

The Cost of Production Credit

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TABLE OF CONTENTS

	PAGE
INTRODUCTION	3
THE NATURE OF CREDIT	3
METHOD OF PROCEDURE IN THE COLLECTION AND ANALYSIS OF STATISTICAL DATA	4
Description of the Area Studied	4
Sources of Data and Techniques Used	4
Statistical Tests	5
Computing the Value of Collateral	6
Methods Used in Calculating Costs of Loans	6
SOURCES OF FARM CREDIT AND COST OF LOANS	7
Sources	7
Factors Affecting Cost of Loans	9
Method of Payment Affects Cost of Loan	12
Cost of PCA Loans and Bank Loans	12
Cost of Merchant Credit	13
LENGTH OF TERM, SEASONAL VARIATIONS IN EXTENSIONS AND REPAYMENTS	15
Length of Term	15
Seasonal Variations in Extensions and Repayments	16
LOAN SECURITIES	18
Value of Security of PCA Loans	18
The Security for Bank Loans	21
SUMMARY	21
APPENDIX	24
The General Formula	24
Special Cases	25

THE COST OF PRODUCTION CREDIT

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INTRODUCTION

The rapid development and expansion of commercial agriculture has created a need for low cost credit for farmers' use. It is no longer possible, as in the past, for farmers to pay excessive charges for the use of borrowed funds. Formerly, high charges for loans were not significant because the amounts borrowed were small and infrequent. Today this is no longer true. Commercial production, which is highly competitive, requires more funds annually than the farmers normally have available. Unless these needed funds can be obtained at a cost comparable to that paid by other users of credit, farmers will not be able to make the best use of their resources, produce goods cheaply, nor make those annual changes in farm organization and practices that will give them the maximum net returns for the farm as a whole.

The availability and the cost of credit are especially significant at this time. Farmers are being asked to produce more food than ever before in the history of the nation. In many

parts of the state this means a radical readjustment in production. It is no easy task, for example, for farmers to give up the production of cotton and begin to produce milk, pork and other animal products. Neither is it easy to change from cotton to the production of peanuts and soybeans which are badly needed in the war effort. In these cases farmers need funds to buy or raise livestock or to obtain the needed fertilizer, seed, and essential equipment. All of these things cost money and getting more money involves the use of credit.

It is for these reasons that credit is such an important factor in the success of the farmer. This study was undertaken to determine just what the use of credit costs farmers today, what effect the cost of credit has on the use of the farmers' resources, and how credit costs can be reduced. This bulletin will be confined to presenting the facts associated with the cost of production credit. The other phases of the credit problem will be developed in subsequent publications.²

THE NATURE OF CREDIT

At the outset, it will be necessary to get a clear understanding of the nature of credit. It is not a mysterious thing, the use of which will solve all the farmers' problems. It has been compared to a buzz-saw,

which is a useful instrument in the hands of a competent operator but nonetheless a dangerous one.³

Credit is a means of obtaining the

¹ See N. C. Agr. Experiment Station Bulletins Nos. 270 and 271 for information on credit conditions as they existed in 1928.

² Carver, T. N., "How to Use Farm Credit," Farmers' Bulletin No. 593, p. 1.

³ Resigned effective January 15, 1943.

use of other people's money. When a farmer uses credit, it simply means the transfer of purchasing power from someone else to the farmer. The basic assumption, on which this transfer is made, is that the funds so borrowed will be put to a higher productive use. It is obvious that whether or not the borrowed funds are made more productive will depend in part upon the skill of the debtor in conducting his business, and in part on things such as weather over which the operator has no control. These uncertainties, which always surround the use of borrowed funds, require the borrower to guarantee that the debt will be repaid when due. This guarantee may take several forms, such as a promissory note, a mortgage or a lien on the assets of the borrower. When a mortgage or lien is used, it is accompanied by a writ-

ten agreement stating the terms of the loan and a list and description of each asset given as security. In the event that the borrower cannot, or will not pay the loan when due, the lender has the legal right to sell these assets to liquidate the debt. This procedure is known as foreclosure.

The loan agreement also states the charges, if any, and the rate of interest which must be paid by the borrower. The charges consist of the cost of inspecting the assets given as security, recording fees, and other charges associated with the granting of the loan, such as clerical help, forms used, and postage. Not infrequently to these charges is added a cost for insurance. The lender may require that the borrower insure, with some reputable insurance company, all of the assets given as security for the loan.

