of this sample to reduce to a quar-

² Electric light and power, manufactured gas, and street railways. For further information on industrial classification see Appendix E.

³ See Appendix B, §9.

⁴ Following Kuznets, I have refrained, especially in the case of Steam Railroads, from deducting interest accrued but not paid.

⁵ Water transportation and pipe lines. See Appendix E.

⁶ The industrial distribution of this sample is shown in Table 23.

terly basis the annual totals for "net income after taxes" published by the Bureau of Internal Revenue for all corporations in the respective groups mentioned.⁷

The attention of readers interested rather in the movement of profits than in the behavior of national income as a whole is directed to the totals shown in Table 28 of Appendix B, which are confined to corporate enterprise and cover certain industrial divisions only. The data presented there will be found preferable for many purposes to the more comprehensive but less accurate totals for residual income as a whole which appear in Table 12. In particular, the total shown on the right hand side of Table 28, which has been labeled "series X," may be said to represent the most comprehensive measure of the return to corporate enterprise in the United States available at present on a quarterly basis. Since it does not have to be adjusted to cover unincorporated enterprise, or missing industrial divisions, its precision is certainly higher than that of the residual income totals in Table 12.

In the derivation of comprehensive totals for income as a whole, however, these adjustments can in no wise be avoided. For this purpose the basic data are the overlapping annual segments shown for corporate income in Table 26, rather than the continuous series to be found in Table 28 (referred to above). As explained in Appendix B, the transition from Table 26 to Table 28, both of which of course cover only the corporate field, involves first an adjustment for amplitude of fluctuation, and second an adjustment for continuity of the series over year ends. These two adjustments have to be made in the derivation of continuous quarterly series from the overlapping segments in Table 26.⁸ To arrive at estimates for residual

⁷ The pre-1936 definition of net income, which excludes dividends received, is the one employed.

⁸ For further discussion and for justification of these procedures the reader is referred to the text of Appendix B, especially §§13-17.

income in these groups (Table 12), therefore, the following steps were necessary. The overlapping segments shown in Table 26 were written up year by year to include the income of unincorporated enterprises, the procedure being carried out separately in the four Mining and seven Manufacturing minor groups, in Construction, and in the minor group comprising water transportation.⁹ The combination of these minor groups yielded series for residual income, still in the form of overlapping annual segments, for the three major groups mentioned—Mining, Manufacturing and Construction—and for water transportation. These four series, together with the data for the Service and Miscellaneous groups in Table 26 (which we do not adjust for unincorporated business), were then each carried through the process of adjustment for amplitude and continuity described in Appendix B, ultimately furnishing six continuous quarterly series for residual income.

The three series so derived for Mining, Manufacturing and Construction were inserted in Table 12 without further adjustment.¹⁰ However, Other Transportation must take account of pipe lines as well as water transportation. Scattered data for the quarterly earnings of individual pipe-line companies are too sparse to be employed satis-

⁹ Residual income equals compiled net profits after taxes (corporations) minus dividends received (corporations) plus the net income of unincorporated enterprises. This in turn reduces to statutory net income after taxes (corporations) plus tax-exempt interest received (corporations) plus net income of unincorporated enterprises. (The statutory net income mentioned is defined in accordance with Revenue Acts prior to 1936.) The transition from corporate net income after taxes (Table 26) to residual income (Table 12) therefore includes an allowance for the profits of unincorporated enterprises, and also for tax-exempt interest received by corporations. The latter item is quite unimportant, however: most of the adjustment represents the inclusion of noncorporate profits and losses.

¹⁰ The National Bureau data in Appendix D (Tables 38 to 41) include shipbuilding under Manufacturing. Throughout Appendix B, on the other hand, shipbuilding is included with Construction. The work on Appendix B was completed before the National Bureau income totals were in final form, so that this defect could not be remedied. However, in no year did net corporate profits or losses in shipbuilding exceed \$10 million, and in most years their importance was insignificant.

factorily as an interpolating medium. At one point it was thought that the series for petroleum refining might perhaps be used to interpolate the profits of pipe-line companies, but the correspondence is so slight, annual movements in the former being so much more violent than in the latter, that this plan also had to be dropped. On the other hand the comparative stability of the annual profits of pipe-line companies suggested that graduation would be an appropriate means of placing them on a quarterly basis. This was done, therefore, the graduation so obtained being combined with the data for water transportation already computed to produce column 6 of Table 12.

The series for the Service industry, which so far covers only personal service and amusements, had next to be raised to include corporate income arising in business and professional service, so yielding column 12. To provide totals for Miscellaneous, data for minor public utilities had to be added to those already derived from the corporate sample for minor transportation.¹¹ This category is a catch-all, consisting chiefly of minor public utilities and finance companies for which no quarterly figures were available. A graduation was therefore adopted and combined with the series already obtained for minor transportation to obtain column 13 of Table 12.

III. The third industrial category, for which quarterly series for the interpolation of residual income are absent, embraces pipe lines, business and professional service, and the second Miscellaneous minor group, all of which have been referred to above. Unfortunately it also includes the important Distribution and Finance groups, to which we must now turn.¹² In the case of Finance the annual fluctua-

¹¹ The respective coverage of the two divisions of the Miscellaneous group is described in detail in Appendix E.

¹² Why financial institutions, many of which must have good reason to be keenly interested in the measurement of corporate earning power, should themselves rigidly refrain from issuing quarterly income statements, is perhaps something of a mystery.

tions in residual income are moderate, and since, moreover, the group is not of great importance quantitatively, the distortion introduced by graduation is not likely to be very great. At any rate there was no alternative to this procedure.

There remains Distribution, retail and wholesale. This group presents an awkward problem indeed. It is true that there are some fragmentary data on corporate earnings in the retail branch—mainly chain and department stores and mail order houses—but there are none at all in the wholesale branch. The corporate data are scarcely adequate, however, even if we assume that wholesale earnings behave, in the short run, in the same way as retail. Quantitatively the question is an extremely important one, for Distribution as a whole contributes to residual income on the same scale as does, for example, Manufacturing. After much thought and testing out of alternative hypotheses, it finally seemed best to present three independent interpolations. These appear in Table 12. The first (in reverse order of presentation) is a straightforward moving average (straight line) graduation. The second, labeled "Other Groups," is based upon the (unwelcome) assumption that residual income behaves in Distribution very much as average experience shows it to behave elsewhere. That is to say, the variation from quarter to quarter (within the compass of the annual estimates) is based upon the variation already computed for all the remaining groups except Finance, which is itself a graduation. The third estimate, called "Sales Method," which is the one included in the total given in Table 12, was calculated on the assumption that the short run variation in expenses of operation is small compared with the corresponding variation in sales. A gross distributive margin for retail and wholesale trade taken together was computed on an annual basis as a percentage of the value to

the final consumer.¹³ This percentage was graduated and applied to our quarterly estimate of the consumption of commodities (Table 9, column 3) after seasonal adjustment; the result is an estimate of the gross distributive margin on actual sales in terms of absolute dollar volume. The difference between this series and our known annual totals for residual income in Distribution (Appendix D), yields an annual series for the aggregate expenses of operation of the group. This series is then graduated and subtracted quarter by quarter from the gross distributive margin so obtained. The result of the calculation appears in Table 12 as column 8, and has been chosen to represent the group in the total.

The outcome of such a plan is to throw onto residual income the whole variation in sales, not from year to year—for we have an annual check—but within each year. Such an arrangement has numerous weaknesses. First, it treats Distribution as though it were occupied solely in the handling of finished consumers' goods. Second, it compromises the independence of the outlay and income totals, by using material which is included on the outlay side of the calculations. Third, it assumes that residual income is derived entirely from sales and not at all from other sources, such as the revaluation of inventories. This we know is not the case; in fact, if we use Kuznets' data, we find that residual income can be broken down, as between profits and losses resulting from the revaluation of inventories on the one hand, and profits and losses from other sources, especially sales, on the other.¹⁴ In principle, there-

¹³ The data for this calculation will be found in Simon Kuznets, *Commodity Flow and Capital Formation*, Vol. I (National Bureau of Economic Research, 1938). The margin in question is the difference between Table V-6, line 9 and Table V-1, line 11, expressed as a percentage of the former.

¹⁴ Where the costs of sales are obtained by adding purchases during the period to the initial inventory, and subtracting the final inventory, the resulting profit, often called "profit from sales," includes the effects of inventory revaluation. By profit "from sales" in this context I mean, of course, the result of comparing the unit cost

fore, a better plan than the one adopted above would appear to be the segregation of the inventory profit, and the interpolation of the remainder of residual income with the use of sales data, the inventory profit (or loss) being reserved for special treatment.

Granted that appropriate price indexes were available, and that we knew on what basis inventories are valued for accounting purposes, an approximate distribution of the inventory profit between quarters should not be a difficult matter. The profits and losses due to inventory revaluation can be distributed in much the same manner, and on the same assumptions, as can the net change in inventories. Unfortunately the calculation leads to results which, in the case of distributive inventories, are far from plausible. The evidence, which is summarized in Appendix C, suggests, to my mind at any rate, that the influence of inventory revaluation upon residual income in Distribution, and probably also in Manufacturing, is considerably exaggerated by the annual data for inventory profits used for adjusting the totals in *National Income and Its Composition*. I can make no claim to offer a better way of handling the problem, but the difficulties I encountered in deriving estimates for the revaluation of inventories suggested that the segregation of this part of residual income before application of the sales method outlined above was a refinement which would not be justified by the character of the data. Until more corporate data in this field are available quarterly, or until, on the lines suggested above, we can make a better guess quarter by quarter at the various items in the income account for wholesale and retail trade regarded as a single unit, there appears to be no way of filling this gap satisfactorily.

Finally we must comment briefly, before proceeding to

of current purchases with current selling prices, and multiplying the difference by the volume of sales. The profit so computed, in contrast to the former, may be said to exclude the effects of inventory revaluation.

the interpolation of other kinds of income, upon the movements in residual income disclosed by Table 12 and shown in Chart III. It will be recalled that the figures represent accounting measures, and that they have not been adjusted to exclude profits and losses from inventory revaluation or realized through the sale of capital assets.

As one might expect, the groups which suffer the least violent fluctuations in profits are Public Utilities, Other Transportation (which includes pipe-line companies) and Communication (telegraph and telephone companies): for none of these did residual income ever become significantly negative. At the other extreme the groups which fluctuate most violently are Mining and Construction, and this again is not surprising. However, the very violence of the movements of residual income makes interpolation difficult in these groups, and they are probably subject to relatively larger errors than any of the other series except that for Distribution.

The data in Table 12 show a marked tendency to conform to general movements in business. In the trough of 1921 most of the series, and the totals, have their minima in the second quarter of that year. This is earlier than the turn either for consumption or for producers' goods, but not earlier than the turn for construction, reported in Table 11. The recessions of 1924 and 1927 are reflected in most of the series, though not always simultaneously: especially in Manufacturing and in the total series the recessions of these years appear much more clearly than in any of the outlay data shown in Table 11.

In 1929 the more important series—for Mining, Public Utilities, Manufacturing and Steam Railroads—reached their peak in the third quarter of the year; in this respect they conform to the behavior of the principal outlay series discussed in the preceding chapter. For each of them the figure for that quarter represents an all-time high. Construction, on the other hand, had already passed its peak

several years prior to 1929 as far as concerns residual income; the same was apparently true of the outlays on new private construction reported in Table 11. The Other Transportation and Communication series have peaks of doubtful significance in the first and fourth quarters of 1929 respectively. The series for Distribution has an even more doubtful peak in the first quarter, and one which had been exceeded on several earlier occasions. The peak in the Service group is reported in the last quarter of the year.

A comparison of the periods for which negative residual income (i.e., a net loss, after taxes, for the industry regarded as a whole) is reported reveals some marked contrasts. Mining ran negative from the second quarter of 1930 through the second of 1933,¹⁵ Manufacturing from the last quarter of 1930 through the second of 1933, Construction from the last of 1931 through the last of 1933, and Railroads from the last of 1931 through the first quarter of 1933. The Service group apparently began to register losses about the end of 1930, and continued in the red practically to the end of the period for which data are shown. The brief recovery in profits reported for Manufacturing in the first quarter of 1931 compared with the last quarter of 1930 is both noteworthy and plausible, for the seasonally adjusted Federal Reserve Board index of manufacturing output also stood higher in the first quarter of 1931 than it did in the preceding quarter. However, as explained in Appendix B, §7, the prevalence of year-end adjustments in the corporate income data for the early nineteen-thirties renders the comparability of our estimates of residual income somewhat uncertain for the two quarters in question.

In regard to the turning point in 1932-33 there appears

¹⁵ Insofar as aggregate depletion charges exceed the cost of ore mined, our figures understate the true level of profitability of the Mining industry (cf. Fabricant, *Capital Consumption and Adjustment*, National Bureau of Economic Research, 1938, pp. 96-97).

TABLE 12

RESIDUAL INCOME, SEASONALLY ADJUSTED, QUARTERLY 1921-38^a*Millions of current dollars*

| <i>Year and Quarter</i> | <i>Mining^b</i> | <i>Public Utilities^c</i> | <i>Manufac- turing^b</i> | <i>Construc- tion^b</i> | <i>Steam Railroads^d</i> | <i>Other Transporta- tion^e</i> | <i>Communi- cation^f</i> |
|-----------------------------|---------------------------|---|--|---------------------------------------|--|---|--|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1921 | | | | | | | |
| i | -1 | 47 | 41 | 368 | -3 | 15 | 19 |
| ii | -67 | 47 | -73 | -225 | 47 | 8 | 23 |
| iii | -97 | 54 | -58 | -132 | 83 | 5 | 24 |
| iv | -78 | 59 | -1 | 180 | 78 | 10 | 22 |
| 1922 | | | | | | | |
| i | -104 | 64 | 269 | 108 | 106 | 15 | 26 |
| ii | 14 | 69 | 607 | 54 | 104 | 21 | 29 |
| iii | 34 | 71 | 766 | 91 | 24 | 8 | 31 |
| iv | 50 | 77 | 1,062 | 122 | 99 | 26 | 31 |
| 1923 | | | | | | | |
| i | 30 | 83 | 1,094 | 105 | 128 | 27 | 37 |
| ii | 6 | 91 | 1,154 | 124 | 176 | 21 | 32 |
| iii | -21 | 89 | 874 | 167 | 117 | -1 | 28 |
| iv | -35 | 86 | 690 | 36 | 114 | 34 | 30 |
| 1924 | | | | | | | |
| i | 19 | 89 | 927 | 116 | 141 | 19 | 30 |
| ii | -19 | 88 | 622 | 193 | 99 | 24 | 30 |
| iii | -43 | 87 | 585 | 222 | 123 | 19 | 35 |
| iv | -9 | 97 | 794 | 155 | 158 | 31 | 39 |
| 1925 | | | | | | | |
| i | 42 | 106 | 908 | 164 | 141 | 24 | 41 |
| ii | 58 | 110 | 936 | 179 | 144 | 32 | 41 |
| iii | 66 | 122 | 934 | 258 | 199 | 33 | 44 |
| iv | 49 | 124 | 958 | 277 | 193 | 33 | 46 |
| 1926 | | | | | | | |
| i | 49 | 117 | 939 | 268 | 160 | 16 | 45 |
| ii | 81 | 116 | 903 | 282 | 181 | 32 | 45 |
| iii | 80 | 122 | 939 | 274 | 231 | 34 | 48 |
| iv | 69 | 132 | 877 | -134 | 194 | 32 | 50 |
| 1927 | | | | | | | |
| i | 36 | 136 | 866 | 113 | 161 | 26 | 53 |
| ii | 7 | 133 | 744 | 117 | 154 | 24 | 53 |
| iii | 4 | 136 | 774 | 204 | 171 | 30 | 52 |
| iv | -1 | 145 | 747 | 168 | 127 | 39 | 47 |

