Chapter Title: Interrelationship of Earnings of Employees

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CHAPTER IV

INTERRELATIONSHIP OF EARNINGS OF EMPLOYEES

The problems encountered in the apportionment by States of the total wages and salaries paid out in manufactures, mining, and agriculture were comparatively simple. The presence of reliable Census data in 1919 offered firm ground from which to extend our estimates into the years for which Census data were not available. The task was merely one of accounting for changes and departures from the base year. Construction offered a somewhat more difficult problem, but there again we had certain basic facts regarding the value of construction in each State for each year which, together with the estimated number of workers in the building trades, as recorded in the Occupation Statistics of the Census, and the union scales of wages compiled by the Bureau of Labor Statistics, greatly facilitated the apportionment by States. However, in disposing of the matter involving the distribution by States of wages and salaries in manufactures, mining, agriculture, and construction, we have solved only half the problem of apportioning the income of employees by States. The four industries covered in the preceding chapters, important as they are both from the standpoint of the value of the product and the number of individuals dependent upon them for a living, contribute only about 50 per cent of the total income from wages and salaries. Even in 1920, when the manufacturing and mining industries were at the height of their activity, only $22,217,000,000, out of a total of $41,560,000,000 was disbursed in wages and salaries in these four principal industries.[1] The other $19,343,000,000 constituted the share of employees in trade, transportation, public, professional, and domestic services, and miscellaneous trades and industries. In 1921 the relative position of the two groups of industries with regard to the total payrolls was changed completely. In this year

[1] (1) Manufactures; (2) Mines, Quarries, and Oil Wells; (3) Agriculture; and (4) Construction.

the total payrolls in agriculture, mining, manufactures, and construction, combined, dropped to $14,803,000,000, while the payrolls in trade, transportation, and miscellaneous industries increased to $19,898,000,000.

Although it would be highly desirable to segregate the individual industries included under the main heading of *Trade, Transportation, and Miscellaneous Industries,* so that each might be studied separately, the absence of a sufficient amount of reliable data by States for any of these industries makes it necessary to devise a method of handling the entire group as a unit. The problem, then, is to construct an index showing the proportional share of the total payrolls from all the industries included in the group going to the employees in each State. It is obvious that, before constructing an index which is designed to cover such a great number of dissimilar industries and services, the question of the interdependence and interrelation of earnings of employees engaged in different types of work must be given careful consideration. The necessity of a thorough investigation and analysis of the factors controlling relative earnings in different industries is emphasized by the fact that practically all the published data relative to the distribution of total wages and salaries by States pertain to the four industries already covered — namely, manufacturing, mining, agriculture, and construction — very little data being available for the greater portion of all the other industries. Can we with safety utilize the available wage data for one industry to determine conditions in another industry? In the pages that follow an attempt will be made to arrive at an answer to this question.

Males and Females in Industry.

To measure the relative wage level in each State, it is essential that the sample data be similar in nature, and that they represent the same thing in each case. Thus, the average salaries in any occupational group should, as nearly as possible, represent the same composition of personnel in all States. To be more specific, we should not, for example, compare hod-carriers in one State with bricklayers in another, or men's wages in the East with women's wages in the West. While it is impossible to find sufficient data that are exactly comparable, it is possible in a great number of

cases to adjust the available figures so as, at least, to approach uniform samples.

One of the chief factors interfering with the comparability of average earnings in different States is the difference in the proportion of women gainfully employed in the various States. Women, as a rule, do not earn as much as men. A relatively large number of women in industry in a State would naturally lower the average earnings of all employees in that State. Two States with entirely different wage levels may show average earnings almost identically the same, if the State with the higher wage level has a comparatively larger number of females gainfully employed. A concrete example will serve to emphasize the importance of this consideration in the measurement of the level of wages in different States. Using the data recorded in the *Census of Manufactures*, 1919, we find that the average earnings of wage earners in manufacturing industries in Massachusetts were $1,073; in Connecticut they were $1,170. Shall we infer from these figures that, in general, wages were about 9 per cent higher in Connecticut than in Massachusetts? Even off-hand, we would be inclined to question such a conclusion. A further study of the data presented in the Census reveals the fact that the average number of wage earners in the two States was as follows:

Massachusetts

Males..................	478,449
Females................	211,951

Connecticut

Males..................	217,457
Females................	68,330

In other words, for every hundred males employed in manufacturing industries in Massachusetts, there were 44.3 females. In Connecticut, however, there were only 31.4 females to every hundred males. The greater number of females among Massachusetts factory workers consequently pulls the average wage down, giving us an erroneous impression of the rates of pay prevalent in that State as compared with other States. As a matter of fact, taking male factory workers alone, the average earnings in Massachusetts were slightly higher than in Connecticut.[1]

[1] See Table VIII.

The variation in the number of males and females gainfully employed in different States is brought out clearly in the *Occupation Statistics* of the 1920 Census of Population. The first eight States listed in the report show the following ratios of men to women in all occupations:

Alabama..................... 3.0
Arizona..................... 6.1
Arkansas.................... 4.5
California.... .... 4.3
Colorado.................... 4.8
Connecticut................. 3.0
Delaware.................... 4.0
District of Columbia.......... 1.5

Taking the two extremes in the above example, we find a variation of 400 per cent, the proportionate number of women gainfully employed in the District of Columbia being four times as great as in Arizona.