METHOD OF PROCEDURE IN THE COLLECTION AND ANALYSIS OF STATISTICAL DATA

Description of the Area Studied

To obtain the information for this study, data on the loans made to farmers were collected from the production credit associations located in Johnston, Wake and Guilford counties. The reason for selecting these counties may be briefly stated as follows: Johnston County, located in the Coastal Plains Area of the state, has a well established production credit association with a greater number of members and, in 1940, made a larger volume of PCA loans than any other county in the state. The type of farming practiced is highly commercialized and emphasis is on the production of cotton and tobacco. Livestock plays a relatively unimportant role in the agriculture of the county. Wake County, which also has a successful production credit association, is located in

the eastern Piedmont Region of the state and embraces types of farming that are different from those in Johnston County. More livestock and less cotton are raised. Guilford County is one of several counties served by the PCA located in Graham in Alamance County. The territory covered by this association includes Guilford, Alamance, Orange, Durham, Caswell, Person, Rockingham, Randolph, and Chatham counties. Guilford is representative of the dairy section of the Central Piedmont Region. Many relatively large dairies are located in the county. Tobacco is an important commercial crop, but the acreage of cotton is insignificant.

Sources of Data and Techniques Used

The sources of information used in this study were the records of the

production credit associations and those of commercial banks operating at the time in the areas covered by this investigation. In addition to these two sources, the chattel mortgages filed with the registrar of deeds in each county were available. Such mortgages, which must be filed to have precedence over any other mortgage that may be given on the same property, give the name of the borrower, location of the farm, type of equipment and machinery, as well as the name of the crops and the number and kinds of livestock on which a crop lien, or chattel mortgage, has been taken as security for the loan.

In selecting the sample of the loans the following procedure was used. The mortgage books containing a record of the 1940 PCA loans were examined and the number of each page containing a PCA chattel mortgage or crop lien was recorded. Each page number was then assigned a consecutive serial number, running from one to the number representing the total number of loans made during the year. Random numbers were applied to the serial numbers in order to secure an unbiased sample. For example, if the first number encountered in the random table was 603, the case bearing serial number 603 would be sample number 1, which might be found to be recorded in book 832, page 435. Therefore, the PCA crop lien and chattel mortgage recorded in book number 832, page 435 would be one item in the sample. This procedure was followed in each of the three counties until 329 cases were obtained, or over 10 per cent of the total number of cases.

The following information was transcribed from the register of deeds for each sample loan: Total number of acres in the farm, acres in various crops upon which a lien was taken, number and kind of livestock, and

the amount and kind of equipment on which a chattel mortgage was taken. The total amount of the loan made in each instance was, of course, reported. Other essential data, such as the actual amount of cash extended and the amount repaid by months, were obtained at the office of the local production credit association.

Ninety records of short-term loans to farmers were taken from four commercial banks in Wake and Johnston counties. These records showed the acres of land operated, acres cultivated, the total value of the farm, charges made for loans, security required for the loan, and amounts extended and repaid by months.

To supplement the information collected from the production credit associations and commercial banks, a study was made of 167 farms in Johnston County. This included data about the operator and his family, type of land, crops, livestock, and other information necessary to a complete summary of receipts, expenses, and net income for each farm together with information on the amount of credit used.

Statistical Tests

To test the adequacy of the sampling procedure, data were obtained on certain characteristics for the entire population (total number of PCA loans) in Wake County. The factors chosen for this test were (1) acres of cotton, (2) acres of tobacco, (3) acres of corn, (4) acres of hay, (5) amount of loan, and (6) total acres of land. The means were computed for these factors and a comparison made between the sample estimates and the actual population values to see if there was a significant difference.

As the total number of loans was known, the correction factor for a finite population should be applied to

the standard error of the sample mean.⁴ The population mean of each factor tested was found to be well within the fiducial limits of the sample mean.⁵ This being the case, the sample was considered adequate.