| Sales Method ^a | <i>Distribution^e</i> | | | <i>Finance^k</i> | <i>Service^l</i> | <i>Miscella- neous^m</i> | <i>Totalⁿ</i> |
|------------------------------|---------------------------------|-------------------------|------|----------------------------|----------------------------|--|--------------------------|
| | Other groups ⁱ | Graduation ^j | | | | | |
| (8) | (9) | (10) | (11) | (12) | (13) | (14) | |
| 392 | (500) | (566) | 145 | 14 | 0 | 1,037 | |
| 226 | (338) | (451) | 139 | 12 | -15 | 122 | |
| 391 | (456) | (446) | 138 | 11 | -16 | 403 | |
| 585 | (283) | (550) | 144 | 13 | -1 | 1,011 | |
| 497 | (450) | (654) | 150 | 17 | 16 | 1,164 | |
| 793 | (776) | (758) | 158 | 19 | 33 | 1,901 | |
| 937 | (831) | (826) | 163 | 21 | 43 | 2,189 | |
| 999 | (1,104) | (857) | 166 | 21 | 48 | 2,701 | |
| 863 | (1,062) | (889) | 169 | 35 | 50 | 2,621 | |
| 016 | (1,116) | (920) | 171 | 13 | 53 | 2,857 | |
| 763 | (882) | (923) | 175 | 25 | 52 | 2,268 | |
| 084 | (681) | (897) | 180 | 32 | 48 | 2,299 | |
| 025 | (968) | (870) | 185 | 52 | 46 | 2,649 | |
| 655 | (731) | (844) | 190 | 15 | 42 | 1,939 | |
| 737 | (729) | (836) | 195 | 21 | 43 | 2,024 | |
| 933 | (866) | (844) | 200 | 27 | 51 | 2,476 | |
| 872 | (857) | (853) | 205 | 27 | 52 | 2,582 | |
| 840 | (872) | (862) | 210 | 29 | 58 | 2,637 | |
| 774 | (934) | (858) | 214 | 43 | 63 | 2,750 | |
| 966 | (916) | (842) | 217 | 49 | 65 | 2,977 | |
| 735 | (825) | (826) | 221 | 24 | 62 | 2,636 | |
| 886 | (854) | (810) | 226 | 35 | 62 | 2,849 | |
| 815 | (897) | (798) | 233 | 31 | 56 | 2,863 | |
| 795 | (640) | (789) | 243 | 35 | 53 | 2,346 | |
| 702 | (766) | (786) | 253 | 27 | 50 | 2,423 | |
| 899 | (729) | (772) | 265 | 25 | 49 | 2,470 | |
| 541 | (811) | (774) | 280 | 28 | 55 | 2,375 | |
| 814 | (753) | (787) | 298 | 26 | 72 | 2,482 | |

TABLE 12 (continued)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|------|------|-----|-------|-----|-----|-----|-----|
| 1928 | | | | | | | |
| i | 0 | 150 | 796 | 134 | 152 | 36 | 56 |
| ii | 27 | 151 | 875 | 53 | 153 | 37 | 59 |
| iii | 46 | 165 | 1,050 | 136 | 195 | 41 | 57 |
| iv | 65 | 176 | 1,126 | 268 | 227 | 45 | 58 |
| 1929 | | | | | | | |
| i | 32 | 181 | 1,049 | 169 | 200 | 52 | 61 |
| ii | 74 | 184 | 1,167 | 158 | 220 | 49 | 57 |
| iii | 87 | 200 | 1,203 | 94 | 249 | 51 | 60 |
| iv | 52 | 198 | 965 | 210 | 174 | 46 | 65 |
| 1930 | | | | | | | |
| i | 1 | 199 | 646 | 71 | 116 | 44 | 50 |
| ii | -2 | 193 | 444 | 82 | 113 | 39 | 52 |
| iii | -16 | 200 | 67 | 140 | 125 | 32 | 49 |
| iv | -34 | 196 | -92 | 125 | 77 | 31 | 48 |
| 1931 | | | | | | | |
| i | -41 | 178 | -55 | 53 | 41 | 32 | 49 |
| ii | -76 | 175 | -158 | 80 | 38 | 30 | 52 |
| iii | -69 | 161 | -246 | 28 | 4 | 30 | 47 |
| iv | -80 | 144 | -384 | -28 | -26 | 23 | 42 |
| 1932 | | | | | | | |
| i | -52 | 125 | -383 | -6 | -11 | 25 | 35 |
| ii | -25 | 118 | -468 | -53 | -49 | 15 | 33 |
| iii | -71 | 106 | -510 | -11 | -86 | 19 | 31 |
| iv | -93 | 104 | -484 | -35 | -16 | 20 | 33 |
| 1933 | | | | | | | |
| i | -141 | 96 | -436 | -6 | -38 | 26 | 26 |
| ii | -109 | 93 | -109 | -2 | 28 | 33 | 35 |
| iii | 11 | 99 | 421 | -10 | 29 | 28 | 40 |
| iv | 51 | 88 | 380 | -28 | 5 | 20 | 34 |
| 1934 | | | | | | | |
| i | 27 | 97 | 364 | 33 | 51 | 28 | 36 |
| ii | -2 | 95 | 363 | 30 | 34 | 26 | 36 |
| iii | -25 | 84 | 145 | 34 | -39 | 18 | 32 |
| iv | -18 | 86 | 191 | -44 | -7 | 16 | 33 |
| 1935 | | | | | | | |
| i | 1 | 95 | 357 | 42 | 30 | 8 | 32 |
| ii | 0 | 94 | 363 | 30 | 31 | 15 | 36 |
| iii | -15 | 100 | 428 | -31 | -26 | 26 | 39 |
| iv | 1 | 104 | 619 | 123 | 59 | 40 | 43 |

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| (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|-----|-------|-------|------|------|------|--------|
| 857 | (746) | (800) | 313 | 20 | 90 | 2,604 |
| 828 | (730) | (813) | 324 | 35 | 107 | 2,649 |
| 839 | (846) | (812) | 326 | 20 | 124 | 2,999 |
| 733 | (924) | (797) | 319 | 22 | 142 | 3,181 |
| 887 | (724) | (782) | 305 | 22 | 143 | 3,101 |
| 773 | (793) | (767) | 286 | 24 | 131 | 3,123 |
| 852 | (813) | (712) | 260 | 38 | 99 | 3,193 |
| 540 | (724) | (616) | 227 | 56 | 24 | 2,557 |
| 584 | (525) | (521) | 191 | 40 | -46 | 1,896 |
| 453 | (510) | (426) | 153 | 7 | -135 | 1,399 |
| 361 | (431) | (353) | 112 | -22 | -175 | 873 |
| 132 | (359) | (302) | 70 | 8 | -223 | 338 |
| 294 | (325) | (251) | 29 | -11 | -248 | 321 |
| 168 | (279) | (200) | -11 | -20 | -276 | 2 |
| 155 | (152) | (161) | -49 | -40 | -292 | -271 |
| 92 | (-55) | (133) | -84 | -62 | -309 | -672 |
| 188 | (281) | (106) | -114 | -46 | -289 | -528 |
| -46 | (83) | (78) | -139 | -82 | -285 | -981 |
| 187 | (-39) | (105) | -154 | -111 | -272 | -872 |
| -76 | (-68) | (187) | -159 | -191 | -280 | -1,177 |
| 61 | (-97) | (269) | -158 | -104 | -270 | -944 |
| 368 | (238) | (351) | -150 | -91 | -256 | -160 |
| 547 | (814) | (398) | -136 | -44 | -233 | 752 |
| 524 | (608) | (412) | -115 | -62 | -199 | 698 |
| 460 | (588) | (426) | -91 | -48 | -161 | 796 |
| 304 | (718) | (439) | -65 | -46 | -111 | 664 |
| 616 | (264) | (458) | -40 | -52 | -77 | 696 |
| 483 | (202) | (484) | -18 | -55 | -57 | 610 |
| 549 | (500) | (509) | 4 | -65 | -26 | 1,027 |
| 535 | (456) | (534) | 25 | -62 | -7 | 1,060 |
| 503 | (393) | (562) | 46 | -30 | 5 | 1,045 |
| 555 | (696) | (593) | 67 | 6 | 29 | 1,646 |

TABLE 12 (continued)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|------|-----|-----|-----|-----|-----|-----|-----|
| 1936 | | | | | | | |
| i | 16 | 111 | 564 | 66 | 53 | 35 | 42 |
| ii | 15 | 111 | 684 | 83 | 60 | 30 | 43 |
| iii | 20 | 122 | 792 | 96 | 53 | 49 | 48 |
| iv | 38 | 132 | 898 | 76 | 126 | 16 | 57 |
| 1937 | | | | | | | |
| i | 53 | 135 | 894 | 103 | 97 | 23 | 50 |
| ii | 61 | 139 | 842 | 102 | 78 | 45 | 46 |
| iii | 46 | 137 | 743 | 92 | 24 | 63 | 44 |
| iv | 27 | 128 | 453 | 55 | 13 | 15 | 42 |
| 1938 | | | | | | | |
| i | 16 | 120 | 233 | 100 | -24 | 20 | 36 |
| ii | 14 | 116 | 195 | 90 | -15 | 16 | 33 |
| iii | 14 | 122 | 318 | 101 | -6 | 30 | 40 |
| iv | 23 | 134 | 517 | 109 | 63 | 37 | 43 |

^a The methods of interpolation adopted (see text) do not allow the quarterly estimates always to add up exactly to the annual figures from which they are derived. In consequence slight discrepancies will be observable between this table and Tables 4 and 38.

Residual income comprises dividends, corporate savings, and withdrawals and savings of unincorporated enterprises in the various industrial groups, with certain exceptions (see Chapter I, and also the notes to this table). The savings included here are on an ordinary accounting basis as they were recorded (mainly for tax purposes), and have not been adjusted to remove elements of inventory and capital revaluation, or to place depreciation on any basis other than book value. The methods of interpolation are explained in the text and indicated briefly in the following notes. The annual data on which this table is based are presented in Table 38. Details of the industrial classification used in the table will be found in Appendix E. Group A, Agriculture, is assumed to produce no residual income.

^b Dividends, entrepreneurial withdrawals, and savings. Interpolation on basis of corporate sample. See Appendix B; basic data from Table 26.

^c Dividends, entrepreneurial withdrawals, and savings. See Appendix B, Table 28.

^d Dividends and savings. See Appendix B, Table 28.

^e Dividends, entrepreneurial withdrawals, and savings. Water transportation: interpolation on basis of corporate sample. See Appendix B; basic data from Table 26. Pipe lines: graduation on basis of moving cubic. As noted in the text, it was not found possible to use what little data exist on quarterly earnings of pipe-line companies.

^f Dividends and savings. See Appendix B, Table 28.

| (8) | (9) | (10) | (11) | (12) | (13) | (14) |
|-----|---------|-------|------|------|------|-------|
| 596 | (530) | (625) | 85 | -26 | 27 | 1,569 |
| 681 | (618) | (656) | 101 | -23 | 34 | 1,821 |
| 652 | (717) | (671) | 113 | -14 | 30 | 1,961 |
| 741 | (819) | (670) | 118 | -11 | 40 | 2,231 |
| 513 | (796) | (670) | 122 | -17 | 26 | 1,999 |
| 524 | (774) | (669) | 123 | -12 | 17 | 1,965 |
| 830 | (679) | (666) | 120 | -8 | 17 | 2,108 |
| 890 | (499) | (659) | 115 | -20 | 10 | 1,728 |
| 336 | (378) | (653) | 109 | -28 | 1 | 919 |
| 421 | (371) | (647) | 103 | -42 | -2 | 934 |
| 674 | (587) | (644) | 100 | -32 | -3 | 1,358 |
| 092 | (1,021) | (643) | 100 | 2 | 10 | 2,130 |

Dividends, entrepreneurial withdrawals, and savings. Three alternatives are presented, of which the first (column 8) is included in the Total (column 14). See discussion in text.

See discussion in text.

Basis of interpolation remaining groups, with exception of Finance, Service and Miscellaneous. See discussion in text.

A moving average (straight line) graduation. See discussion in text.

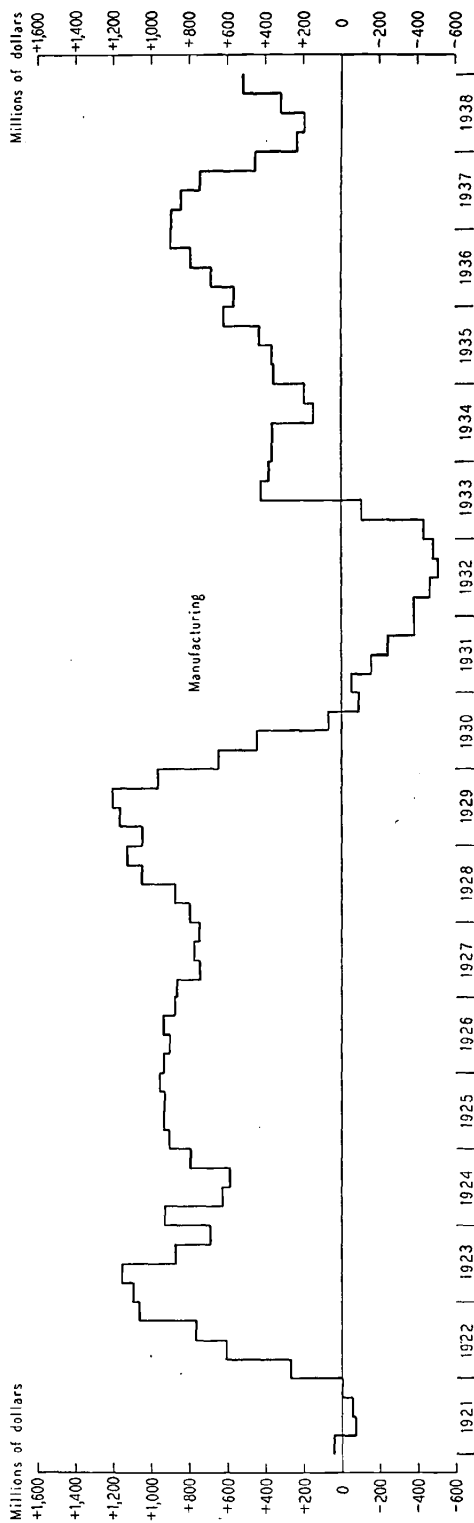
Dividends, entrepreneurial withdrawals, and savings; a moving cubic graduation.

Dividends and corporate savings. Interpolation on basis of corporate sample, K.1 (Laundries, hotels, restaurants) and K.2 (Amusements); see Appendix B; basic data from Table 26. For K.3 (Business services) there are practically no data on corporate earnings. For K.4 (Professional services) there are no data, but corporations are of course unimportant in this subgroup, since most of enterprises are unincorporated. Entrepreneurial withdrawals and individual savings accruing to this group are excluded from residual income.

Dividends and corporate savings. The following (minor group M.1) were interpolated on the basis of the corporate sample: air transport; bus lines and taxicabs; cartage, storage, packing, shipping, and miscellaneous local transport. See Appendix B; basic data from Table 26. The remainder (group M.2), which includes water companies, and minor public utilities and finance companies, was graduated by moving cubic. Entrepreneurial withdrawals and individual savings accruing to this group are excluded from residual income.