Ratio of Average Earnings of Males to Average Earnings of Females.

How do earnings of females compare with those of males? In connection with the 1905 Census of Manufactures, the Bureau of the Census made a special study of weekly earnings covering a total of over 3,000,000 wage earners in manufacturing industries. The results, in so far as the earnings of males and females are concerned, may be summed up as follows:[1]

Weekly earnings of males 16 years of age and over......................... $11.16
Weekly earnings of females 16 years of age and over....................... $6.17
The ratio of earnings of males to those of females.......................... 1.81

A survey of a number of industries for which data are available for more recent years indicates that the ratio of the earnings of males to those of females, in the case of wage earners at least, has not changed materially since 1905. It is, however, found that for salaried employees the ratio between earnings of males and females tends to run higher than in the case of wage earners. This may, of course, be explained by the fact that salaries offer room for greater variation, and that the number of women in technical and executive positions is comparatively small, women still occupying chiefly the less remunerative salaried positions.

[1] Special report of the U. S. Census Office, *Manufactures*, 1905, Part IV, p. 65.

The following are a few examples of the way in which the earnings of males compare with the earnings of females:

Description of Data	*Ratio of Earnings of Males to those of Females*
Michigan Figures for 1919 [1]	
Factories (covering 566,000 males and 96,000 females)	1.95
Hotels	1.75
Restaurants	2.03
Stores	1.80
Pennsylvania Figures for 1920 [2]	
All Industries	
Wages	2.30
Salaries	2.67
Laundries, etc.	
Wages	2.16
Salaries	2.93
Public Service	
Wages	1.60
Salaries	1.95
Miscellaneous Data	
Farm Labor U. S., 1920 to 1922 [3]	
By the Month	1.32
By the Day	1.91
Boots and Shoes Factories in 1914 [4]	1.70

On the basis of the above and other similar data, it is estimated that, on the average, men earn about 1.9 as much as women when working for wages or salaries. Hence, in studying the relationship between wages in different industries and the relative level of wages in different States, the ratio of 1.9 has been used as an adjusting factor for the differences in the proportion of males to females.

Wages in Manufacturing and Agriculture.

Is there any connection between the earnings of employees in the different occupations? Do high wages in one occupational group indicate high wages in others? To be more concrete, if, on the average, the tailors in New York earn higher wages than the tailors in Chicago, does it follow that the earnings of carpenters in New York are also higher than those of carpenters in Chicago? To

[1] *Thirty-seventh Annual Report*, Dept. of Labor, 1920.
[2] Dept. of Internal Affairs, 1920.
[3] W. I. King, *Employment, Hours, and Earnings in Prosperity and Depression*, National Bureau of Economic Research, Tables LXII and LXVII.
[4] *Bulletin 178*, U. S. Bureau of Labor Statistics.

answer these questions, and to throw light in general upon the interrelationship between earnings in different occupations, a series of scatter diagrams, a few of which are shown here, have been constructed, each graph representing a study of earnings of the employees in two specified industrial or occupational groups in the several States. In order to be able to identify the data by principal geographic divisions, a code of symbols has been devised for the plotting of points on the graphs. These symbols are shown in the legend of each of the charts presented, and represent the divisions used by the Census as follows: New England, Middle Atlantic, East North Central, West North Central, South Atlantic, East South Central, West South Central, Mountain, and Pacific.

Chart 1 represents for each State the average unadjusted annual earnings of wage earners in manufacturing industries as compared with estimated annual earnings of farm laborers. From this graph, it would appear that the country divides itself roughly into four areas: first, the West; second, New England; third, Middle Atlantic and East North Central; fourth, the South. Within each of the four sections there seems to be little or no correlation between manufacturing and farm wages. The only sign of correlation within any group appears in the case of the six agricultural States making up the West North Central division. However, this apparent correlation may be only a play of chance, and it would probably be safest not to accept the evidence contained in this chart as indicating any relationship between farm and manufacturing wages within groups.

The points on Chart 1 lend themselves to another possible grouping of States: first, the Western States and New England; second, the Middle Atlantic and East North Central States and the South. It would appear that the States align themselves along two axes drawn at two different levels with respect to farm wages and almost parallel to each other. Still another grouping of the points on Chart 1 is that for the United States as a whole. From this standpoint one would be led to conclude that, in general, taking all the States into consideration without reference to geographic location, there is a marked tendency for farm wages and manufacturing wages to be interdependent.