Computing the Value of Collateral

The number and types of loan collaterals are listed in the courthouse records. The value of these instruments, however, is not reported. For this reason, a comparison of collateral as between borrowers was impossible unless such collateral were reduced to a common base. To do this, the values of farm machinery and tools, such as wagons, plows, and similar equipment, were obtained from the sample study of farms in Johnston County. These data were checked against the results from other farm management studies and information from other sources.⁶ Tractors, trucks and cars were evaluated on the basis of information received from equipment and motor companies. The value of livestock was taken from a study of dairy production.⁷ In the case of workstock, the description in the courthouse records was complete enough to permit a differentiation of values with respect to age and weight.⁸

It should be pointed out that poultry, hogs and stock kept for feeding purposes were not included in these

⁴ The following formula was used:

Standard error = $\frac{s}{\sqrt{n}} \cdot \sqrt{\frac{N-n}{N}}$ Where s is the standard deviation of the sample, N the number of items in the population, n the number of items in the sample, and $\frac{s}{\sqrt{n}}$ the uncorrected standard error.

⁵ Fiducial limits indicate the limits within which one reasonably can expect the true mean to fall.

⁶ Department of Agricultural Engineering of the N. C. Agr. Exp. Station.

⁷ A study of cost of producing milk. Department of Agr. Economics, N. C. Agr. Exp. Station.

⁸ These estimates were checked in the Department of Animal Husbandry, N. C. Agr. Exp. Station.

estimates of values of livestock collateral. The reason for this distinction is obvious. Hogs and stock fed are actually part of the farm crops, and as collateral, they are, therefore, related more to the crop lien than to the chattel mortgage.

Methods Used in Calculating Costs of Loans

The procedure followed in calculating costs of loans needs some explanation. The various institutions follow different practices of charging the borrower for the use of short-term credit. Commercial banks charge a flat interest rate but have a minimum fee for small loans. The production credit associations charge certain service and recording fees in addition to interest. In some cases these payments are made when the loan matures, in others, they are deducted in advance. To make these costs comparable among borrowers and between agencies, all charges were transformed to a common base. This was done by computing the per annum cost for each loan under the assumption that these payments were all made on the maturity date of the loan. Formulas used in converting loan charges to a comparable base are presented in the Appendix.

Where flat charges were deducted in advance and interest was paid at maturity, the following formula⁹ was used to determine the true rate of

interest: $I = \frac{4.5L + 1200F}{L - T(F + S)}$ where:

I is the true rate of interest; 4.5 the interest paid at maturity; L the loan months; F the fixed charges levied in advance; T the total time in months for which the loan is outstanding; and S the cost of the stock.

This procedure may be illustrated by the following example: Assume

⁹ See Appendix for derivation of formula.

that a borrower secured a loan in accord with the following schedule—

Month	Extension	Repayments
January		
February	\$550.00	
March		
April		
May		
June		
July		
August	25.00	
September		
October		
November		\$575.00
December		

Further assume that a fixed charge of \$9.25, paid in advance, was incurred with the loan, and that the PCA rate of 4.5 per cent was charged on the amounts outstanding.

The true interest rate is ascertained as follows:

$$L = 550 \times 9 \text{ months} + 25 \times 3 \text{ months} = \$5,025.00.$$

$$T = 9 \text{ months.}$$

$$F + S = 9.25 + 30.00 = \$39.25.$$

Substituting in the above formula:

$$I = \frac{4.5 \times 5025 + 1200 \times 9.25}{5025 - 9 \times 39.25} =$$

$$7.22 \text{ per cent per annum.}$$

In the case of commercial bank loans the following formula was

$$\text{used: } I = \frac{1200L}{200L - L'} \text{ where } I \text{ is the}$$

true rate; L the loan month; and L' the sum of amounts outstanding multiplied by the corresponding square of the months.

Assume that a borrower obtained a loan in accord with the following schedule:

Month	Extension	Repayments
January		
February	\$160.00	
March	70.00	
April		
May		
June		
July		
August	30.00	
September		\$260.00
October		
November		
December		

Further assume that the charge levied for this loan was 6 per cent, discounted on the amounts outstanding.

$$L = 1570 =$$

$$(160 \times 7 + 70 \times 6 + 30 \times 1)$$

$$L' = 10,390 =$$

$$(160 \times 7^2 + 70 \times 6^2 + 30 \times 1^2)$$

$$T = 7 \text{ months}$$

Substituting in the formula

$$I = \frac{1200L}{200L - L'} = \frac{1,884,000}{303,610} = 6.21 \text{ per cent per annum.}$$