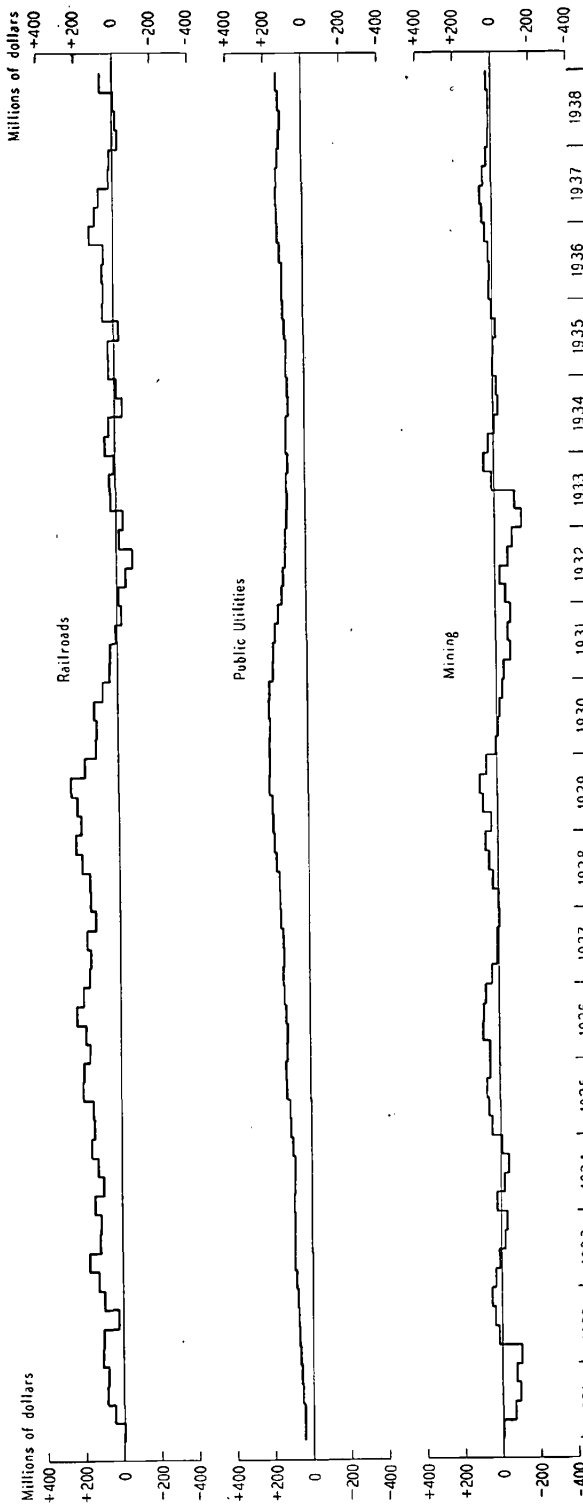
Sum of columns 1 to 8 and 11 to 13. This item forms an interpolation of line H.3, Table 4.

CHART III
 RESIDUAL INCOME, SELECTED INDUSTRIAL GROUPS
 (Seasonally Adjusted)



Based on Table 12

CHART III (continued)
RESIDUAL INCOME, SELECTED INDUSTRIAL GROUPS
(Seasonally Adjusted)



Based on Table 12

to be considerable dispersion. Thus Construction has its minimum as early as the second quarter of 1932, Manufacturing and Railroads in the third quarter, and our series for the Service industries in the fourth quarter of that year. Mining and Communication, on the other hand, do not turn until the first quarter of 1933, and the Public Utilities series has its minimum as late as the third quarter of 1934. The total turns upward from the last quarter of 1932. It will be recalled that consumers' outlay and producers' goods turned in the first quarter of 1933, but construction not until the second quarter. Here again there is a suggestion, as there was for 1921, that the upturn in profits preceded the upturn in the more important components of outlay.

In the peak generally associated with the year 1937, the turn in residual income for Manufacturing, Railroads and Communication, and for the total, came as early as the last quarter of 1936. This time the peak for profits in Construction came late—some time during the first half of 1937—whereas Mining and Public Utilities turned in the second quarter of that year, and the series for Service did not turn until the third quarter. The main outlay series, it may be recalled, continued to rise until after the middle of 1937. Here too—as in the revivals of 1921 and 1932-33—there is some evidence that profits turned, this time downward, before expenditures on consumption and on fixed investment. In 1938, however, most of the residual income series turned up in the second quarter, as did the outlay series. (Total residual income has its minimum in the first quarter of 1938, but this is due mainly to the behavior of the series for Distribution on which no safe argument can be based.) In showing substantially simultaneous movements of profits and outlay, the revival in 1938 therefore resembles the downturn in 1929, and differs from the other turning points of the period.

§2. *Short Term Income*

Short term income, it will be recalled, includes wages, salaries and such other employee compensation as is measurable, in all industrial groups, together with the net income accruing to individual entrepreneurs in Agriculture, and in the Service and Miscellaneous groups.¹⁶ The figures shown in Table 13 were not adjusted for seasonal variation; the same data are reproduced in Table 14 after this adjustment was made.

In Agriculture short term income was assumed to fluctuate in the same manner as cash income from farm marketings. Wages were estimated separately from wage rate and employment data, and the net income of farm operators was obtained as a residual. For Construction, contracts data by value, lagged two months,¹⁷ were deflated by construction costs to yield an index for the physical volume of construction. After reflation with an index of wage rates, the result was treated as a payroll index for the Construction industry. This procedure is admittedly crude, but it leads to plausible results, and a superior method is apparently lacking.

For the other groups Bureau of Labor Statistics payroll indexes were employed in all cases where they were available. Where no satisfactory payroll data could be found—especially for short term income in Finance, Service and Miscellaneous, and for salaries in all groups except Railroads—a graduation had to be adopted. Salaries and incomes from professional practice (included in the Service group) are unlikely to be subject to violent short run fluctuations, so that the distortion introduced by graduation of these items is probably not serious. The absence of payroll data in a number of industries, particularly in

¹⁶ A very small amount of corporate profits accruing in Agriculture is also included.

¹⁷ Cf. footnote d to Table 10.

TABLE 13

SHORT TERM INCOME, QUARTERLY 1921-38^a
Columns 1 to 12 before Adjustment for Seasonal Variation

Millions of current dollars

| Year and Quarter | Agriculture | | Mining ^d | Public Utilities ^e | Manufac- turing ^f | Construc- tion ^g | Steam Railroad ^h |
|------------------------|--------------------|---|---------------------|----------------------------------|---------------------------------|--------------------------------|--------------------------------|
| | Wages ^b | Net In- come, Farm Operators ^c | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1921 | | | | | | | |
| i | 268 | 1,157 | 452 | 179 | 2,654 | 238 | 836 |
| ii | 294 | 798 | 392 | 177 | 2,533 | 314 | 775 |
| iii | 321 | 961 | 375 | 175 | 2,400 | 409 | 765 |
| iv | 276 | 1,245 | 398 | 175 | 2,372 | 453 | 759 |
| 1922 | | | | | | | |
| i | 247 | 892 | 381 | 174 | 2,384 | 385 | 693 |
| ii | 280 | 774 | 301 | 176 | 2,511 | 540 | 723 |
| iii | 315 | 1,099 | 341 | 179 | 2,700 | 646 | 739 |
| iv | 280 | 1,484 | 443 | 184 | 2,923 | 507 | 847 |
| 1923 | | | | | | | |
| i | 234 | 1,111 | 493 | 188 | 3,103 | 414 | 828 |
| ii | 297 | 940 | 485 | 194 | 3,325 | 523 | 860 |
| iii | 363 | 1,266 | 475 | 199 | 3,270 | 559 | 886 |
| iv | 325 | 1,661 | 514 | 202 | 3,296 | 499 | 850 |
| 1924 | | | | | | | |
| i | 274 | 1,159 | 468 | 206 | 3,260 | 496 | 801 |
| ii | 296 | 944 | 416 | 209 | 3,125 | 639 | 795 |
| iii | 355 | 1,356 | 408 | 211 | 2,923 | 633 | 806 |
| iv | 299 | 2,033 | 427 | 212 | 3,079 | 624 | 823 |
| 1925 | | | | | | | |
| i | 224 | 1,502 | 430 | 211 | 3,202 | 572 | 794 |
| ii | 311 | 1,153 | 413 | 211 | 3,218 | 733 | 802 |
| iii | 371 | 1,574 | 377 | 212 | 3,194 | 868 | 829 |
| iv | 337 | 2,008 | 376 | 215 | 3,362 | 910 | 838 |
| 1926 | | | | | | | |
| i | 285 | 1,349 | 444 | 220 | 3,363 | 798 | 807 |
| ii | 329 | 1,249 | 458 | 223 | 3,359 | 905 | 831 |
| iii | 366 | 1,503 | 459 | 225 | 3,341 | 911 | 861 |
| iv | 342 | 1,657 | 472 | 226 | 3,419 | 921 | 865 |
| 1927 | | | | | | | |
| i | 250 | 1,311 | 441 | 224 | 3,384 | 767 | 813 |
| ii | 299 | 1,227 | 414 | 225 | 3,424 | 862 | 837 |
| iii | 379 | 1,471 | 399 | 226 | 3,362 | 908 | 850 |
| iv | 353 | 1,716 | 416 | 227 | 3,358 | 863 | 822 |

| <i>Other Transportationⁱ</i> | <i>Communi- cation^j</i> | <i>Distribu- tion^k</i> | <i>Finance, Service and Miscella- neous^l</i> | <i>Total</i> | <i>Total, Seasonally Adjusted^m</i> |
|---|--|---------------------------------------|---|--------------|---|
| (8) | (9) | (10) | (11) | (12) | (13) |
| 160 | 103 | 1,351 | 2,551 | 9,949 | 10,150 |
| 147 | 103 | 1,319 | 2,530 | 9,382 | 9,638 |
| 137 | 103 | 1,274 | 2,538 | 9,458 | 9,429 |
| 130 | 104 | 1,357 | 2,576 | 9,845 | 9,438 |
| 126 | 105 | 1,330 | 2,629 | 9,346 | 9,542 |
| 123 | 107 | 1,399 | 2,693 | 9,627 | 9,870 |
| 121 | 110 | 1,421 | 2,767 | 10,438 | 10,377 |
| 121 | 112 | 1,538 | 2,846 | 11,285 | 10,818 |
| 122 | 115 | 1,514 | 2,927 | 11,049 | 11,268 |
| 124 | 118 | 1,582 | 3,005 | 11,453 | 11,737 |
| 126 | 121 | 1,579 | 3,063 | 11,907 | 11,864 |
| 128 | 123 | 1,666 | 3,101 | 12,365 | 11,844 |
| 130 | 125 | 1,597 | 3,135 | 11,651 | 11,931 |
| 131 | 127 | 1,631 | 3,169 | 11,482 | 11,640 |
| 132 | 129 | 1,618 | 3,209 | 11,780 | 11,700 |
| 131 | 130 | 1,723 | 3,256 | 12,737 | 12,255 |
| 130 | 131 | 1,673 | 3,308 | 12,177 | 12,513 |
| 129 | 133 | 1,734 | 3,368 | 12,205 | 12,391 |
| 129 | 135 | 1,735 | 3,440 | 12,864 | 12,744 |
| 130 | 138 | 1,852 | 3,522 | 13,688 | 13,188 |
| 132 | 140 | 1,795 | 3,603 | 12,936 | 13,303 |
| 133 | 143 | 1,850 | 3,681 | 13,161 | 13,363 |
| 134 | 145 | 1,825 | 3,734 | 13,504 | 13,398 |
| 133 | 146 | 1,905 | 3,763 | 13,849 | 13,394 |
| 132 | 147 | 1,808 | 3,786 | 13,063 | 13,412 |
| 131 | 148 | 1,829 | 3,808 | 13,204 | 13,398 |
| 130 | 150 | 1,796 | 3,835 | 13,506 | 13,394 |
| 131 | 152 | 1,892 | 3,869 | 13,799 | 13,341 |

TABLE 13 (continued)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|------|-----|-------|-----|-----|-------|-------|-----|
| 1928 | | | | | | | |
| i | 241 | 1,294 | 386 | 229 | 3,377 | 736 | 777 |
| ii | 308 | 1,175 | 359 | 229 | 3,429 | 876 | 803 |
| iii | 370 | 1,322 | 358 | 229 | 3,489 | 958 | 824 |
| iv | 349 | 1,890 | 396 | 231 | 3,608 | 881 | 816 |
| 1929 | | | | | | | |
| i | 240 | 1,378 | 391 | 224 | 3,672 | 733 | 788 |
| ii | 321 | 1,205 | 363 | 235 | 3,802 | 858 | 830 |
| iii | 378 | 1,606 | 368 | 244 | 3,777 | 1,002 | 858 |
| iv | 345 | 1,798 | 409 | 242 | 3,643 | 831 | 831 |
| 1930 | | | | | | | |
| i | 243 | 1,201 | 364 | 233 | 3,441 | 660 | 758 |
| ii | 296 | 1,031 | 330 | 238 | 3,360 | 782 | 759 |
| iii | 335 | 987 | 307 | 236 | 3,054 | 867 | 725 |
| iv | 259 | 1,078 | 318 | 228 | 2,867 | 625 | 679 |
| 1931 | | | | | | | |
| i | 190 | 784 | 276 | 219 | 2,697 | 461 | 627 |
| ii | 223 | 686 | 241 | 214 | 2,627 | 533 | 629 |
| iii | 249 | 565 | 216 | 209 | 2,397 | 547 | 602 |
| iv | 186 | 704 | 227 | 200 | 2,187 | 482 | 544 |
| 1932 | | | | | | | |
| i | 127 | 553 | 190 | 189 | 2,012 | 304 | 477 |
| ii | 151 | 407 | 161 | 180 | 1,776 | 268 | 441 |
| iii | 167 | 397 | 143 | 166 | 1,620 | 296 | 409 |
| iv | 138 | 505 | 170 | 160 | 1,642 | 275 | 415 |
| 1933 | | | | | | | |
| i | 101 | 416 | 156 | 157 | 1,526 | 211 | 382 |
| ii | 126 | 584 | 140 | 151 | 1,631 | 146 | 388 |
| iii | 153 | 773 | 175 | 153 | 1,953 | 187 | 429 |
| iv | 138 | 880 | 197 | 160 | 1,990 | 214 | 421 |
| 1934 | | | | | | | |
| i | 110 | 763 | 220 | 160 | 2,105 | 277 | 421 |
| ii | 145 | 734 | 218 | 166 | 2,299 | 170 | 442 |
| iii | 162 | 1,124 | 211 | 169 | 2,169 | 189 | 452 |
| iv | 138 | 1,231 | 227 | 167 | 2,212 | 188 | 437 |
| 1935 | | | | | | | |
| i | 117 | 924 | 236 | 166 | 2,400 | 173 | 447 |
| ii | 154 | 949 | 228 | 167 | 2,422 | 189 | 475 |
| iii | 196 | 1,098 | 215 | 172 | 2,461 | 242 | 483 |
| iv | 168 | 1,459 | 256 | 174 | 2,624 | 279 | 492 |

| (8) | (9) | (10) | (11) | (12) | (13) |
|-----|-----|-------|-------|--------|--------|
| 131 | 154 | 1,821 | 3,909 | 13,055 | 13,399 |
| 132 | 157 | 1,872 | 3,954 | 13,294 | 13,481 |
| 133 | 161 | 1,867 | 4,016 | 13,727 | 13,618 |
| 133 | 166 | 1,994 | 4,089 | 14,553 | 14,066 |
| 133 | 170 | 1,933 | 4,155 | 13,817 | 14,174 |
| 133 | 177 | 1,971 | 4,204 | 14,099 | 14,289 |
| 132 | 181 | 2,011 | 4,207 | 14,764 | 14,639 |
| 130 | 183 | 2,094 | 4,160 | 14,666 | 14,192 |
| 128 | 184 | 1,975 | 4,089 | 13,276 | 13,599 |
| 125 | 181 | 1,967 | 3,996 | 13,065 | 13,229 |
| 122 | 181 | 1,849 | 3,888 | 12,551 | 12,461 |
| 118 | 174 | 1,855 | 3,767 | 11,968 | 11,645 |
| 113 | 167 | 1,748 | 3,632 | 10,914 | 11,129 |
| 108 | 164 | 1,719 | 3,486 | 10,630 | 10,755 |
| 102 | 159 | 1,601 | 3,313 | 9,960 | 9,917 |
| 95 | 156 | 1,577 | 3,121 | 9,479 | 9,245 |
| 88 | 149 | 1,409 | 2,934 | 8,432 | 8,580 |
| 83 | 138 | 1,320 | 2,763 | 7,688 | 7,762 |
| 80 | 130 | 1,192 | 2,627 | 7,227 | 7,206 |
| 79 | 125 | 1,207 | 2,532 | 7,248 | 7,082 |
| 80 | 122 | 1,075 | 2,470 | 6,696 | 6,798 |
| 82 | 116 | 1,059 | 2,441 | 6,864 | 6,966 |
| 84 | 114 | 1,127 | 2,458 | 7,606 | 7,585 |
| 85 | 117 | 1,275 | 2,516 | 7,993 | 7,767 |
| 87 | 120 | 1,258 | 2,595 | 8,116 | 8,270 |
| 89 | 123 | 1,324 | 2,686 | 8,396 | 8,522 |
| 90 | 127 | 1,314 | 2,760 | 8,767 | 8,733 |
| 95 | 128 | 1,383 | 2,816 | 9,022 | 8,738 |
| 99 | 129 | 1,337 | 2,871 | 8,899 | 9,066 |
| 103 | 128 | 1,372 | 2,930 | 9,117 | 9,274 |
| 107 | 130 | 1,358 | 2,997 | 9,459 | 9,423 |
| 111 | 131 | 1,436 | 3,072 | 10,202 | 9,867 |

TABLE 13 (continued)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|------|-----|-------|-----|-----|-------|-----|-----|
| 1936 | | | | | | | |
| i | 125 | 980 | 267 | 177 | 2,596 | 320 | 517 |
| ii | 177 | 1,127 | 251 | 178 | 2,746 | 274 | 523 |
| iii | 204 | 1,389 | 261 | 181 | 2,825 | 342 | 545 |
| iv | 187 | 1,589 | 300 | 186 | 3,085 | 349 | 561 |
| 1937 | | | | | | | |
| i | 142 | 1,259 | 304 | 186 | 3,223 | 325 | 558 |
| ii | 190 | 1,150 | 298 | 193 | 3,462 | 350 | 579 |
| iii | 238 | 1,402 | 302 | 200 | 3,392 | 440 | 601 |
| iv | 217 | 1,378 | 317 | 201 | 3,078 | 340 | 576 |
| 1938 | | | | | | | |
| i | 146 | 1,007 | 261 | 193 | 2,626 | 289 | 506 |
| ii | 181 | 961 | 235 | 192 | 2,513 | 261 | 489 |
| iii | 233 | 1,152 | 233 | 191 | 2,583 | 345 | 514 |
| iv | 204 | 1,305 | 266 | 192 | 2,804 | 417 | 531 |

^a The methods of interpolation adopted (see text) do not allow the quarterly estimates always add up exactly to the annual figures from which they are derived. In consequence slight discrepancies will be observable between this table and Tables 4 and 39.