Before going further into the discussion, and drawing con-

clusions as to the manner in which farm wages and manufacturing wages react upon each other, it should be noted that there is a

CHART 1

**RELATIONSHIP BETWEEN FARM WAGES AND WAGES
IN MANUFACTURING INDUSTRIES
1919**
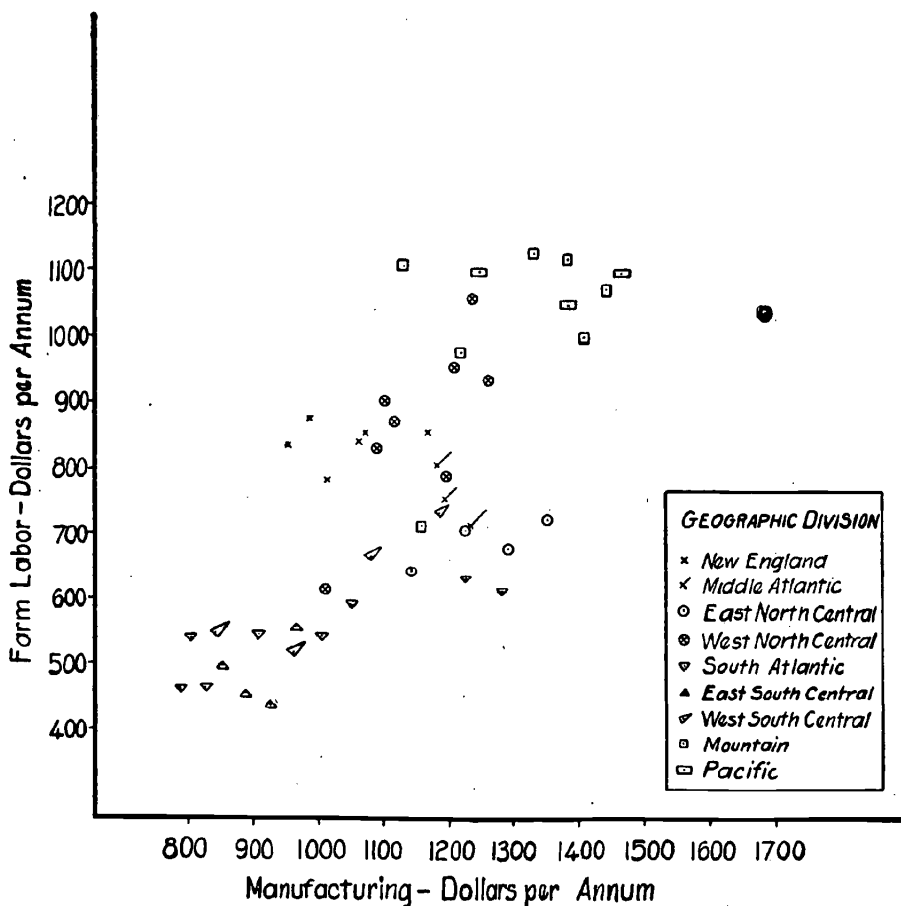
deficiency in the figures used in Chart 1. The earnings in manufacturing industries plotted in this chart were obtained by dividing the total amount paid out in wages by the total number of wage

earners as reported by the Census of Manufactures. If the workers in manufacturing industries were homogeneous throughout the United States, the averages thus obtained would be representative and could be considered fit for comparison with earnings in other industries. This, however, is not the case. As pointed out in a previous section of this chapter, the number of males and females in this industry are not proportionately the same in all States, which fact has a tendency to distort to a considerable extent the comparative wage level obtained in each State.

This discrepancy has been adjusted in Chart 2 which presents the same study as Chart 1 with manufacturing wages adjusted for sex. It will be noticed that the points in this chart are drawn more closely together laterally and, on the whole, cover a smaller area than in Chart 1. It will also be observed that we now have more decided groupings, and while in the first graph the points representing the New England States are scattered haphazardly, they are now arranged more in line with, and closer to, the axis of the main grouping into which they fall. The same is true of points representing States in other geographic divisions. The tendency of double grouping along two almost parallel axes drawn one above the other, indicated in Chart 1, is confirmed in Chart 2.

It is rather curious to note that New England falls in the same group as the Western States, while New York, New Jersey, and Pennsylvania line themselves up with the South and the East North Central States.

Let us now note the position of individual States, which, for one reason or another, are not true to their usual more or less artificial geographic grouping. Wisconsin, ordinarily classed with the East North Central States, seems to resemble more the States further west and, at least in the case of agricultural wages, joins with Minnesota and Iowa rather than with Illinois and Indiana. Missouri abandons the other States in the West North Central division and falls in line with the South. New Mexico also joins the South, and shows a decided difference from the other States in the Mountain division with which it is ordinarily grouped.

With the possible exception of the Mountain and Pacific States, Chart 2 shows a marked degree of correlation between wages in

manufacturing and wages in agriculture. The South Atlantic, East South Central, and the West South Central States, together

CHART 2

RELATIONSHIP BETWEEN FARM WAGES AND WAGES OF MALES IN MANUFACTURING INDUSTRIES
1919

GEOGRAPHIC DIVISION

× New England
◢ Middle Atlantic
◎ East North Central
⊛ West North Central
▽ South Atlantic
△ East South Central
⬕ West South Central
▫ Mountain
▭ Pacific

Farm Labor – Dollars per Annum.