SOURCES OF FARM CREDIT AND COST OF LOANS

Sources

Farmers may borrow money from several sources, such as production credit associations, commercial banks, merchants and individuals. This fact is substantiated by the data presented in Table 1, which show the sources of credit used by farmers in Johnston County in 1940. Of the 167 farmers surveyed, 121 or 72.5 per cent were borrowing funds for farming opera-

tions. The borrowers were distributed as follows: 41 or 33.9 per cent used the local production credit associations; 18 or 15.7 per cent, commercial banks; 43 or 35.5 per cent, merchants; and 18 or 14.9 per cent, other sources.¹⁰ All of these loans, with the exception of those obtained from mer-

¹⁰ These loans were obtained from the following sources: six were emergency crop and feed loans, three from Farm Security Administration, seven from a private agency, and two from individuals.

chants, were made in cash, i. e., 69 borrowers or 64.5 per cent were using cash loans as compared to 43 or 35.5 per cent using merchant credit loans.

The total amount borrowed by the 121 farmers was \$48,878.40. This sum was distributed as follows: \$21,610 or 44 per cent from the local production credit associations; \$13,640 or

27.9 per cent from commercial banks; \$7,133.40 or 14.6 per cent from merchants; and \$6,495 or 13.3 per cent from other sources. (See Table 2.) Whereas 64.5 per cent of the number of borrowers were using cash loans, about 85.4 per cent of the total amount borrowed represented cash loans.

TABLE 1. CREDIT CLASSIFICATION¹ OF THE FARMERS SURVEYED IN JOHNSTON COUNTY, N. C., 1940

Acres of Cropland	NUMBER					Total
	Borrowers				Non-borrowers	
	PCA	Commercial Banks	Merchants	Other Sources		
5- 9.9	1		3	1	1	6
10- 19.9	6	3	11	2	9	31
20- 29.9	11	2	15	5	10	43
30- 39.9	8	4	6	4	10	32
40- 49.9	4		3	3	11	21
50- 59.9	3	1	1	1		6
60- 79.9	1	1	3		1	6
80- 99.9	3	2	1	1	2	9
100-199.9	3	3			2	8
200 and above	1	3		1		5
Total	41	10	43	18	46	167
Percentage Distribution						
Total	24.6	11.4	25.7	10.8	27.5	100.0
Borrowers	33.9	15.7	35.5	14.9		100.0

¹ When a borrower patronized more than one agency he was classed with the agency from which the largest loan was obtained.

TABLE 2. THE AMOUNT OF CREDIT EXTENDED TO 121 BORROWERS IN JOHNSTON COUNTY, N. C., 1940

Acres of Cropland	AMOUNT OF CREDIT EXTENDED				Total
	PCA	Commercial Banks	Merchant ¹	Other Sources	
	(dollars)	(dollars)	(dollars)	(dollars)	(dollars)
5- 9.9	125.00		262.94	50.00	437.94
10- 19.9	1,300.00	515.00	1,131.10	265.00	3,211.10
20- 29.9	3,000.00	700.00	2,101.29	930.00	6,731.29
30- 39.9	2,490.00	1,135.00	1,111.57	1,400.00	6,136.57
40- 49.9	1,570.00		648.60	850.00	3,068.60
50- 59.9	1,275.00	560.00	622.66	250.00	2,707.66
60- 79.9	700.00	480.00	1,022.64		2,202.64
80- 99.9	3,350.00	2,450.00	66.60	1,000.00	6,866.00
100-199.9	4,800.00	1,800.00	166.00		6,766.00
200 and above	3,000.00	6,000.00		1,750.00	10,750.00
Total	21,610.00	13,640.00	7,133.40	6,495.00	48,878.40
Percentage Distribution					
	44.2	27.9	14.6	13.3	100.00

¹ Credit obtained from merchants is the cash price of commodities obtained by farmers "on time."

The information presented in Tables 1 and 2 shows that small farmers are using more merchant and less cash credit, relative to the amount borrowed, than large operators. Sixty-four and six-tenths per cent of all merchant credit extended was obtained by small farmers, whereas only 26.3 per cent of the total amount of money borrowed from the PCA and commercial banks was obtained by small farmers or those operating less than 40 acres (Fig. 1).

Factors Affecting Cost of Loans

The cost of a loan varies with its sources. In 1940 the production credit associations charged an interest rate of 4.5 per cent, which was paid at the termination of the loan. Since interest was paid on the final date of maturity, and on outstanding portions of the loan only, 4.5 per cent represented the true interest on the loan. (See page 6.) In addition to the interest rate, service, record search, recording, and in some cases, release fees are collected on all loans. The service fee is levied to help defray the expense of the association. It supplements the funds provided by the 3 per cent margin allowed between the rate charged to borrowers and the rediscount rate of the intermediate credit banks. The association in Wake County charged no release fee as such in 1940, but included all costs under the headings of "service fee," "record search," and "recording fee."¹¹

In Johnston County the association in 1940 made a distinction between new and old borrowers. The former were charged a higher record search fee than the latter. This was justified on the basis that the past credit history of a new borrower must be more closely investigated than that of a previous borrower.