Short term income consists of wages and salaries, and in certain groups also of the withdrawal and savings of unincorporated enterprises. See headings to the table, the notes which follow, and the discussion in Chapter I, §2. The annual data on which this table is based will be found in Table 39. The industrial classification is described in detail in Appendix E.

^b Includes board and perquisites. Basis of interpolation: quarterly wage rates, mean of "with board" and "without board," *Agricultural Statistics* (Department of Agriculture); farm employees, *Survey of Current Business*.

^c The annual totals for withdrawals and savings of farm operators, together with wages, were treated as gross income. For 1921-23 these totals were graduated by moving cubic and a seasonal was superimposed. For 1924-38 they were interpolated on the basis of cash income from farm marketings (*Agricultural Statistics*). Wages (already computed, column 1) were then subtracted, leaving the net income of farm operators.

^d Wages and salaries. Wages were interpolated as follows. For 1921-28: anthracite, interpolated by payrolls index, Federal Reserve Bank of Philadelphia, *Survey of Current Business*, June 1929, p. 18; other constituents (bituminous, metal mining, nonmetal mining, and oil and gas), graduated by moving average with seasonal superimposed. For 1929-36: payrolls in appropriate nonmanufacturing groups, BLS. Salaries were graduated throughout with the help of a moving average.

^e Wages and salaries. Electric light and power, and manufactured gas—for 1921-28, graduated with the help of the half-yearly wage index of the National Industrial Conference Board, seasonal being neglected (the seasonal in the 1929-38 payroll data is not significant); for 1929-38, interpolated with payrolls, BLS. Street railways (including buses operated by street railway companies)—1921-28, graduated by moving cubic, seasonal being negligible; for 1929-38, payrolls, BLS.

^f Wages and salaries. Wages interpolated with BLS payrolls. Salaries graduated by moving cubic.

| (8) | (9) | (10) | (11) | (12) | (13) |
|-----|-----|-------|-------|--------|--------|
| 115 | 132 | 1,395 | 3,152 | 9,776 | 9,965 |
| 119 | 135 | 1,449 | 3,234 | 10,213 | 10,402 |
| 124 | 139 | 1,454 | 3,320 | 10,784 | 10,730 |
| 129 | 143 | 1,559 | 3,406 | 11,494 | 11,124 |
| 135 | 146 | 1,536 | 3,484 | 11,298 | 11,530 |
| 138 | 152 | 1,612 | 3,548 | 11,672 | 11,866 |
| 139 | 159 | 1,629 | 3,571 | 12,073 | 12,015 |
| 135 | 161 | 1,687 | 3,554 | 11,644 | 11,298 |
| 131 | 157 | 1,549 | 3,530 | 10,395 | 10,596 |
| 127 | 156 | 1,564 | 3,507 | 10,186 | 10,349 |
| 126 | 156 | 1,525 | 3,513 | 10,571 | 10,524 |
| 129 | 158 | 1,616 | 3,548 | 11,170 | 10,840 |

^a Wages and salaries. For wages, a payroll index for Construction was tentatively worked out follows: construction contracts by value, lagged two months, were multiplied by the National Industrial Conference Board index of building wages, and divided by the *Engineering News Record* index of construction costs. The latter index is based upon the prices of steel, cement and lumber, together with the wages of common labor in the steel industry. The assumption was that construction contracts by value, divided by construction costs, would provide a measure of construction by volume, and therefore of construction employment. This calculation, it is true, can measure only employment on new construction, but indexes based on construction materials, which might hope to cover repair work as well as new construction, present other difficulties. The resulting hypothetical payrolls index was found to fit the data well, except for 1921, 1923 and 1924, but there is reason to believe that Kuznets' figures for wages and salaries in Construction in these years are on the high side. The figures for these three years were therefore written down somewhat to conform with our own index. Salaries were graduated by moving cubic.

^b Wages and salaries; also includes pensions, and compensation for injuries to employees and others. Interpolated with the help of Interstate Commerce Commission data. Employee compensation is available monthly back to 1922. For 1921 operating expenses were used.

^c Wages and salaries. Graduated by moving cubic.

^d Wages and salaries; also includes pensions. For 1921-28: graduated by moving cubic; seasonal negligible. For 1929-38: payrolls, BLS.

^e Wages and salaries. For 1921-28: graduation by moving cubic with seasonal superimposed. For 1929-38: payrolls, BLS.

^f Items included: Finance—wages and salaries. Services and Miscellaneous—wages, salaries and withdrawals and savings of unincorporated enterprises. Graduated by moving cubic.

^g Seasonal adjustment effected where necessary in individual industrial groups by mean ratio of trend to original data. See Table 14 and notes to that table. This series forms an interpolation of line 4, Table 4.

TABLE 14

SHORT TERM INCOME, SEASONALLY ADJUSTED, QUARTERLY 1921-38^a*Millions of current dollars*

| <i>Year and Quarter</i> | <i>Agriculture^b</i> | <i>Mining^c</i> | <i>Public Utilities^d</i> | <i>Manufacturing^e</i> |
|-----------------------------|--------------------------------|---------------------------|-------------------------------------|----------------------------------|
| | (1) | (2) | (3) | (4) |
| 1921 | | | | |
| i | 1,561 | 436 | 179 | 2,660 |
| ii | 1,350 | 407 | 177 | 2,516 |
| iii | 1,235 | 403 | 175 | 2,423 |
| iv | 1,221 | 375 | 175 | 2,359 |
| 1922 | | | | |
| i | 1,248 | 365 | 174 | 2,389 |
| ii | 1,303 | 315 | 176 | 2,494 |
| iii | 1,362 | 363 | 179 | 2,727 |
| iv | 1,416 | 420 | 184 | 2,907 |
| 1923 | | | | |
| i | 1,473 | 469 | 188 | 3,110 |
| ii | 1,529 | 502 | 194 | 3,302 |
| iii | 1,569 | 505 | 199 | 3,303 |
| iv | 1,594 | 486 | 202 | 3,277 |
| 1924 | | | | |
| i | 1,605 | 448 | 206 | 3,267 |
| ii | 1,412 | 426 | 209 | 3,104 |
| iii | 1,630 | 433 | 211 | 2,952 |
| iv | 1,979 | 406 | 212 | 3,062 |
| 1925 | | | | |
| i | 1,933 | 415 | 211 | 3,209 |
| ii | 1,667 | 422 | 211 | 3,196 |
| iii | 1,853 | 397 | 212 | 3,226 |
| iv | 1,990 | 361 | 215 | 3,343 |
| 1926 | | | | |
| i | 1,830 | 428 | 220 | 3,371 |
| ii | 1,797 | 469 | 223 | 3,337 |
| iii | 1,781 | 488 | 225 | 3,374 |
| iv | 1,696 | 450 | 226 | 3,400 |
| 1927 | | | | |
| i | 1,748 | 424 | 224 | 3,391 |
| ii | 1,738 | 423 | 225 | 3,402 |
| iii | 1,763 | 423 | 226 | 3,394 |
| iv | 1,756 | 397 | 227 | 3,340 |

| <i>Construction^f</i> | <i>Transportation and Communication^g</i> | <i>Distribution^h</i> | <i>Finance, Service and Miscellaneousⁱ</i> | <i>Total^j</i> |
|---------------------------------|---|---------------------------------|---|--------------------------|
| (5) | (6) | (7) | (8) | (9) |
| 269 | 1,121 | 1,373 | 2,551 | 10,150 |
| 312 | 1,029 | 1,317 | 2,530 | 9,638 |
| 368 | 991 | 1,296 | 2,538 | 9,429 |
| 432 | 984 | 1,316 | 2,576 | 9,438 |
| 444 | 942 | 1,351 | 2,629 | 9,542 |
| 535 | 957 | 1,397 | 2,693 | 9,870 |
| 577 | 957 | 1,445 | 2,767 | 10,377 |
| 483 | 1,070 | 1,492 | 2,846 | 10,818 |
| 476 | 1,087 | 1,538 | 2,927 | 11,268 |
| 519 | 1,106 | 1,580 | 3,005 | 11,737 |
| 502 | 1,117 | 1,606 | 3,063 | 11,864 |
| 477 | 1,091 | 1,616 | 3,101 | 11,844 |
| 571 | 1,077 | 1,622 | 3,135 | 11,931 |
| 634 | 1,057 | 1,629 | 3,169 | 11,640 |
| 568 | 1,052 | 1,645 | 3,209 | 11,700 |
| 595 | 1,074 | 1,671 | 3,256 | 12,255 |
| 661 | 1,076 | 1,700 | 3,308 | 12,513 |
| 727 | 1,068 | 1,732 | 3,368 | 12,391 |
| 774 | 1,078 | 1,764 | 3,440 | 12,744 |
| 865 | 1,096 | 1,796 | 3,522 | 13,188 |
| 927 | 1,100 | 1,824 | 3,603 | 13,303 |
| 897 | 1,111 | 1,848 | 3,681 | 13,363 |
| 815 | 1,125 | 1,856 | 3,734 | 13,398 |
| 877 | 1,134 | 1,848 | 3,763 | 13,394 |
| 889 | 1,113 | 1,837 | 3,786 | 13,412 |
| 855 | 1,120 | 1,827 | 3,808 | 13,398 |
| 812 | 1,115 | 1,826 | 3,835 | 13,394 |
| 822 | 1,095 | 1,835 | 3,869 | 13,341 |

TABLE 14 (continued)

| | (1) | (2) | (3) | (4) |
|------|-------|-----|-----|-------|
| 1928 | | | | |
| i | 1,719 | 375 | 229 | 3,384 |
| ii | 1,689 | 367 | 229 | 3,407 |
| iii | 1,612 | 380 | 229 | 3,522 |
| iv | 1,900 | 379 | 231 | 3,589 |
| 1929 | | | | |
| i | 1,812 | 381 | 224 | 3,680 |
| ii | 1,738 | 371 | 235 | 3,778 |
| iii | 1,891 | 388 | 244 | 3,813 |
| iv | 1,819 | 390 | 242 | 3,624 |
| 1930 | | | | |
| i | 1,617 | 355 | 233 | 3,448 |
| ii | 1,511 | 336 | 238 | 3,339 |
| iii | 1,260 | 324 | 236 | 3,081 |
| iv | 1,135 | 303 | 228 | 2,853 |
| 1931 | | | | |
| i | 1,091 | 270 | 219 | 2,702 |
| ii | 1,035 | 246 | 214 | 2,611 |
| iii | 776 | 229 | 209 | 2,418 |
| iv | 755 | 216 | 200 | 2,176 |
| 1932 | | | | |
| i | 761 | 183 | 189 | 2,016 |
| ii | 635 | 164 | 180 | 1,766 |
| iii | 537 | 151 | 166 | 1,633 |
| iv | 546 | 162 | 160 | 1,634 |
| 1933 | | | | |
| i | 579 | 151 | 157 | 1,529 |
| ii | 809 | 144 | 151 | 1,621 |
| iii | 882 | 186 | 153 | 1,971 |
| iv | 864 | 188 | 160 | 1,980 |
| 1934 | | | | |
| i | 977 | 212 | 160 | 2,109 |
| ii | 1,001 | 225 | 166 | 2,286 |
| iii | 1,225 | 222 | 169 | 2,189 |
| iv | 1,162 | 216 | 167 | 2,201 |
| 1935 | | | | |
| i | 1,166 | 227 | 166 | 2,405 |
| ii | 1,256 | 235 | 167 | 2,407 |
| iii | 1,233 | 226 | 172 | 2,485 |
| iv | 1,381 | 243 | 174 | 2,610 |

QUARTERLY ESTIMATES: INCOME

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| (5) | (6) | (7) | (8) | (9) |
|-----|-------|-------|-------|--------|
| 851 | 1,082 | 1,850 | 3,909 | 13,399 |
| 869 | 1,096 | 1,870 | 3,954 | 13,481 |
| 857 | 1,103 | 1,899 | 4,016 | 13,618 |
| 839 | 1,105 | 1,934 | 4,089 | 14,066 |
| 847 | 1,111 | 1,964 | 4,155 | 14,174 |
| 851 | 1,144 | 1,968 | 4,204 | 14,289 |
| 895 | 1,156 | 2,045 | 4,207 | 14,639 |
| 792 | 1,134 | 2,031 | 4,160 | 14,192 |
| 760 | 1,090 | 2,007 | 4,089 | 13,599 |
| 776 | 1,069 | 1,964 | 3,996 | 13,229 |
| 777 | 1,015 | 1,880 | 3,888 | 12,461 |
| 597 | 963 | 1,799 | 3,767 | 11,645 |
| 516 | 923 | 1,776 | 3,632 | 11,129 |
| 542 | 904 | 1,717 | 3,486 | 10,755 |
| 492 | 852 | 1,628 | 3,313 | 9,917 |
| 460 | 788 | 1,529 | 3,121 | 9,245 |
| 339 | 726 | 1,432 | 2,934 | 8,580 |
| 272 | 664 | 1,318 | 2,763 | 7,762 |
| 268 | 612 | 1,212 | 2,627 | 7,206 |
| 263 | 614 | 1,171 | 2,532 | 7,082 |
| 226 | 594 | 1,092 | 2,470 | 6,798 |
| 154 | 588 | 1,058 | 2,441 | 6,966 |
| 170 | 619 | 1,146 | 2,458 | 7,585 |
| 205 | 618 | 1,236 | 2,516 | 7,767 |
| 300 | 639 | 1,278 | 2,595 | 8,270 |
| 180 | 656 | 1,322 | 2,686 | 8,522 |
| 171 | 661 | 1,336 | 2,760 | 8,733 |
| 180 | 655 | 1,341 | 2,816 | 8,738 |
| 186 | 687 | 1,358 | 2,871 | 9,066 |
| 201 | 708 | 1,370 | 2,930 | 9,274 |
| 218 | 711 | 1,381 | 2,997 | 9,423 |
| 266 | 728 | 1,393 | 3,072 | 9,867 |

TABLE 14 (continued)

| | (1) | (2) | (3) | (4) |
|------|-------|-----|-----|-------|
| 1936 | | | | |
| i | 1,237 | 256 | 177 | 2,602 |
| ii | 1,485 | 258 | 178 | 2,728 |
| iii | 1,518 | 274 | 181 | 2,853 |
| iv | 1,507 | 286 | 186 | 3,068 |
| 1937 | | | | |
| i | 1,569 | 295 | 186 | 3,230 |
| ii | 1,526 | 305 | 193 | 3,439 |
| iii | 1,563 | 316 | 200 | 3,426 |
| iv | 1,354 | 303 | 201 | 3,061 |
| 1938 | | | | |
| i | 1,291 | 258 | 193 | 2,631 |
| ii | 1,301 | 239 | 192 | 2,497 |
| iii | 1,320 | 244 | 191 | 2,608 |
| iv | 1,281 | 254 | 192 | 2,789 |

^a The methods of interpolation adopted (see text) do not allow the quarterly estimates always add up exactly to the annual figures from which they are derived. In consequence slight discrepancies will be observable between this table, which is a seasonally adjusted version of Table 13, and Tables 4 and 39.