900 1000 1100 1200 1300 1400 1500 1600 1700 1800
Manufacturing– Dollars per Annum
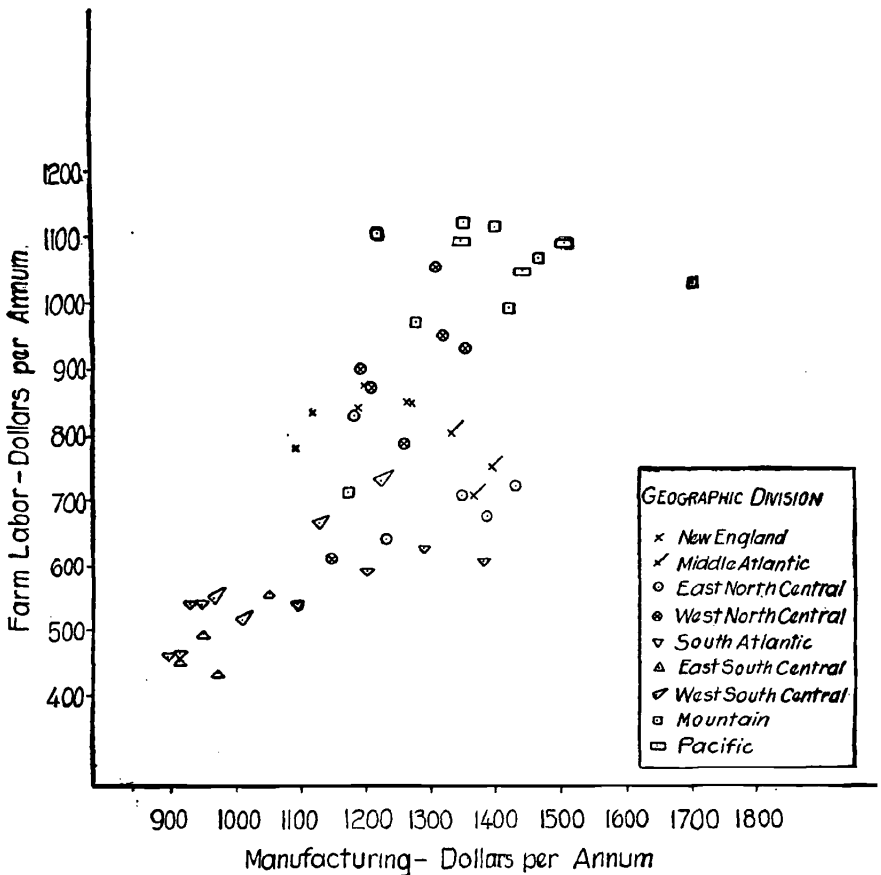
with the Middle Atlantic and the East North Central States, arrange themselves along an axis making an angle of about 30 degrees with the base line. The New England States arrange

themselves roughly along the same axis with the West North Central division.

As observed above, while there is correlation between manufacturing and farm wages in practically all other geographic divisions, the Mountain and Pacific divisions fail to conform to this rule. The reason for this is not difficult to trace. Assuming a free flow of labor from one group of industries to the other, it might be supposed that the price of labor would be the same in both. This price would naturally be determined by the combined demand for labor of the two groups of industries and the general supply of labor within the given place. Should one of the two groups of industries be more important, i.e., should its demand for labor be greater than that of the other, the rates would probably be set by the larger. The farm has its attractions, and it might be said that, at any given time, there are a number of people who from preference would be willing to work on the farm for a smaller wage than anywhere else. It is also reasonable to believe that, at any given time, there are some people who by training, or rather lack of other training, and because of certain natural limitations, are compelled to seek employment on the farm rather than anywhere else, and naturally would consent to work at a comparatively low wage. However, when the demand for farm labor is greater than this *natural* supply, agriculture enters into competition with other industries in its demand for labor. In that case, the wages paid in industries employing labor of a somewhat similar type as in agriculture would, to a great extent, determine the price of agricultural labor. In the Eastern States, where manufacturing is the most important employer of labor, farm wages are apparently influenced by manufacturing wages. In the West, however, manufacturing plays a secondary rôle in so far as the employment of labor is concerned, and its influence is apparently not sufficiently great to affect the labor market. Farm wages would consequently vary, to a certain degree, with some other factor.

At least in some of the Western States, mining is very important, and is possibly more to the taste of the type of men from which the western farm hands are recruited than manufacturing or any other inside work. Mining, therefore, it would appear, has a share in influencing farm wages in the West. There are undoubtedly