These flat charges play a significant role in determining the total credit cost to a farmer. They varied from about \$4 for loans of less than \$200, to \$20 for the largest loans. In comparison, the interest charges amounted to only \$1 for the small loans and to more than \$30 for the largest loans. The interest was thus less important for the cost of small loans than the fees.

The flat charges also varied in the same direction, but not in the same proportion, as the size of loan. For example, in Wake County the fees for a loan of \$200 were \$4.15; but for a loan of \$400 they amounted to \$6.65. The size of the loan increased 100 per cent, whereas the charge increased only 60 per cent. The increase of the fees was much smaller than the increase of the interest charges.

For the same amount of loan the flat charges are the same regardless of length of term. Consequently, a borrower who has a loan outstanding for twelve months pays a lower true rate than does the borrower who has a loan outstanding for only six months.

For the PCA loans there is an additional cost that should be taken into consideration here. It is required by law that each loan applicant subscribe to \$5 worth of Class B stock in the association for each \$100 or fraction thereof that he borrows. The borrowers have not experienced any difficulties in getting their share of stock redeemed at nominal value, if from one year to another they wanted to reduce the amount of credit or cancel their membership in the association. It would, therefore, be incorrect to consider the amount of stock purchased by the borrower as one item in the cost of the loan. However, as the borrower must purchase stock to acquire a loan, the interest paid on money borrowed to purchase stock is a

¹¹ These fees have been reduced since 1940.

cost of the loan. For example, suppose a farmer needed to borrow \$150 to meet his production program. He could not meet his demands with a \$150 loan. Instead, it would be necessary that he borrow \$160 so as to

have \$10 with which to purchase stock. Therefore, interest paid on funds used to purchase stock has been included as a part of the loan cost.

On the other hand, banks normally discounted loans at the rate of 6 per

RELATION BETWEEN SIZE OF THE FARM AND TYPES OF CREDIT USED

Per cent of
total loans

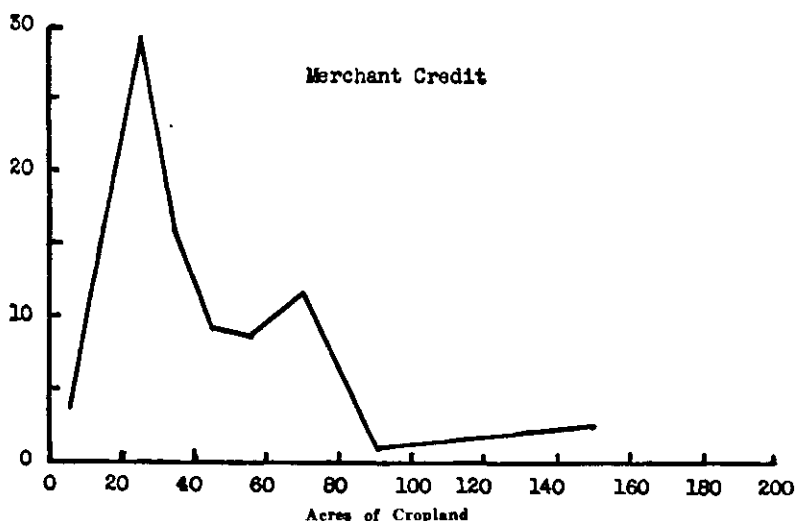
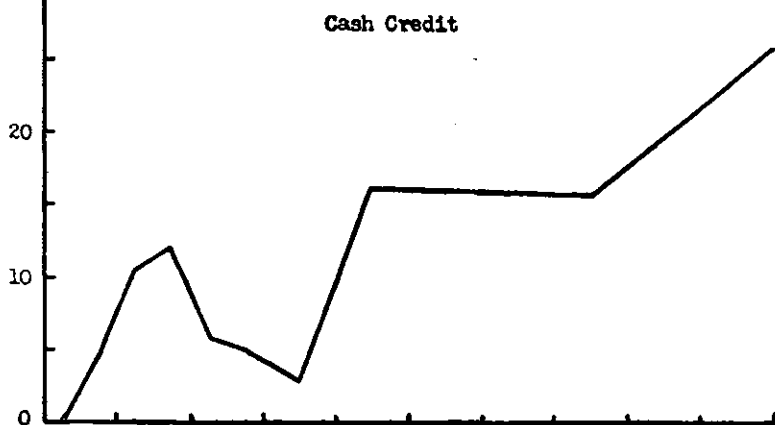