Short term income consists of wages and salaries, and in certain groups includes also the withdrawals and savings of unincorporated enterprises. See discussion in Chapter I, §2, and the notes which follow. The annual data on which this table is based will be found in Table 39. The industry classification adopted is described in detail in Appendix E.

^b Wages, and withdrawals and savings of farm operators. See columns 1 and 2 of Table 13, and notes b and c to that table. For 1921-23 the data shown here are a moving cubic graduation; for 1924-38 they are derived from the first two columns of Table 13 by means of the following adjustment for seasonal variation: 1.1197, 1.1388, .9529, .8486.

^c Wages and salaries. This item is a seasonally adjusted version of column 3, Table 13; for sources see note d to that table. From 1921-28 the data are graduated, except for wages in anthracite mining. For 1929-38 the seasonal was removed separately from the payroll data for the five divisions of Mining (anthracite, bituminous, metal mining, nonmetal mining, and oil and gas). Salaries were graduated throughout.

^d Wages and salaries. Since the seasonal variation in Public Utility payrolls is insignificant, the data shown here are the same as in column 4 of Table 13. For sources see note e to that table.

| (5) | (6) | (7) | (8) | (9) |
|-----|-----|-------|-------|--------|
| 347 | 777 | 1,417 | 3,152 | 9,965 |
| 292 | 780 | 1,447 | 3,234 | 10,402 |
| 307 | 798 | 1,479 | 3,320 | 10,730 |
| 333 | 826 | 1,512 | 3,406 | 11,124 |
| 351 | 854 | 1,561 | 3,484 | 11,530 |
| 373 | 872 | 1,610 | 3,548 | 11,866 |
| 394 | 888 | 1,657 | 3,571 | 12,015 |
| 324 | 865 | 1,636 | 3,554 | 11,298 |
| 312 | 807 | 1,574 | 3,530 | 10,596 |
| 277 | 774 | 1,562 | 3,507 | 10,349 |
| 310 | 787 | 1,551 | 3,513 | 10,524 |
| 397 | 812 | 1,567 | 3,548 | 10,840 |

^e Wages and salaries. The salaries included in column 5 of Table 13 are graduated and therefore require no adjustment. It was found that the data for wages, interpolated with payrolls (see note f to Table 13), required the following seasonal adjustment: 1.0029, .9913, 1.0130, .9928.

^f Wages and salaries. The salaries included in column 6 of Table 13 are graduated and therefore require no adjustment. The adjustment for seasonal variation which wages required varied slightly over the period. For basis of the interpolation see note g to Table 13.

^g Major groups F, G and H; does not include minor transportation (group M.1). Wages, salaries, and pensions, in the case of Steam Railroads, pensions. Columns 8 and 9 of Table 13 are free of seasonal variation. The seasonal adjustment made to column 7 of that table is as follows: 1.026, 1.005, .982, .988. For sources and methods of interpolation, see notes to Table 13.

^h Wages and salaries. For 1921-28 the data are a moving cubic graduation. For 1929-38 the required adjustment to the data shown in column 10 of Table 13 was as follows: 1.0160, .9987, 1.0169, .998. For sources see note k to that table.

ⁱ Items included: Finance, wages and salaries; Service and Miscellaneous, wages and salaries, and withdrawals and savings of unincorporated enterprises. Since the quarterly data in Table 13 are obtained by way of graduation, no seasonal adjustment is necessary, and this column merely reproduces column 11 of that table.

^j This column forms an interpolation of line H.1, Table 4.

years prior to 1929, may, on the other hand, lead to some underestimation of the short run variability of wages.¹⁸

In industries for which payroll data are available only for the years since 1929, the seasonally unadjusted figures shown in Table 13 for 1921-28 are, of course, obtained by graduation. For the sake of comparability, however, the seasonal movement observed in years after 1928 was superimposed upon the graduated material for 1921-28. By contrast, in Table 14 the data shown for these groups for 1921-28 are a simple graduation, and for 1929-38 a seasonally adjusted version of the payroll data.

With regard to cyclical movement, the behavior of short term income in Table 14 discloses fluctuations which are, as we should expect, very much milder than those exhibited by residual income in Table 12. The low point in 1921 is rather indefinite, although for Manufacturing it seems to have occurred in the fourth quarter of the year. The recession of 1924 is very mild, and that of 1927 scarcely noticeable. The total for short term income, and the various components of the total, all turn down in the third quarter of 1929. As for the low point of the depression, there is more dispersion, but both total short term income and the series for Manufacturing have minima in the first quarter of 1933 and thus lag behind the data for residual income while conforming to the movement of the main outlay series (Table 11). The turning point for short term income in 1937 is rather indefinite as between the second and third quarters of that year, but appears again to show a lag in comparison with residual income. In 1938 the upturn comes, as it does for virtually all the series in this study, in the second quarter.

¹⁸ Frederick M. Cone's estimates (*Monthly Income Payments in the United States, 1929-40*, U. S. Department of Commerce, 1940) are probably superior to my own (which rely almost entirely on BLS data) for the period covered; unfortunately this part of the study had been completed when Mr. Cone's work was published, so that no use could be made of his estimates in computing quarterly short term income.

§3. *Long Term Income*

Long term income, as defined in Chapter I, comprises interest payments made to individuals in all industrial groups, together with net rentals, paid and imputed, received by individuals in respect of residential property; the latter item is included in, and accounts for the magnitude of, the item shown in Table 15 for Finance. The inclusion of residential rentals, both paid and imputed, is a usual practice in computing national income. For some purposes the exclusion of this item, and particularly of that portion imputed to occupiers of their own homes, may be desired. The required breakdown will be found in Table 42.

While there are available scattered data which might have been used to interpolate long term interest directly, as was done wherever possible in the case of other kinds of income, the variation in this item is so smooth and regular that the superiority of such a method over the graduation of the annual data would have been slight. All of the data in Table 15 were therefore obtained directly from Table 40 with the use of a moving cubic graduation. The main purpose of the breakdown in Table 15 is to furnish material for the similar breakdown accorded to the totals in Table 16 for income originating in private industry.

§4. *Income Originating in Private Industry*

The estimates for the three kinds of income are brought together on an industry basis in Table 16, and summarized in the first half of Chart IV which is based on the first four columns of Table 18. The estimates for income originating shown in the former table, which are intended to cover the

TABLE 15

LONG TERM INCOME, SEASONALLY ADJUSTED, QUARTERLY 1921-38^a*Millions of current dollars*

| <i>Year and Quarter</i> | <i>Agriculture</i> | <i>Mining</i> | <i>Public Utilities</i> | <i>Manufacturing</i> |
|-----------------------------|--------------------|---------------|-------------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| 1921 | | | | |
| i | 118 | 9 | 55 | 33 |
| ii | 121 | 9 | 57 | 34 |
| iii | 124 | 9 | 58 | 34 |
| iv | 125 | 9 | 60 | 32 |
| 1922 | | | | |
| i | 126 | 8 | 61 | 30 |
| ii | 127 | 8 | 63 | 27 |
| iii | 128 | 8 | 65 | 26 |
| iv | 128 | 8 | 68 | 27 |
| 1923 | | | | |
| i | 128 | 9 | 70 | 28 |
| ii | 128 | 9 | 72 | 29 |
| iii | 127 | 10 | 74 | 31 |
| iv | 126 | 11 | 77 | 33 |
| 1924 | | | | |
| i | 124 | 12 | 79 | 35 |
| ii | 123 | 12 | 81 | 38 |
| iii | 121 | 13 | 82 | 39 |
| iv | 119 | 13 | 83 | 39 |
| 1925 | | | | |
| i | 117 | 13 | 84 | 39 |
| ii | 116 | 14 | 85 | 39 |
| iii | 114 | 14 | 86 | 38 |
| iv | 113 | 13 | 88 | 38 |
| 1926 | | | | |
| i | 113 | 12 | 89 | 38 |
| ii | 112 | 12 | 91 | 38 |
| iii | 112 | 12 | 93 | 38 |
| iv | 112 | 11 | 94 | 39 |
| 1927 | | | | |
| i | 111 | 11 | 95 | 40 |
| ii | 111 | 11 | 96 | 40 |
| iii | 111 | 11 | 98 | 42 |
| iv | 111 | 11 | 99 | 43 |

| <i>Instruction</i> | <i>Transportation and Communication</i> | <i>Distribution</i> | <i>Finance, Service and Miscellaneous^b</i> | <i>Total^a</i> |
|--------------------|---|---------------------|---|--------------------------|
| (5) | (6) | (7) | (8) | (9) |
| 2 | 129 | 10 | 1,378 | 1,734 |
| 2 | 130 | 10 | 1,395 | 1,758 |
| 2 | 131 | 10 | 1,416 | 1,784 |
| 2 | 131 | 10 | 1,443 | 1,812 |
| 1 | 132 | 10 | 1,473 | 1,841 |
| 1 | 132 | 10 | 1,504 | 1,872 |
| 1 | 132 | 9 | 1,532 | 1,901 |
| 1 | 133 | 8 | 1,558 | 1,931 |
| 1 | 134 | 7 | 1,585 | 1,962 |
| 1 | 135 | 6 | 1,614 | 1,994 |
| 2 | 137 | 6 | 1,649 | 2,036 |
| 2 | 138 | 6 | 1,688 | 2,081 |
| 2 | 138 | 7 | 1,727 | 2,124 |
| 2 | 141 | 7 | 1,762 | 2,166 |
| 2 | 143 | 8 | 1,783 | 2,191 |
| 2 | 144 | 8 | 1,790 | 2,198 |
| 2 | 145 | 8 | 1,790 | 2,198 |
| 2 | 146 | 8 | 1,786 | 2,196 |
| 3 | 146 | 8 | 1,776 | 2,185 |
| 3 | 146 | 7 | 1,762 | 2,170 |
| 3 | 145 | 7 | 1,748 | 2,155 |
| 3 | 145 | 6 | 1,738 | 2,145 |
| 3 | 144 | 6 | 1,736 | 2,144 |
| 3 | 144 | 7 | 1,743 | 2,153 |
| 3 | 144 | 7 | 1,754 | 2,165 |
| 3 | 145 | 7 | 1,769 | 2,182 |
| 3 | 144 | 8 | 1,781 | 2,198 |
| 3 | 144 | 9 | 1,790 | 2,210 |

TABLE 15 (continued)

| | (1) | (2) | (3) | (4) |
|------|-----|-----|-----|-----|
| 1928 | | | | |
| i | 111 | 11 | 101 | 44 |
| ii | 111 | 10 | 102 | 46 |
| iii | 110 | 10 | 103 | 47 |
| iv | 110 | 11 | 104 | 48 |
| 1929 | | | | |
| i | 110 | 11 | 105 | 50 |
| ii | 109 | 11 | 105 | 52 |
| iii | 109 | 11 | 106 | 53 |
| iv | 108 | 11 | 106 | 55 |
| 1930 | | | | |
| i | 108 | 11 | 107 | 56 |
| ii | 108 | 11 | 108 | 58 |
| iii | 107 | 11 | 110 | 59 |
| iv | 106 | 11 | 111 | 59 |
| 1931 | | | | |
| i | 106 | 11 | 113 | 59 |
| ii | 105 | 11 | 115 | 58 |
| iii | 104 | 10 | 117 | 57 |
| iv | 103 | 10 | 119 | 55 |
| 1932 | | | | |
| i | 102 | 10 | 121 | 53 |
| ii | 101 | 10 | 123 | 51 |
| iii | 99 | 10 | 124 | 49 |
| iv | 97 | 9 | 125 | 49 |
| 1933 | | | | |
| i | 94 | 9 | 125 | 48 |
| ii | 92 | 9 | 124 | 47 |
| iii | 90 | 8 | 123 | 46 |
| iv | 88 | 8 | 120 | 44 |
| 1934 | | | | |
| i | 86 | 9 | 118 | 43 |
| ii | 84 | 9 | 115 | 41 |
| iii | 82 | 9 | 113 | 40 |
| iv | 80 | 9 | 112 | 39 |
| 1935 | | | | |
| i | 79 | 9 | 111 | 39 |
| ii | 78 | 9 | 110 | 38 |
| iii | 76 | 9 | 110 | 38 |
| iv | 75 | 10 | 109 | 37 |

QUARTERLY ESTIMATES: INCOME

| (5) | (6) | (7) | (8) | (9) |
|-----|-----|-----|-------|-------|
| 3 | 144 | 10 | 1,800 | 2,224 |
| 2 | 143 | 10 | 1,812 | 2,236 |
| 2 | 142 | 11 | 1,830 | 2,255 |
| 3 | 141 | 12 | 1,852 | 2,281 |
| 3 | 139 | 13 | 1,870 | 2,301 |
| 3 | 138 | 14 | 1,882 | 2,314 |
| 3 | 137 | 14 | 1,875 | 2,308 |
| 4 | 138 | 15 | 1,849 | 2,286 |
| 4 | 138 | 16 | 1,812 | 2,252 |
| 4 | 139 | 17 | 1,764 | 2,209 |
| 4 | 139 | 17 | 1,701 | 2,148 |
| 4 | 139 | 17 | 1,625 | 2,072 |
| 4 | 140 | 17 | 1,544 | 1,994 |
| 4 | 140 | 17 | 1,460 | 1,910 |
| 3 | 141 | 16 | 1,375 | 1,823 |
| 3 | 142 | 16 | 1,293 | 1,741 |
| 3 | 142 | 16 | 1,217 | 1,664 |
| 3 | 143 | 15 | 1,148 | 1,594 |
| 2 | 142 | 15 | 1,095 | 1,536 |
| 2 | 141 | 14 | 1,057 | 1,494 |
| 2 | 139 | 13 | 1,028 | 1,458 |
| 2 | 137 | 13 | 1,004 | 1,428 |
| 2 | 135 | 12 | 979 | 1,395 |
| 2 | 133 | 12 | 952 | 1,359 |
| 2 | 131 | 11 | 930 | 1,330 |
| 1 | 130 | 11 | 915 | 1,306 |
| 1 | 128 | 10 | 913 | 1,296 |
| 0 | 126 | 10 | 923 | 1,299 |
| 0 | 124 | 9 | 938 | 1,309 |
| 0 | 122 | 8 | 955 | 1,320 |
| 0 | 120 | 8 | 963 | 1,324 |
| 0 | 118 | 8 | 962 | 1,319 |

TABLE 15 (continued)

| | (1) | (2) | (3) | (4) |
|------|-----|-----|-----|-----|
| 1936 | | | | |
| i | 74 | 10 | 108 | 37 |
| ii | 73 | 10 | 107 | 36 |
| iii | 72 | 10 | 105 | 36 |
| iv | 71 | 10 | 104 | 36 |
| 1937 | | | | |
| i | 70 | 10 | 102 | 36 |
| ii | 70 | 9 | 100 | 36 |
| iii | 69 | 9 | 100 | 35 |
| iv | 68 | 8 | 100 | 35 |
| 1938 | | | | |
| i | 67 | 8 | 100 | 35 |
| ii | 67 | 8 | 100 | 35 |
| iii | 67 | 8 | 100 | 35 |
| iv | 67 | 8 | 100 | 35 |

^a Long term income comprises long term interest received by individuals in all industrial groups (Individuals are assumed to receive no short term interest.) The data for the Finance group include in addition cash rentals received by individuals, together with rentals (net of mortgage interest occupying expenses) imputed to home owners occupying their own homes. (For breakdown see appendix D, Table 42.) All data in the table were obtained by moving cubic graduation of the an

whole field of private business, of course represent ordinary accounting measures, and have not been adjusted for the exclusion of inventory profits and profits arising from the sale of capital assets. As has been indicated in the discussion above, the reliability of the estimates for the various industrial divisions varies greatly, that for Distribution probably being the most defective.