several factors besides mining and manufacturing which have their bearing upon agricultural wages, but these two are probably the most important. Of course, mining also exercises an influence upon the wage level in some of the States east of the Mississippi, but, on account of the predominant strength of manufacturing industries, the effect of mining is more or less obscured. It follows that better results might be obtained by comparing farm wages with wages in manufacturing and mining combined rather than with wages in either of the two industries separately.
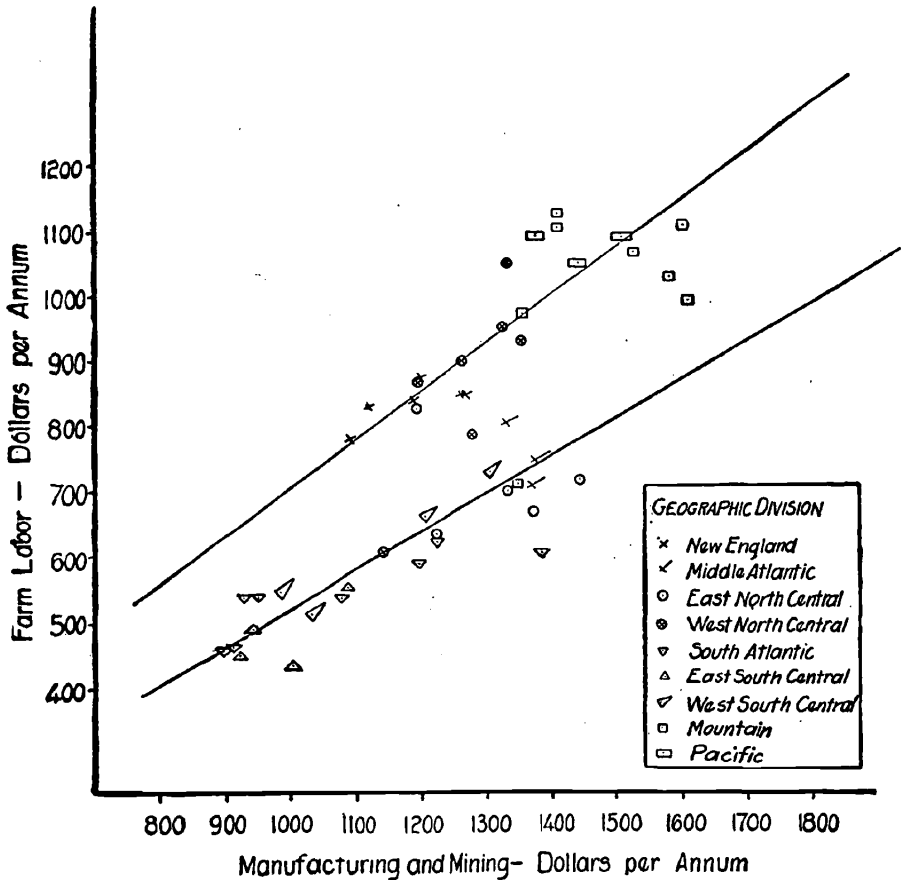
Chart 3 shows such a comparison. The result of combining mining and manufacturing wages is apparent at a glance. The two distinct wage levels in agriculture indicated in Charts 1 and 2 are more clearly defined in the new graph. In addition to the general improvement in the alignment of States within groups where correlation has already been indicated, in Chart 3 we find that even the Mountain and Pacific States follow the general principles which seem to fix the wage levels in separate industries.

There are several questions that will probably come to the mind of the reader at this juncture. One of them is: What is the reason for the two almost parallel wage levels, which, though following the same tendency in correlation between farm wages and manufacturing and mining wages, show that in some sections of the country farm labor is at a higher level than in other localities? The interaction of supply and demand is, of course, the underlying cause, though the way in which supply and demand produce this phenomenon is open to speculation. The conditions balancing the supply and demand in the case of farm labor are undoubtedly different in the several sections of the country. Why are farm wages found to be on a higher level in New England than in the other States along the Atlantic seaboard? In New England agriculture is not a very important industry, and its demand for labor cannot be sufficiently great to cause higher wages than in the States further south. The cause for a comparatively higher wage level for farming in these States must, therefore, be ascribed to a deficient supply rather than a high demand for labor. What is the supply of labor in New England? The educational facilities and the opportunities in the cities in that section of the country have undoubtedly depleted the supply of native whites who are willing to remain on the farm

and particularly those content to hire out as farm laborers. Immigration apparently did not help this matter. The tide of recent

CHART **3**

RELATIONSHIP BETWEEN FARM WAGES AND WAGES OF MALES IN MANUFACTURING AND MINING INDUSTRIES
1919

GEOGRAPHIC DIVISION

✗	New England
✗	Middle Atlantic
○	East North Central
⊛	West North Central
▽	South Atlantic
△	East South Central
▽	West South Central
▢	Mountain
▭	Pacific

Farm Labor — Dollars per Annum

Manufacturing and Mining— Dollars per Annum

immigration has been to the cities rather than to the country, and immigrants who are inclined towards farming activities do not ordinarily stop east, but look for opportunities further west. It is,

therefore, not surprising that farm labor in New England should be more or less at a premium.

The comparatively high level in farm wages in the West North Central States is probably due to the fact that agriculture is the principal industry, and the demand for labor in agriculture is quite important. This section has to compete for labor with manufacturing industries in other sections of the country, and there naturally must be a premium on its labor supply. The Mountain and Pacific States have a great deal of specialized agriculture such as stock raising and fruit growing. This, together with the fact that opportunities in mining in these States are considerable, probably accounts for the fact that farm wages are on a higher level in this part of the country than anywhere else. It will be noticed that New Mexico with a great supply of cheap Mexican labor falls within the other grouping of States, where the ratio of farm wages to wages in manufacturing and mining is smaller than in the Mountain States. Missouri, with a large negro population, also has an abundant supply of cheap labor. This is chiefly responsible for the fact that Missouri does not conform to the other States in the West North Central division, with which it is ordinarily classed.