Figure 1. Small farmers or those operating less than forty acres of cropland are using relatively more of the expensive merchant credit than large farmers who use the cheaper sources of credit, and pay cash prices for goods purchased. Small farmers obtained 64.6 per cent of all merchant credit used, whereas only 26.3 per cent of merchant credit was used by farmers operating more than forty acres of cropland.

cent per annum. No other charges were levied on the borrower except in those cases where the loan was small and outstanding for such a short period that interest charges would

amount to less than one to two dollars. Under these circumstances a minimum fee of one or two dollars was charged. The length of term for bank loans is comparatively short.

THE EFFECT OF FIXED CHARGES AND METHOD OF REPAYMENT ON THE COST OF LOANS

Cost of loan
per \$100

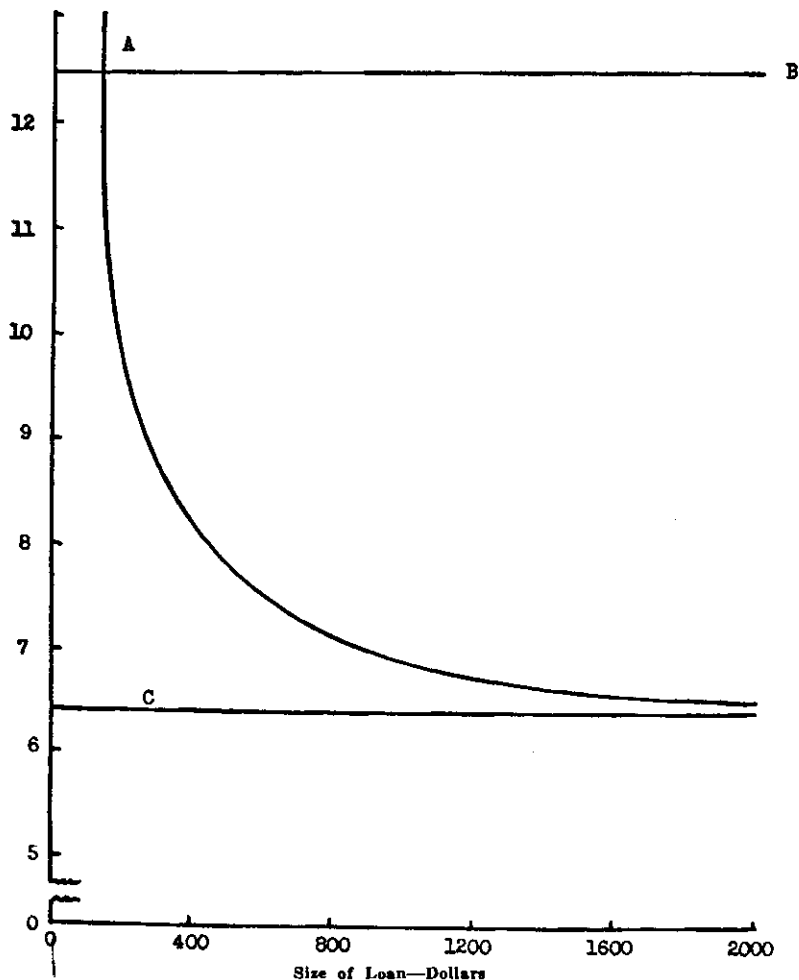


Figure 2. The cost of a loan depends upon interest rates, fees, and the method of repayment. "A" shows the variation in cost of loans when fixed fees in addition to interest are charged. The smaller loans are more expensive than larger loans. "B" shows the cost of a loan when the repayments are made monthly, and when no adjustment is made in the prepaid interest. "C" shows the cost of a loan when the interest is deducted in advance, but is paid only on the unpaid balance of the loan.