The movements of the different components, and of the total, are compounded from the movements reported previously for residual and for short term income. The behavior of the total affords a very comprehensive measure of the average level of economic activity in general. The main changes in direction occur, as one might expect, about the middle of 1921, in the third quarter of 1929, about the end of 1932, in the third quarter of 1937, and in the second quarter of 1938.

| (5) | (6) | (7) | (8) | (9) |
|-----|-----|-----|-------|-------|
| 0 | 116 | 8 | 962 | 1,315 |
| 0 | 115 | 8 | 965 | 1,314 |
| 0 | 114 | 8 | 978 | 1,323 |
| 0 | 114 | 8 | 1,002 | 1,345 |
| 0 | 114 | 8 | 1,028 | 1,368 |
| 0 | 114 | 8 | 1,051 | 1,388 |
| 0 | 112 | 8 | 1,063 | 1,396 |
| 0 | 110 | 8 | 1,062 | 1,391 |
| 0 | 107 | 8 | 1,058 | 1,383 |
| 0 | 104 | 8 | 1,052 | 1,374 |
| 0 | 103 | 8 | 1,049 | 1,370 |
| 0 | 103 | 8 | 1,048 | 1,369 |

imates shown in Appendix D, Table 40. The industrial classification is described in detail in Appendix E.

^b A breakdown separating long term income in Finance, and segregating paid from imputed totals, will be found in Table 42.

^c This column forms an interpolation of line H.2, Table 4.

§5. *Income Distributed by Government*

In order to obtain totals for the entire national income, as defined in Chapter II, we have to add an estimate for income distributed by Government. This item is shown, on a seasonally adjusted basis, in column 7 of Table 17. Its behavior is, of course, quite unlike that of income originating in private industry, for it is influenced by factors quite different from those which determine the general level of business activity. The data used in Table 17 are generally accessible, and the computations present no special problem.

§6. *The Income Totals*

We now have quarterly series for the two principal divisions of income—income originating in private business

TABLE 16

INCOME ORIGINATING IN PRIVATE INDUSTRY, SEASONALLY ADJUSTED,
QUARTERLY 1921-38*

By Major Industrial Groups

Millions of current dollars

| <i>Year and Quarter</i> | <i>Agriculture</i> | <i>Mining</i> | <i>Public Utilities</i> | <i>Manufacturing</i> |
|-----------------------------|--------------------|---------------|-------------------------|----------------------|
| | (1) | (2) | (3) | (4) |
| 1921 | | | | |
| i | 1,679 | 444 | 281 | 2,734 |
| ii | 1,471 | 349 | 281 | 2,477 |
| iii | 1,359 | 315 | 287 | 2,399 |
| iv | 1,346 | 306 | 294 | 2,390 |
| 1922 | | | | |
| i | 1,374 | 269 | 299 | 2,688 |
| ii | 1,430 | 337 | 308 | 3,128 |
| iii | 1,490 | 405 | 315 | 3,519 |
| iv | 1,544 | 478 | 329 | 3,996 |
| 1923 | | | | |
| i | 1,601 | 508 | 341 | 4,232 |
| ii | 1,657 | 517 | 357 | 4,485 |
| iii | 1,696 | 494 | 362 | 4,208 |
| iv | 1,720 | 462 | 365 | 4,000 |
| 1924 | | | | |
| i | 1,729 | 479 | 374 | 4,229 |
| ii | 1,535 | 419 | 378 | 3,764 |
| iii | 1,751 | 403 | 380 | 3,576 |
| iv | 2,098 | 410 | 392 | 3,895 |
| 1925 | | | | |
| i | 2,050 | 470 | 401 | 4,156 |
| ii | 1,783 | 494 | 406 | 4,171 |
| iii | 1,967 | 477 | 420 | 4,198 |
| iv | 2,103 | 423 | 427 | 4,339 |
| 1926 | | | | |
| i | 1,943 | 489 | 426 | 4,348 |
| ii | 1,909 | 562 | 430 | 4,278 |
| iii | 1,893 | 580 | 440 | 4,351 |
| iv | 1,808 | 530 | 452 | 4,316 |
| 1927 | | | | |
| i | 1,859 | 471 | 455 | 4,297 |
| ii | 1,849 | 441 | 454 | 4,186 |
| iii | 1,874 | 438 | 460 | 4,210 |
| iv | 1,867 | 407 | 471 | 4,130 |

| <i>Construction</i> | <i>Transportation and Communication^b</i> | <i>Distribution</i> | <i>Finance, Service and Miscellaneous</i> | <i>Total Income Originating in Private Industry^c</i> |
|---------------------|---|---------------------|---|---|
| (5) | (6) | (7) | (8) | (9) |
| 639 | 1,281 | 1,775 | 4,088 | 12,921 |
| 89 | 1,237 | 1,553 | 4,061 | 11,518 |
| 238 | 1,234 | 1,697 | 4,087 | 11,616 |
| 614 | 1,225 | 1,911 | 4,175 | 12,261 |
| 553 | 1,221 | 1,858 | 4,285 | 12,547 |
| 590 | 1,243 | 2,200 | 4,407 | 13,643 |
| 669 | 1,152 | 2,391 | 4,526 | 14,467 |
| 606 | 1,359 | 2,499 | 4,639 | 15,450 |
| 582 | 1,413 | 2,408 | 4,766 | 15,851 |
| 644 | 1,470 | 2,602 | 4,856 | 16,588 |
| 671 | 1,398 | 2,375 | 4,964 | 16,168 |
| 515 | 1,407 | 2,706 | 5,049 | 16,224 |
| 689 | 1,405 | 2,654 | 5,145 | 16,704 |
| 829 | 1,351 | 2,291 | 5,178 | 15,745 |
| 792 | 1,372 | 2,390 | 5,251 | 15,915 |
| 752 | 1,446 | 2,612 | 5,324 | 16,929 |
| 827 | 1,427 | 2,580 | 5,382 | 17,293 |
| 908 | 1,431 | 2,580 | 5,451 | 17,224 |
| 1,035 | 1,500 | 2,546 | 5,536 | 17,679 |
| 1,145 | 1,514 | 2,769 | 5,615 | 18,335 |
| 1,198 | 1,466 | 2,566 | 5,658 | 18,094 |
| 1,182 | 1,514 | 2,740 | 5,742 | 18,357 |
| 1,092 | 1,582 | 2,677 | 5,790 | 18,405 |
| 746 | 1,554 | 2,650 | 5,837 | 17,893 |
| 1,005 | 1,497 | 2,546 | 5,870 | 18,000 |
| 975 | 1,496 | 2,733 | 5,916 | 18,050 |
| 1,019 | 1,512 | 2,475 | 5,979 | 17,967 |
| 993 | 1,452 | 2,658 | 6,055 | 18,033 |

TABLE 16 (continued)

| | (1) | (2) | (3) | (4) |
|------|-------|-----|-----|-------|
| 1928 | | | | |
| i | 1,830 | 386 | 480 | 4,224 |
| ii | 1,800 | 404 | 482 | 4,328 |
| iii | 1,722 | 436 | 497 | 4,619 |
| iv | 2,010 | 455 | 511 | 4,763 |
| 1929 | | | | |
| i | 1,922 | 424 | 510 | 4,779 |
| ii | 1,847 | 456 | 524 | 4,997 |
| iii | 2,000 | 486 | 550 | 5,069 |
| iv | 1,927 | 453 | 546 | 4,644 |
| 1930 | | | | |
| i | 1,725 | 367 | 539 | 4,150 |
| ii | 1,619 | 345 | 539 | 3,841 |
| iii | 1,367 | 319 | 546 | 3,207 |
| iv | 1,241 | 280 | 535 | 2,820 |
| 1931 | | | | |
| i | 1,197 | 240 | 510 | 2,706 |
| ii | 1,140 | 181 | 504 | 2,511 |
| iii | 880 | 170 | 487 | 2,229 |
| iv | 858 | 146 | 463 | 1,847 |
| 1932 | | | | |
| i | 863 | 141 | 435 | 1,686 |
| ii | 736 | 149 | 421 | 1,349 |
| iii | 636 | 90 | 396 | 1,172 |
| iv | 643 | 78 | 389 | 1,199 |
| 1933 | | | | |
| i | 673 | 19 | 378 | 1,141 |
| ii | 901 | 44 | 368 | 1,559 |
| iii | 972 | 205 | 375 | 2,438 |
| iv | 952 | 247 | 368 | 2,404 |
| 1934 | | | | |
| i | 1,063 | 248 | 375 | 2,516 |
| ii | 1,085 | 232 | 376 | 2,690 |
| iii | 1,307 | 206 | 366 | 2,374 |
| iv | 1,242 | 207 | 365 | 2,431 |
| 1935 | | | | |
| i | 1,245 | 237 | 372 | 2,801 |
| ii | 1,334 | 244 | 371 | 2,808 |
| iii | 1,309 | 220 | 382 | 2,951 |
| iv | 1,456 | 254 | 387 | 3,266 |

QUARTERLY ESTIMATES: INCOME

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| (5) | (6) | (7) | (8) | (9) |
|-------|-------|-------|-------|--------|
| 988 | 1,470 | 2,717 | 6,132 | 18,227 |
| 924 | 1,488 | 2,708 | 6,232 | 18,366 |
| 995 | 1,538 | 2,749 | 6,316 | 18,872 |
| 1,110 | 1,576 | 2,679 | 6,424 | 19,528 |
| 1,019 | 1,563 | 2,864 | 6,495 | 19,576 |
| 1,012 | 1,608 | 2,755 | 6,527 | 19,726 |
| 992 | 1,653 | 2,911 | 6,479 | 20,140 |
| 1,006 | 1,557 | 2,586 | 6,316 | 19,035 |
| 835 | 1,438 | 2,607 | 6,086 | 17,747 |
| 862 | 1,412 | 2,434 | 5,785 | 16,837 |
| 921 | 1,360 | 2,258 | 5,504 | 15,482 |
| 726 | 1,258 | 1,948 | 5,247 | 14,055 |
| 573 | 1,185 | 2,087 | 4,946 | 13,444 |
| 626 | 1,164 | 1,902 | 4,639 | 12,667 |
| 523 | 1,074 | 1,799 | 4,307 | 11,469 |
| 435 | 969 | 1,637 | 3,959 | 10,314 |
| 336 | 917 | 1,636 | 3,702 | 9,716 |
| 222 | 806 | 1,287 | 3,405 | 8,375 |
| 259 | 718 | 1,414 | 3,185 | 7,870 |
| 230 | 792 | 1,109 | 2,959 | 7,399 |
| 222 | 747 | 1,166 | 2,966 | 7,312 |
| 154 | 821 | 1,439 | 2,948 | 8,234 |
| 162 | 851 | 1,705 | 3,024 | 9,732 |
| 179 | 810 | 1,772 | 3,092 | 9,824 |
| 335 | 885 | 1,749 | 3,225 | 10,396 |
| 211 | 882 | 1,637 | 3,379 | 10,492 |
| 206 | 800 | 1,962 | 3,504 | 10,725 |
| 136 | 823 | 1,834 | 3,609 | 10,647 |
| 228 | 881 | 1,916 | 3,722 | 11,402 |
| 231 | 912 | 1,913 | 3,841 | 11,654 |
| 187 | 870 | 1,892 | 3,981 | 11,792 |
| 389 | 988 | 1,956 | 4,136 | 12,832 |

TABLE 16 (continued)

| | (1) | (2) | (3) | (4) |
|------|-------|-----|-----|-------|
| 1936 | | | | |
| i | 1,311 | 282 | 396 | 3,203 |
| ii | 1,558 | 283 | 396 | 3,448 |
| iii | 1,590 | 304 | 408 | 3,681 |
| iv | 1,578 | 334 | 422 | 4,002 |
| 1937 | | | | |
| i | 1,639 | 358 | 423 | 4,160 |
| ii | 1,596 | 375 | 432 | 4,317 |
| iii | 1,632 | 371 | 437 | 4,204 |
| iv | 1,422 | 338 | 429 | 3,549 |
| 1938 | | | | |
| i | 1,358 | 282 | 413 | 2,899 |
| ii | 1,368 | 261 | 408 | 2,727 |
| iii | 1,387 | 266 | 413 | 2,961 |
| iv | 1,348 | 285 | 426 | 3,341 |

^a This table is derived by summation, for each industrial division, of the items shown in Tables 14 and 15. It includes income originating in all industrial groups except Government. The precision and reliability of the estimates vary greatly as between different industrial groups. For discussion

(Table 16), and income distributed by Government (Table 17). For many purposes the sum of these two items, shown in column 6 of Table 18, serves as a sufficiently comprehensive total. However, a primary purpose of this study is to compare quarterly estimates of the national product, derived independently by measurement of income and by measurement of outlay, on the same lines as the annual comparison already undertaken in Table 6 (Chapter III). The outlay series used in that comparison has already been placed on a quarterly basis in the preceding chapter (Table 11). It will be remembered that in order to derive comparable totals for income we have to make a series of adjustments.

These adjustments were carried out on an annual basis in Tables 4 and 5, the arrangement of which will now be recalled. In the preceding sections we placed lines G and H of Table 4 in quarterly form. In principle, by carrying out the adjustments shown in lines E and F of that table

| (5) | (6) | (7) | (8) | (9) |
|-----|-------|-------|-------|--------|
| 413 | 1,023 | 2,021 | 4,200 | 12,849 |
| 375 | 1,030 | 2,136 | 4,311 | 13,537 |
| 403 | 1,062 | 2,139 | 4,427 | 14,014 |
| 409 | 1,139 | 2,261 | 4,555 | 14,700 |
| 454 | 1,138 | 2,082 | 4,643 | 14,897 |
| 475 | 1,155 | 2,142 | 4,727 | 15,219 |
| 486 | 1,131 | 2,495 | 4,763 | 15,519 |
| 379 | 1,045 | 2,534 | 4,721 | 14,417 |
| 412 | 946 | 1,918 | 4,670 | 12,898 |
| 367 | 917 | 1,991 | 4,618 | 12,657 |
| 411 | 954 | 2,233 | 4,627 | 13,252 |
| 506 | 1,058 | 2,667 | 4,708 | 14,339 |

See questions, and for sources and methods, see text and notes to Tables 12 through 15.

^b Major groups F, G and H; does not include minor transportation (group M.1).

^c This series provides an interpolation of line H, Table 4.

(to modify accounting practice, and to include income arising abroad, respectively), we should arrive at a quarterly version of the totals shown in line D of Table 4. These totals are the standard National Bureau estimates, after the exclusion of savings by Government and employers' social security contributions; and they reappear as the first line of Table 5. The second series of adjustments, made in Table 5 in order to secure comparability with outlay, exclude direct taxes paid by individuals, correct for social security transactions, and allow for the inclusion of two additional items of a miscellaneous character—the veterans' bonus and noncommercial remittances received from abroad.