Wages in Mining and Agriculture.

Mining is geographically more concentrated than manufacturing and, except in a very few States, can in itself have very little influence on wages in other industries. Nevertheless, when farm wages are plotted against mining wages in a scatter diagram in a similar manner as shown in Charts 1, 2, and 3, it appears that, although the *spread* of the individual points is considerable, there is a marked tendency toward correlation between the two industries. The two levels in farm wages brought out in Charts 1, 2, and 3, are also discernible in this case, but not very clearly.
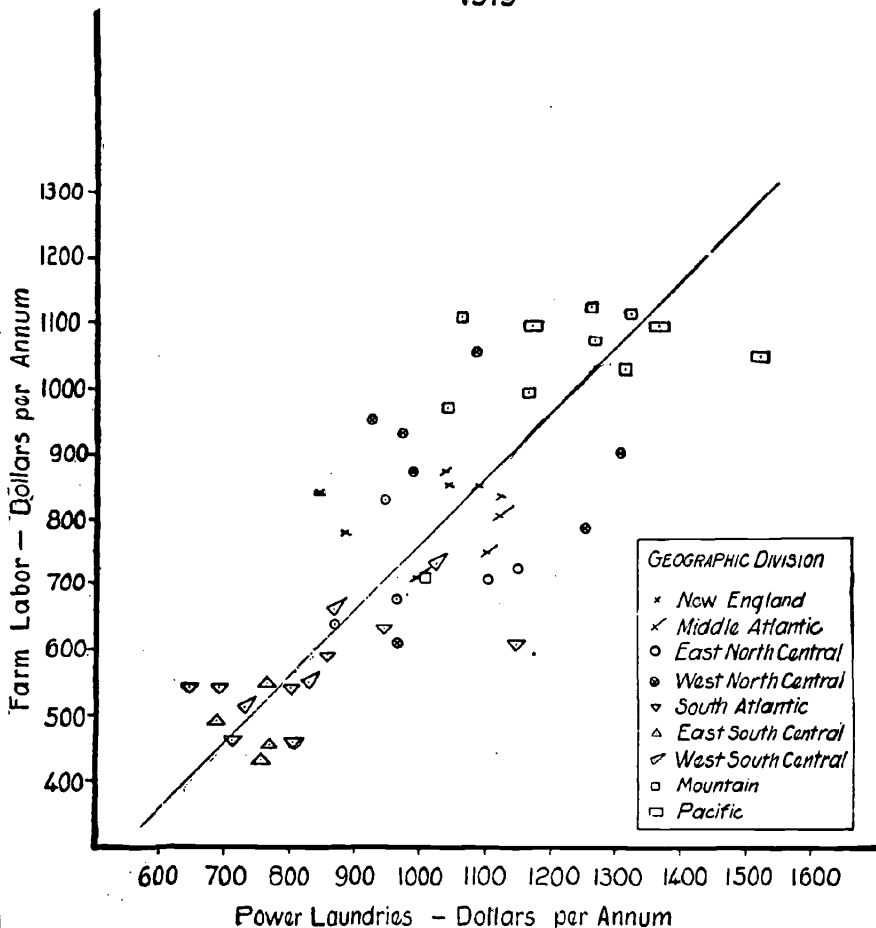
Wages in Agriculture and Power Laundries.

The interrelation of wages in different industries is well shown in a comparison between wages in power laundries and those in agriculture. Off-hand, one would be led to believe that wage earners in power laundries, as well as domestics and other individuals with similar occupations, are recruited from the same general

class as farm labor and, consequently, that wages in power laundries would be governed to a great extent by the prices commanded

**RELATIONSHIP BETWEEN FARM WAGES AND
WAGES OF MALES IN POWER LAUNDRIES
1919**

GEOGRAPHIC DIVISION

× New England
✗ Middle Atlantic
○ East North Central
◉ West North Central
▽ South Atlantic
△ East South Central
◁ West South Central
□ Mountain
▭ Pacific

Farm Labor — Dollars per Annum

Power Laundries — Dollars per Annum

by agricultural labor. Adjusted wages in power laundries [1] have been plotted against farm wages in Chart 4. It will be noted that our hypothesis is in the main verified. The existence of correlation

[1] Adjusted to basis of males.

between wages in agriculture and wages in power laundries is unmistakable. It is also interesting to note that a straight line fitting the points representing the different States forms an angle of about 45 degrees with the base line. This means that, in general, a rise in farm wages is accompanied by an equal rise in the wages of power laundry employees. It appears that in 1919 wage earners in power laundries received, on the average, about $240 per year more than farm laborers. This amount probably covered the difference in the cost of living between the city and the country.

Wages in Mining and Manufacturing.