The adjustments in this long and rather heterogeneous list vary greatly in importance, although theoretically all of them should be made if we are to reach income totals fully comparable with those for outlay. Our procedure, as far as the quarterly comparison is concerned, is deter-

mined uniquely by the availability of data. Among these adjustments, the only ones which can be carried out quarterly are the exclusion of profits and losses arising from the revaluation of business inventories (Table 4), and the social security adjustments and the veterans' bonus (Table 5). When interpolating other components of income for which no quarterly data could be found, we have frequently resorted to graduation. We could, of course, follow the same practice here in respect to the remaining adjustments mentioned. The conversion of depreciation to a current cost basis, and the item for direct taxes paid by individuals, for which annual data are given in Tables 4 and 5 respectively, might be expected to vary in a fairly regular fashion, and to suffer only slight distortion if graduated quarterly. On the other hand, the adjustment made in Table 4 in order to exclude profits and losses from the sale of capital assets, a substantial item for which quarterly data also are missing, can hardly be assumed to fluctuate in any smooth or regular fashion and is therefore unsuitable for graduation.

Procedure in the matter of these adjustments is best determined by other considerations. In deriving quarterly series we are no longer interested in the comparison of the absolute levels of the measures turned in by outlay and income calculations respectively. The available information on this score has already been furnished in Table 6, and quarterly interpolations can add nothing significant in this respect to the comparison made there. The kind of information which now interests us, and which will be summarized in the next chapter, concerns the movement from quarter to quarter, and the turning points, reported by outlay and income respectively. For this purpose there would be slight advantage in the inclusion in our income totals of such of the adjustments listed as can be computed only by the graduation of annual data. This is why the

TABLE 17

INCOME DISTRIBUTED BY GOVERNMENT, QUARTERLY 1921-38*
 Columns 1 through 6 before Adjustment for Seasonal Variation

Billions of current dollars

| Year and Quarter | Wages, Salaries, and Pensions ^b | Work Relief ^c | Direct Relief ^c | Total | Long Term Interest ^d | Total ^e | Total, Seasonally Adjusted ^f |
|------------------|--|--------------------------|----------------------------|-------|---------------------------------|--------------------|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1921 | | | | | | | |
| i | 1,024 | | | 1,024 | 316 | 1,340 | 1,300 |
| ii | 1,037 | | | 1,037 | 316 | 1,353 | 1,309 |
| iii | 865 | | | 865 | 318 | 1,183 | 1,314 |
| iv | 1,053 | | | 1,053 | 322 | 1,375 | 1,315 |
| 1922 | | | | | | | |
| i | 1,031 | | | 1,031 | 326 | 1,357 | 1,317 |
| ii | 1,033 | | | 1,033 | 330 | 1,363 | 1,319 |
| iii | 861 | | | 861 | 333 | 1,194 | 1,325 |
| iv | 1,059 | | | 1,059 | 334 | 1,393 | 1,333 |
| 1923 | | | | | | | |
| i | 1,050 | | | 1,050 | 334 | 1,384 | 1,343 |
| ii | 1,065 | | | 1,065 | 334 | 1,399 | 1,354 |
| iii | 895 | | | 895 | 332 | 1,227 | 1,363 |
| iv | 1,103 | | | 1,103 | 328 | 1,431 | 1,369 |
| 1924 | | | | | | | |
| i | 1,096 | | | 1,096 | 325 | 1,421 | 1,378 |
| ii | 1,112 | | | 1,112 | 322 | 1,434 | 1,387 |
| iii | 934 | | | 934 | 320 | 1,254 | 1,396 |
| iv | 1,152 | | | 1,152 | 320 | 1,472 | 1,407 |
| 1925 | | | | | | | |
| i | 1,144 | | | 1,144 | 320 | 1,464 | 1,419 |
| ii | 1,160 | | | 1,160 | 321 | 1,481 | 1,432 |
| iii | 975 | | | 975 | 321 | 1,296 | 1,444 |
| iv | 1,204 | | | 1,204 | 321 | 1,525 | 1,457 |
| 1926 | | | | | | | |
| i | 1,196 | | | 1,196 | 321 | 1,517 | 1,470 |
| ii | 1,216 | | | 1,216 | 321 | 1,537 | 1,485 |
| iii | 1,024 | | | 1,024 | 320 | 1,344 | 1,499 |
| iv | 1,266 | | | 1,266 | 318 | 1,584 | 1,512 |
| 1927 | | | | | | | |
| i | 1,259 | | | 1,259 | 316 | 1,575 | 1,526 |
| ii | 1,282 | | | 1,282 | 315 | 1,597 | 1,542 |
| iii | 1,079 | | | 1,079 | 313 | 1,392 | 1,555 |
| iv | 1,330 | | | 1,330 | 311 | 1,641 | 1,566 |

TABLE 17 (continued)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|------|-------|-----|-----|-------|-----|-------|-------|
| 1928 | | | | | | | |
| i | 1,320 | | | 1,320 | 311 | 1,631 | 1,579 |
| ii | 1,339 | | | 1,339 | 310 | 1,649 | 1,592 |
| iii | 1,125 | | | 1,125 | 311 | 1,436 | 1,607 |
| iv | 1,390 | | | 1,390 | 312 | 1,702 | 1,623 |
| 1929 | | | | | | | |
| i | 1,382 | | 15 | 1,397 | 314 | 1,711 | 1,655 |
| ii | 1,399 | | 14 | 1,413 | 315 | 1,728 | 1,668 |
| iii | 1,163 | | 15 | 1,178 | 316 | 1,494 | 1,672 |
| iv | 1,441 | | 16 | 1,457 | 317 | 1,774 | 1,692 |
| 1930 | | | | | | | |
| i | 1,424 | | 22 | 1,446 | 317 | 1,763 | 1,704 |
| ii | 1,448 | | 21 | 1,469 | 317 | 1,786 | 1,724 |
| iii | 1,201 | | 21 | 1,222 | 317 | 1,539 | 1,724 |
| iv | 1,491 | 4 | 30 | 1,525 | 317 | 1,842 | 1,759 |
| 1931 | | | | | | | |
| i | 1,486 | 9 | 42 | 1,537 | 317 | 1,854 | 1,789 |
| ii | 1,507 | 16 | 36 | 1,559 | 319 | 1,878 | 1,813 |
| iii | 1,228 | 15 | 35 | 1,278 | 322 | 1,600 | 1,793 |
| iv | 1,491 | 19 | 45 | 1,555 | 326 | 1,881 | 1,798 |
| 1932 | | | | | | | |
| i | 1,486 | 37 | 63 | 1,586 | 332 | 1,918 | 1,846 |
| ii | 1,504 | 29 | 75 | 1,608 | 338 | 1,946 | 1,880 |
| iii | 1,176 | 29 | 76 | 1,281 | 344 | 1,625 | 1,818 |
| iv | 1,425 | 37 | 112 | 1,574 | 350 | 1,924 | 1,846 |
| 1933 | | | | | | | |
| i | 1,377 | 75 | 155 | 1,607 | 356 | 1,963 | 1,877 |
| ii | 1,319 | 107 | 148 | 1,574 | 362 | 1,936 | 1,873 |
| iii | 1,034 | 138 | 125 | 1,297 | 370 | 1,667 | 1,861 |
| iv | 1,284 | 336 | 152 | 1,772 | 378 | 2,150 | 2,087 |
| 1934 | | | | | | | |
| i | 1,283 | 581 | 183 | 2,047 | 385 | 2,432 | 2,271 |
| ii | 1,320 | 227 | 201 | 1,748 | 390 | 2,138 | 2,071 |
| iii | 1,133 | 273 | 197 | 1,603 | 391 | 1,994 | 2,231 |
| iv | 1,383 | 306 | 247 | 1,936 | 386 | 2,322 | 2,251 |
| 1935 | | | | | | | |
| i | 1,377 | 325 | 294 | 1,996 | 380 | 2,376 | 2,231 |
| ii | 1,427 | 311 | 288 | 2,026 | 375 | 2,401 | 2,321 |
| iii | 1,232 | 284 | 268 | 1,784 | 372 | 2,156 | 2,421 |
| iv | 1,542 | 382 | 249 | 2,173 | 374 | 2,547 | 2,471 |

TABLE 17 (continued)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|------|-------|-----|-----|-------|-----|-------|-------|
| 1936 | | | | | | | |
| i | 1,520 | 541 | 185 | 2,246 | 377 | 2,623 | 2,462 |
| ii | 1,556 | 501 | 157 | 2,214 | 382 | 2,596 | 2,517 |
| iii | 1,339 | 468 | 152 | 1,959 | 389 | 2,348 | 2,638 |
| iv | 1,643 | 500 | 178 | 2,321 | 398 | 2,719 | 2,640 |
| 1937 | | | | | | | |
| i | 1,627 | 450 | 218 | 2,295 | 408 | 2,703 | 2,545 |
| ii | 1,643 | 425 | 200 | 2,268 | 417 | 2,685 | 2,602 |
| iii | 1,389 | 329 | 195 | 1,913 | 422 | 2,335 | 2,618 |
| iv | 1,689 | 332 | 224 | 2,245 | 423 | 2,668 | 2,584 |
| 1938 | | | | | | | |
| i | 1,680 | 388 | 270 | 2,338 | 423 | 2,761 | 2,603 |
| ii | 1,725 | 484 | 246 | 2,455 | 423 | 2,878 | 2,790 |
| iii | 1,476 | 551 | 240 | 2,267 | 422 | 2,689 | 3,024 |
| iv | 1,803 | 591 | 252 | 2,646 | 422 | 3,068 | 2,984 |

Our estimates for private industry (Tables 12 through 16) relate to income originating (i.e., income distributed plus business savings). In view of the difficulty of measuring governmental savings, their special character, we prefer to measure the government's contribution in terms of income distributed rather than of income originating. This treatment is in accordance with the conceptual network of Chapter II. "Government" includes Federal, State and local units. The annual data on which this table is based will be found in Table 41.

For 1929-38 annual estimates by Kuznets were interpolated with the series for salaries and wages by Government in Frederick M. Cone, *op. cit.* The former run considerably ahead of the latter, apparently because Mr. Cone's series excludes pensions. For 1921-28 the data shown represent a long cubic graduation with seasonal superimposed. The seasonal movement is marked (1.0407, .45, .8684, 1.0600) and the only justification for projecting it back of the period (1929-38) for which it can be calculated is its great stability.

These series are taken directly from Frederick M. Cone, *op. cit.* The data run somewhat above Kuznets' totals, and probably represent greater inclusiveness. No adjustment of their level to conform to Kuznets' totals (Table 4) has been made.

Like other long term income, interest paid by governmental units is graduated by moving cubic, in accordance with the practice discussed in the text.

This column is an interpolation of Table 4, line G.

For 1921-28: short term income, graduation on which column 1 is based (see note b); long term income, column 5. For 1929-38: seasonal adjustment as follows:

Column 1: .9609, .9574, 1.1515, .9434

Columns 2 and 3 combined: .860, .980, 1.140, 1.021

Column 5: no adjustment required.

TABLE 18

DERIVATION OF TOTAL INCOME, SEASONALLY ADJUSTED, QUARTERLY 1921-

Millions of current dollars

| <i>Year and Quarter</i> | <i>Short Term Income (Table 14)</i> | <i>Long Term Income (Table 15)</i> | <i>Residual Income (Table 12)</i> | <i>Income Original in Private Indus- (1 through 3)^b</i> |
|-----------------------------|---|--|---------------------------------------|--|
| | (1) | (2) | (3) | (4) |
| 1921 | | | | |
| i | 10,150 | 1,734 | 1,037 | 12,921 |
| ii | 9,638 | 1,758 | 122 | 11,518 |
| iii | 9,429 | 1,784 | 403 | 11,616 |
| iv | 9,438 | 1,812 | 1,011 | 12,261 |
| 1922 | | | | |
| i | 9,542 | 1,841 | 1,164 | 12,547 |
| ii | 9,870 | 1,872 | 1,901 | 13,643 |
| iii | 10,377 | 1,901 | 2,189 | 14,467 |
| iv | 10,818 | 1,931 | 2,701 | 15,450 |
| 1923 | | | | |
| i | 11,268 | 1,962 | 2,621 | 15,851 |
| ii | 11,737 | 1,994 | 2,857 | 16,588 |
| iii | 11,864 | 2,036 | 2,268 | 16,168 |
| iv | 11,844 | 2,081 | 2,299 | 16,224 |
| 1924 | | | | |
| i | 11,931 | 2,124 | 2,649 | 16,704 |
| ii | 11,640 | 2,166 | 1,939 | 15,745 |
| iii | 11,700 | 2,191 | 2,024 | 15,915 |
| iv | 12,255 | 2,198 | 2,476 | 16,929 |
| 1925 | | | | |
| i | 12,513 | 2,198 | 2,582 | 17,293 |
| ii | 12,391 | 2,196 | 2,637 | 17,224 |
| iii | 12,744 | 2,185 | 2,750 | 17,679 |
| iv | 13,188 | 2,170 | 2,977 | 18,335 |
| 1926 | | | | |
| i | 13,303 | 2,155 | 2,636 | 18,094 |
| ii | 13,363 | 2,145 | 2,849 | 18,357 |
| iii | 13,398 | 2,144 | 2,863 | 18,405 |
| iv | 13,394 | 2,153 | 2,346 | 17,893 |
| 1927 | | | | |
| i | 13,412 | 2,165 | 2,423 | 18,000 |
| ii | 13,398 | 2,182 | 2,470 | 18,050 |
| iii | 13,394 | 2,198 | 2,375 | 17,967 |
| iv | 13,341 | 2,210 | 2,482 | 18,033 |

| <i>Income distributed by Government (Table 16, Column 7)^c</i> | <i>Adjustments which Can be Made Quarterly^a</i> | | | | | <i>Adjusted Total (6 - 7 + 8 - 9)^d</i> |
|--|--|--|--|---|--------|---|
| | <i>Total (4 + 5)^d</i> | <i>Social Security Taxes Paid by Employees —deduct^f</i> | <i>Veterans' Bonus and Social Security Benefits —add^g</i> | <i>Inventory Profits (Manufacturing only; Table 36) —deduct^h</i> | | |
| (5) | (6) | (7) | (8) | (9) | (10) | |
| 1,300 | 14,221 | | | -1,659 | 15,880 | |
| 1,309 | 12,827 | | | -527 | 13,354 | |
| 1,314 | 12,930 | | | -548 | 13,478 | |
| 1,315 | 13,576 | | | -55 | 13,631 | |
| 1,317 | 13,864 | | | -297 | 14,161 | |
| 1,319 | 14,962 | | | 76 | 14,886 | |
| 1,325 | 15,792 | | | 254 | 15,538 | |
| 1,333 | 16,783 | | | 318 | 16,465 | |
| 1,343 | 17,194 | | | 249 | 16,945 | |
| 1,354 | 17,942 | | | 152 | 17,790 | |
| 1,363 | 17,531 | | | -226 | 17,757 | |
| 1,369 | 17,593 | | | -2 | 17,595 | |
| 1,378 | 18,082 | | | -234 | 18,316 | |
| 1,387 | 17,132 | | | -367 | 17,499 | |
| 1,396 | 17,311 | | | 33 | 17,278 | |
| 1,407 | 18,336 | | | 298 | 18,038 | |
| 1,419 | 18,712 | | | 221 | 18,491 | |
| 1,432 | 18,656 | | | -111 | 18,767 | |
| 1,444 | 19,123 | | | 147 | 18,976 | |
| 1,457 | 19,792 | | | 70 | 19,722 | |
| 1,470 | 19,564 | | | -525 | 20,089 | |
| 1,485 | 19,842 | | | -218 | 20,060 | |
| 1,499 | 19,904 | | | -68 | 19,972 | |
| 1,512 | 19,405 | | | -140 | 19,545 | |
| 1,526 | 19,526 | | | -292 | 19,818 | |
| 1,542 | 19,592 | | | -68 | 19,660 | |
| 1,555 | 19,522 | | | -22 | 19,544 | |
| 1,566 | 19,599 | | | 138 | 19,461 | |

TABLE 18 (continued)

| | (1) | (2) | (3) | (4) |
|------|--------|-------|--------|--------|
| 1928 | | | | |
| i | 13,399 | 2,224 | 2,604 | 18,227 |
| ii | 13,481 | 2,236 | 2,649 | 18,366 |
| iii | 13,618 | 2,255 | 2,999 | 18,872 |
| iv | 14,066 | 2,281 | 3,181 | 19,528 |
| 1929 | | | | |
| i | 14,174 | 2,301 | 3,101 | 19,576 |
| ii | 14,289 | 2,314 | 3,123 | 19,726 |
| iii | 14,639 | 2,308 | 3,193 | 20,140 |
| iv | 14,192 | 2,286 | 2,557 | 19,035 |
| 1930 | | | | |
| i | 13,599 | 2,252 | 1,896 | 17,747 |
| ii | 13,229 | 2,209 | 1,399 | 16,837 |
| iii | 12,461 | 2,148 | 873 | 15,482 |
| iv | 11,645 | 2,072 | 338 | 14,055 |
| 1931 | | | | |
| i | 11,129 | 1,994 | 321 | 13,444 |
| ii | 10,755 | 1,910 | 2 | 12,667 |
| iii | 9,917 | 1,823 | -271 | 11,469 |
| iv | 9,245 | 1,741 | -672 | 10,314 |
| 1932 | | | | |
| i | 8,580 | 1,664 | -528 | 9,716 |
| ii | 7,762 | 1,594 | -981 | 8,375 |
| iii | 7,206 | 1,536 | -872 | 7,870 |
| iv | 7,082 | 1,494 | -1,177 | 7,399 |
| 1933 | | | | |
| i | 6,798 | 1,458 | -944 | 7,312 |
| ii | 6,966 | 1,428 | -160 | 8,234 |
| iii | 7,585 | 1,395 | 752 | 9,732 |
| iv | 7,767 | 1,359 | 698 | 9,824 |
| 1934 | | | | |
| i | 8,270 | 1,330 | 796 | 10,396 |
| ii | 8,522 | 1,306 | 664 | 10,492 |
| iii | 8,733 | 1,296 | 696 | 10,725 |
| iv | 8,738 | 1,299 | 610 | 10,647 |
| 1935 | | | | |
| i | 9,066 | 1,309 | 1,027 | 11,402 |
| ii | 9,274 | 1,320 | 1,060 | 11,654 |
| iii | 9,423 | 1,324 | 1,045 | 11,792 |
| iv | 9,867 | 1,319 | 1,646 | 12,832 |

QUARTERLY ESTIMATES: INCOME

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| (5) | (6) | (7) | (8) | (9) | (10) |
|-------|--------|-----|-----|-------|--------|
| 1,579 | 19,806 | | | -147 | 19,953 |
| 1,592 | 19,958 | | | 4 | 19,954 |
| 1,607 | 20,479 | | | 40 | 20,439 |
| 1,623 | 21,151 | | | -65 | 21,216 |
| 1,655 | 21,231 | | | -102 | 21,333 |
| 1,668 | 21,394 | | | -156 | 21,550 |
| 1,672 | 21,812 | | | -39 | 21,851 |
| 1,692 | 20,727 | | | -420 | 21,147 |
| 1,704 | 19,451 | | | -608 | 20,059 |
| 1,724 | 18,561 | | | -833 | 19,394 |
| 1,724 | 17,206 | | | -959 | 18,165 |
| 1,759 | 15,814 | | | -697 | 16,511 |
| 1,789 | 15,233 | | | -535 | 15,768 |
| 1,813 | 14,480 | | | -656 | 15,136 |
| 1,793 | 13,262 | | | -403 | 13,665 |
| 1,798 | 12,112 | | | -69 | 12,181 |
| 1,846 | 11,562 | | | -288 | 11,850 |
| 1,880 | 10,255 | | | -400 | 10,655 |
| 1,818 | 9,688 | | | -39 | 9,727 |
| 1,846 | 9,245 | | | -117 | 9,362 |
| 1,877 | 9,189 | | | -379 | 9,568 |
| 1,875 | 10,109 | | | 64 | 10,045 |
| 1,861 | 11,593 | | | 1,314 | 10,279 |
| 2,087 | 11,911 | | | 727 | 11,184 |
| 2,275 | 12,671 | | | 303 | 12,368 |
| 2,073 | 12,565 | | | 177 | 12,388 |
| 2,232 | 12,957 | | | 26 | 12,931 |
| 2,256 | 12,903 | | | 42 | 12,861 |
| 2,235 | 13,637 | | | -2 | 13,639 |
| 2,328 | 13,982 | | | 73 | 13,909 |
| 2,420 | 14,212 | | | 86 | 14,126 |
| 2,473 | 15,305 | | | 115 | 15,190 |

TABLE 18 (continued)

| | (1) | (2) | (3) | (4) |
|------|--------|-------|-------|--------|
| 1936 | | | | |
| i | 9,965 | 1,315 | 1,569 | 12,849 |
| ii | 10,402 | 1,314 | 1,821 | 13,537 |
| iii | 10,730 | 1,323 | 1,961 | 14,014 |
| iv | 11,124 | 1,345 | 2,231 | 14,700 |
| 1937 | | | | |
| i | 11,530 | 1,368 | 1,999 | 14,897 |
| ii | 11,866 | 1,388 | 1,965 | 15,219 |
| iii | 12,015 | 1,396 | 2,108 | 15,519 |
| iv | 11,298 | 1,391 | 1,728 | 14,417 |
| 1938 | | | | |
| i | 10,596 | 1,383 | 919 | 12,898 |
| ii | 10,349 | 1,374 | 934 | 12,657 |
| iii | 10,524 | 1,370 | 1,358 | 13,252 |
| iv | 10,840 | 1,369 | 2,130 | 14,339 |

^a As explained in the text, the methods of interpolation adopted do not allow the quarterly estimates always to add up exactly to the annual figures from which they are derived. This table offers an interpolation of the more important items in Table 4, but the annual data shown there cannot be obtained exactly by summing the figures shown in this table.

^b Column 4 is an interpolation of line H of Table 4.

^c This column is an interpolation of line G of Table 4.

^d Some readers may prefer to consider this column, consisting of income originating in private industry plus income distributed by Government (including relief), before the various adjustments shown in Tables 4 and 5, as the most convenient total to regard as basic. Such a choice might be just

adjustments carried out in Table 18 have been confined to those which can be reduced to a quarterly basis without resort to graduation.

The adjustment for social security transactions and the inclusion of the veterans' bonus can be carried out quarterly with little difficulty. In principle, profits and losses arising through the revaluation of inventories can be computed, at any rate for Manufacturing and Distribution, from the same data and in much the same manner as the net change in inventories in current prices shown in Tables 10 and 11. However, evidence presented in Appendix C suggests that whatever the appropriateness of these methods may be for the purpose of measuring inventory *changes*, they are in some danger of exaggerating the

| (5) | (6) | (7) | (8) | (9) | (10) |
|-------|--------|-----|-------|------|--------|
| 2,462 | 15,311 | | | 47 | 15,264 |
| 2,517 | 16,054 | | 1,673 | -35 | 17,762 |
| 2,638 | 16,652 | | | 80 | 16,572 |
| 2,640 | 17,340 | | | 94 | 17,246 |
| 2,545 | 17,442 | 24 | 0 | 713 | 16,705 |
| 2,602 | 17,821 | 73 | 0 | 421 | 17,327 |
| 2,618 | 18,137 | 76 | 0 | -467 | 18,528 |
| 2,584 | 17,001 | 73 | 1 | -543 | 17,472 |
| 2,603 | 15,501 | 42 | 67 | -306 | 15,832 |
| 2,790 | 15,447 | 66 | 117 | -282 | 15,780 |
| 3,024 | 16,276 | 64 | 130 | -17 | 16,359 |
| 2,984 | 17,323 | 64 | 92 | -69 | 17,420 |

d on the ground that only a few of the adjustments required can be made on a quarterly basis.

e Of the various adjustments in Tables 4 and 5, only these can be made quarterly.

f See Table 5, line C, and note c to that table.

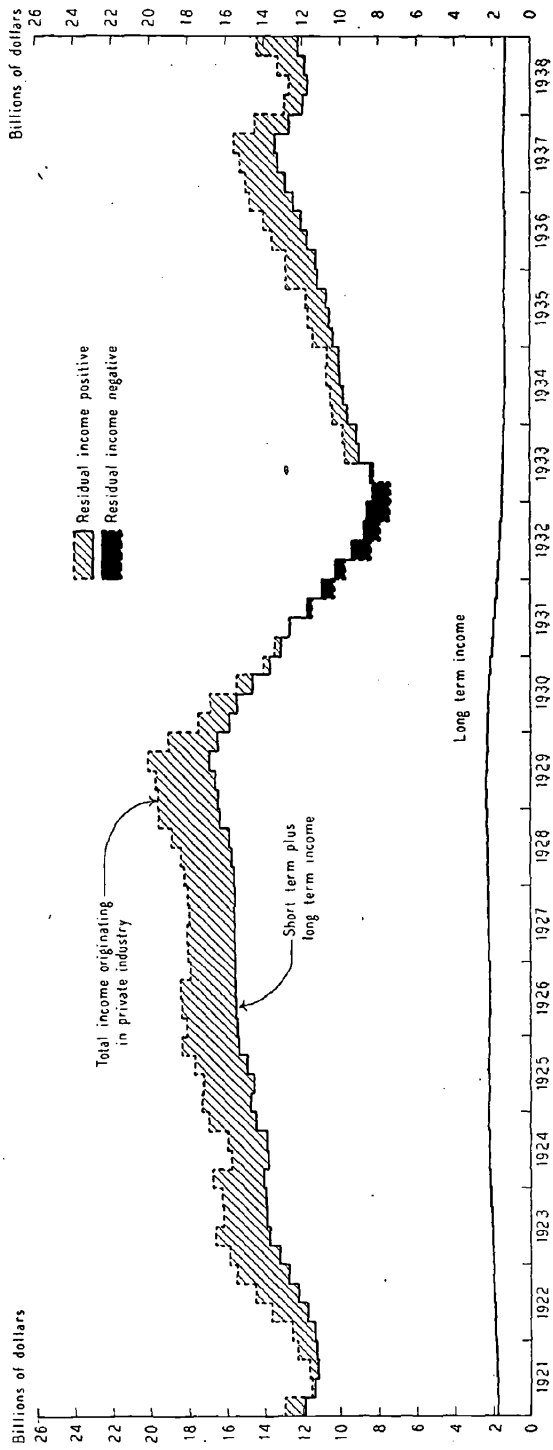
g See Table 5, lines D and E, and notes d and e to that table.

h See Table 4, line E.2, and Appendix C, Table 36.

i Despite the fact that not all the required adjustments have been carried out, this series will be regarded as an interpolation of the basic income total, line G, Table 5. The most important omission relates to profits and losses realized from the sale of assets, which cannot be computed quarterly: see discussion in §6 of this chapter.

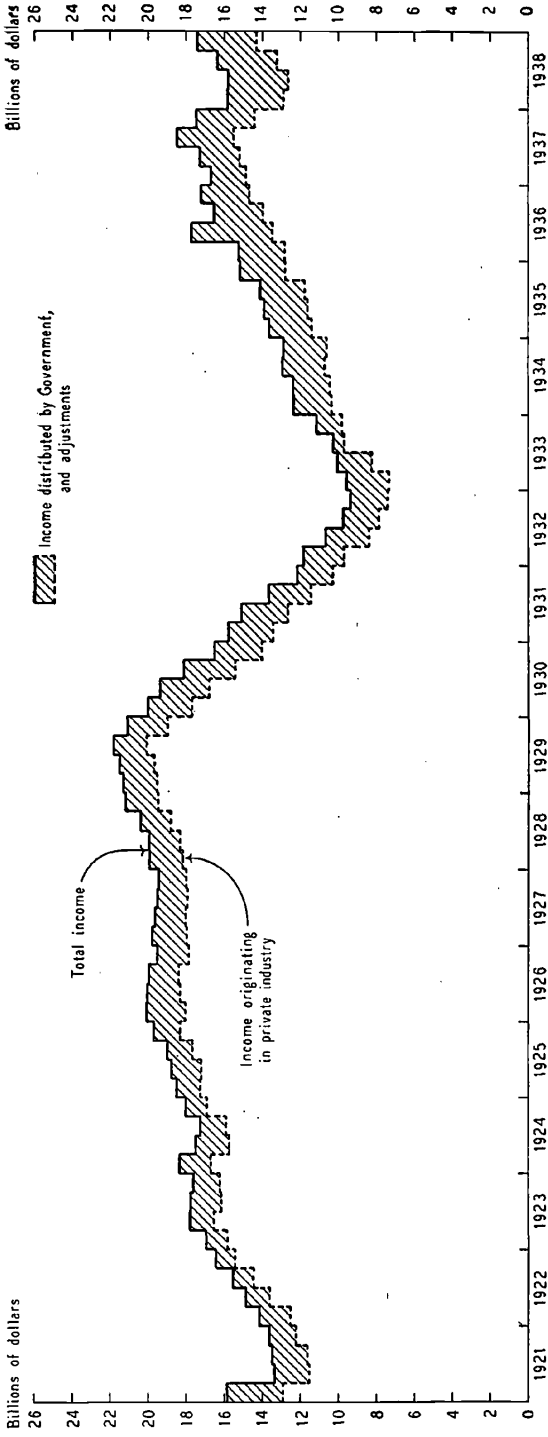
profits and losses which result from inventory *revaluation*. Moreover, the material relating to Distributive inventories is clearly inferior to that for Manufacturing. In constructing Table 18, I therefore decided to deduct, from the income total already obtained, only the profits and losses computed for the revaluation of inventories in Manufacturing, and to let this adjustment stand for the adjustment required for the revaluation of business inventories as a whole. Inventory profits in any line of business are determined mainly by price movements, and since these show considerable correlation, inventory profits in different industries should follow a similar course. If in fact the adjustment I have inserted, which was computed for Manufacturing, overstates the true magnitude of the ad-

CHART IV
COMPOSITION OF INCOME
(Seasonally Adjusted)



Based on Table 18

CHART IV (continued)
COMPOSITION OF INCOME
 (Seasonally Adjusted)



Based on Table 18

justment required for that branch, it may nonetheless approximate the adjustment needed for the economy as a whole.

The totals in the last column of Table 18 probably represent the most comprehensive income computation which it is at present possible to make on a quarterly basis. They are not strictly comparable with the outlay totals in Table 11 because several of the adjustments mentioned are omitted. In absolute dollar volume, on the other hand, they come somewhat closer to the outlay totals than they would had all these adjustments been carried out. This anomaly arises from the fact that direct taxes paid by individuals constitute a substantial deduction in Table 5, a deduction which, if not made, would greatly reduce the discrepancy between outlay and income as reported in Table 6. Or we can put the matter differently. In a rough kind of way we may guess that the excellent agreement between the level of the income totals in Table 18 and the level of the outlay totals in Table 11 results partly from the fact that the inclusion of direct taxes paid by individuals in the former is offset by the overstatement of consumption in the latter.¹⁹

The principal amendment introduced by these adjustments is the boost given to income in the second quarter of 1936 through the inclusion of the veterans' bonus. (The bonus can easily be excluded, of course, from both sides of the account, if such exclusion is desired. But inasmuch as we have included it as a constituent of public outlay in reaching the totals for outlay, we must include it here also.) The Social Security adjustments, which are not large, affect only the last two years of the period. The adjustment for inventory revaluation is more substantial—and its reliability highly uncertain. In the first quarter

¹⁹ The possibility that the estimates for consumers' outlay may be too high was suggested in Chapter III.

of 1921 and the third quarter of 1933 the adjustment for this item included in the quarterly totals for income runs to over \$1 billion. Nevertheless, the turning points in the final series (second half of Chart IV) and the general character of that series are very similar, both to the unadjusted series in column 6 and to the series for income originating in private industry shown in column 4 of Table 18. The behavior of the adjusted total will be considered in detail in the next chapter.