Another point of interest in our investigation of the relationship between earnings in different industries is to see whether or not mining wages are at all governed by manufacturing wages, or vice versa. The annual earnings in these two industries have been plotted in a scatter diagram similar to those described in the preceding pages. This graph again shows the country to be divided into two major sections. In this case, the South acts more like the West than the rest of the country. Viewing the graph as a whole, correlation between mining and manufacturing wages does not appear to be of high degree. However, if we leave out of consideration the South and the West, the points for the remaining States assume a definite alignment indicating high correlation. Apparently, where manufacturing activities are important, they exert considerable influence on mining wages and draw them into line with manufacturing wages. In the few manufacturing centers where there is considerable mining, as in Pennsylvania, the two industries seem to interact very definitely, and tend to equalize wages. In Pennsylvania, for instance, the average wage in mining is approximately the same as that in manufacturing.

To venture an explanation of the fact that in the West and the South mining wages bear no relationship to manufacturing wages, it might be said that in these States there is still comparatively little manufacturing, and that the limited amount of manufacturing that is carried on there is apparently of a kind that does not enter into competition for labor with mining, and, also, that it is not of the kind to be influenced by conditions in the mining industries.

Wages in Building Trades and Manufacturing.

A graph has also been constructed to show union scales of wages in the building trades plotted against earnings of male wage earners in manufacturing industries. Here we find practically the same condition of affairs as that shown in the graph comparing mining with manufacturing. A satisfactory grouping is obtained for all sections of the country with the exception of the South and the far West. It may be stated that Missouri again lines up with the South. This probably offers a clue as to why in the Southern States wages in building trades are not correlated with wages in manufacturing as in the Northern States. The influence of cheap negro labor is apparently felt more in industries employing common labor requiring little specialization or intelligence than in the higher grades of occupations such as building trades. Thus, in the building trades, wages in the South are as high as, if not higher, than in the Northern States. This theory is also borne out by the fact that salaries of clerical employees in the South are, on the average, not different from those in the Middle West. (See Table VIII.)

**Salaries of Teachers as Compared with Salaries of Clergymen.**

Another interesting comparison is that between the salaries paid to teachers and those paid to ministers. Education and religion have always been closely related spiritually, and it is, therefore, interesting to see how well they compare in a material way with respect to the economic welfare of their personnel. To what extent is the lot of the teacher related to that of the minister? Is it true that a community that pays its teachers well will also treat its ministers with liberality?

Chart 5 throws some light upon these queries. It should be pointed out that the figures plotted in this graph are not entirely comparable. The clergy is composed chiefly of males, while the majority of teachers are females. No attempt has been made to adjust the data for the difference in the sex, and the reader should bear this in mind while studying our graph. As can be seen, there is very good correlation between salaries paid to clergymen and those paid to teachers. This means that, on the whole, the economic condition of the minister is reflected in that of the teacher,

or vice versa, and that the average salary of the clergy would prove to be a fairly good indicator of the earnings of teachers in a given locality.

CHART 5

RELATIONSHIP BETWEEN SALARIES OF TEACHERS
AND SALARIES OF MINISTERS
1919
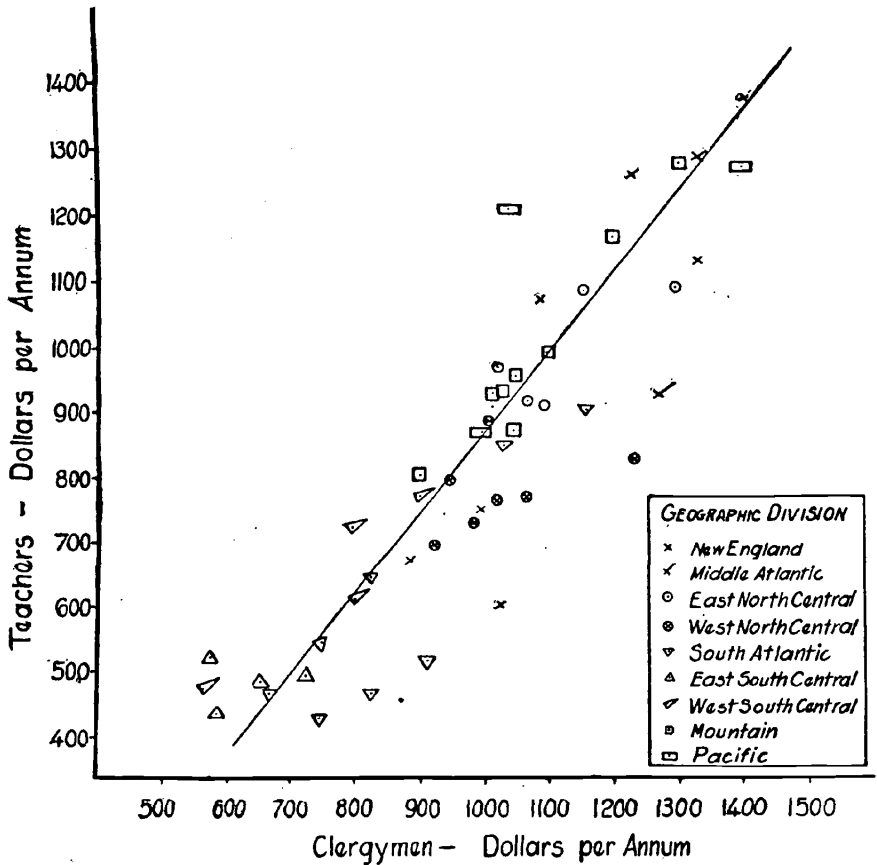
Having established that correlation exists between salaries of teachers and those of clergymen, we may attempt to measure mathematically the relationship existing between the salaries in

the two professions. Fitting a straight line to the points plotted, we find that the ratio of variation of clergymen's salaries as compared with teachers' salaries is about .84. That is, if our original data are correct, we would infer that for every change of $10 in teachers' salaries, there is a change of only $8.40 in ministers' salaries. We, therefore, note that clergymen's salaries are at first somewhat higher than those of teachers. However, in view of the fact that changes in ministerial salaries are at a lower rate than those in teachers' salaries, the latter tend to approach those of ministers as they go up. Thus, at the point where teachers' salaries are $700 per annum, ministerial salaries are about $900, a difference of $200; but, with an average salary for teachers of $1,300, clergymen receive only an average of $1,400 per annum, a difference of only $100.

In comparing the salaries of teachers with those of ministers, we should, as mentioned above, bear in mind that in one case we deal with the earnings of women, while in the other we have to do with the earnings of men and, in most cases, heads of families. In this light, we might be led to conclude that, on the average, to be a clergyman in the United States is somewhat less profitable than to be a teacher. This conclusion is probably not far from the truth. There is, however, one aspect of the situation that may modify somewhat our conclusion. The salaries of clergymen as plotted in our graph are estimated averages of the amounts of money paid annually to clergymen in the form of salaries. These amounts are, of course, materially less than the actual receipts, for, in addition to regular salaries, ministers ordinarily receive a considerable supplementary income, both in money and in kind. The additional income including the use of parsonages, which are provided by many congregations, would probably add on an average about 25 per cent to the total salaries. This is particularly true in the case of lower salaried ministers, and it is quite possible that, were data available to make the proper correction in ministers' incomes, the line fitting the points in our graph would be shifted so as to make an angle of about 45 degrees with the base line. In this case, the ratio of variation between the clergymen's and teachers' salaries would be 1 instead of .84.

Union Wages.

As pointed out in a previous paragraph, wages in the building trades are not correlated in all sections of the country with wages in mining and manufacturing. They apparently follow a law of their own determined largely by the supply of specialized types of labor and union restrictions. The building trades are highly unionized, and one might surmise that their influence would be reflected to some extent at least in the wage scales of other unions. The data showing union wage scales in other trades are not as plentiful as in the case of building trades, and the extent of the influence of building trade wages on wage scales of other local unions has been studied to only a limited degree.

The United States Bureau of Labor Statistics gives union scales for motormen and conductors on street railways in specified cities. From these, sample scales of full-time earnings of motormen and conductors in twenty-one States were estimated. These data were first plotted against manufacturing and mining wages. However, the "scatter" of the points was so wide that no correlation could be deduced. The same data were then plotted against the estimated average full-time earnings in the building trades for the corresponding States. A study of the resulting graph shows that, on the whole, we would be justified in concluding that union wages of motormen and conductors vary with wages in the building trades. At any rate, the wages of motormen and conductors bear a closer relationship to union wages in the building trades than to any other class of wages. The union scales for chauffeurs have also been found to vary with building trades rather than with other wages. However, the number of States for which data of union scales of chauffeurs are available is so small that no definite conclusions can be drawn.

Summary.

The facts learned from the investigation described in this chapter may be summed up as follows:

1. In general, wages in different industries are interdependent. This is particularly true in the case of occupational groups drawing employees from the same general class of society.

2. Wages in agriculture vary in much the same way as wages in manufacturing and mining industries.

3. In the case of agricultural labor, the country falls into several districts which follow two distinct wage levels. In 1919 the difference between the two wage levels in agriculture, which are almost parallel when plotted, was approximately $200 per annum.

4. Following the above line of cleavage, the New England States line themselves up with the West North Central, Mountain and Pacific States, while the Middle Atlantic States and the East North Central States go with the South. Wisconsin joins Minnesota and the New England and Western groups, while Missouri and New Mexico demonstrate, at least in this respect, that they are more akin to the South than to the North and West.

5. There is apparent correlation between farm wages and manufacturing wages as well as between farm wages and mining wages. However, when we combine mining wages with manufacturing wages, the correlation between the combined average and the average farm wages is greatly improved.

6. Except for certain sections of the South and far West, there is a high degree of correlation between mining wages and manufacturing wages.

7. Somewhat the same tendency as is shown to exist between mining and manufacturing wages appears also in the case of the relationship between manufacturing wages and the union scales of pay in building trades, — that is, fairly good correlation exists between the two sets of scales with the exception of the South and the far West.

8. Teachers' salaries vary closely with ministers' salaries in different parts of the country.

9. Union scales in one industry are more likely to vary with union scales in another industry than with ordinary non-union rates.

10. Though the data available are not sufficient to make it possible to draw positive conclusions, there is, at least, an indication that the salaries of clerks in stores and the salaries of clerks in manufacturing industries are interdependent and vary with one another.