Method of Payment Affects Costs of Loan

On some bank loans the cost of loans is much higher than the interest rate of 6 per cent would indicate. This is true when the loan is prepaid on a monthly or quarterly basis. Suppose, for example, a farmer borrows from a commercial bank \$1,000 for twelve months to be used in the purchase of livestock. The regular procedure is to discount this at 6 per cent, which means that the farmer actually received \$940 instead of the \$1,000. Under such conditions the interest rate is 6.38 per cent. Suppose, however, that the farmer repays 1/12 of this loan each month or \$83.33 without giving the bank a new note at each payment period for the unpaid balance. Under these circumstances the cost to the farmer is not \$60 on \$940 but \$60 on \$481.67. The reason for this is simple enough. The farmer instead of having the use of \$940 for twelve months has the use of only \$481.67 for that period. This means that the \$60 charged when the loan was first negotiated was paid for the use of \$481.67 instead of \$940. This represents an interest cost of 12.46 per cent (See Figure 2).

Cost of PCA Loans and Bank Loans

Normal commercial bank loans usually are cheaper than PCA loans. The true rate was 6.19 per cent for the average bank loan in Wake County, as compared with 9.14 per cent for the average PCA loan.¹² The difference was somewhat smaller in Johnston County, where the true rates were 6.21 for bank loans and 8.75 per cent for PCA loans. Whereas the highest true rate of bank loans recorded in Johnston County was 6.65 per cent, there were only three PCA loans that carried a rate lower than this. If the loans extended by PCA had been obtained from commercial banks, the average true rates would have been 6.26 per cent, 6.25 per cent and 6.22 per cent for Wake, Johnston and Guilford counties, respectively (Table 3).

The flat charges of the Wake County association were reduced in 1944 in a manner as to reduce the cost on all loans. In 1940 the average true rates of loans extended by the Wake County PCA was 9.14 per cent. In 1944 the same loans would have cost

¹² See page 6 for method used in determining true rates.

TABLE 3. AVERAGE RELATIVE COST OF CREDIT

Maximum Size of Loan (Dollars)	PCA Loans 1940			Bank Rates on PCA Loans 1940			1944 PCA charges applied to 1940 PCA loans in Wake Co.	1940 Commercial Bank Rates	
	Wake	Johnston	Guilford	Wake	Johnston	Guilford		Wake	Johnston
	(Per Cent)								
Below 100	18.25	0	16.46	6.20	0	6.21	9.10	6.22	6.65
100-199	11.79	11.76	11.67	6.22	6.21	6.22	7.73	6.15	6.20
200-299	9.13	8.99	9.04	6.23	6.23	6.20	6.85	6.20	6.25
300-399	8.55	8.16	7.45	6.27	6.26	6.22	6.62	6.22	6.16
400-499	8.10	7.92	6.87	6.27	6.27	6.27	6.54	6.17	6.14
500-599	7.68	7.30	6.87	6.29	6.26	6.30	6.36	6.23	6.26
600 and above	7.44	6.99	7.86	6.28	6.28	6.12	6.49	6.19	6.20
Average of total No. of loans	9.14	8.75	11.00	6.26	6.25	6.22	6.86	6.19	6.21

an average 6.86 per cent. In spite of this adjustment in PCA rates, commercial bank loans were still cheaper than PCA loans.

The difference in cost as between the two agencies is more pronounced in the case of small than in that of large loans (Table 3 and Figure 3). The average cost of PCA loans (based on 1944 rates) of \$100-199.99 was 7.73 per cent as compared with 6.15 per cent for commercial bank loans in the same category. Loans of \$500-599 cost an average of 6.36 per cent as compared with a commercial bank cost of 6.23 per cent. However, as the difference in true rates between PCA loans and bank loans would seldom correspond to a difference in absolute cost of more than \$10 *the practical significance of this should not be exaggerated.* It is possible that factors other than costs determine the farmer's selection of a credit agency.

For an explanation of the difference in relative credit cost between PCA loans and bank loans, consideration should be given to conditions within each agency. This leads to the question whether or not the production credit associations have realized greater profits than the banks on their short-term loans to farmers. It is interesting to note that all three associations included in this study have been able to accumulate surpluses, which have been used to build up reserve funds and to retire some of the Class A stock bought by production credit corporations.¹² On the other hand, interviews with the bank managers revealed that the banks also considered the loans to farmers profitable and would have liked to have more business of this kind. The difference in credit cost to the borrowers¹ can, therefore, hardly be attributed to differences in profit.

¹² Class A stock is available for purchase by the public or the production credit corporations.

Neither are there any indications that the production credit associations had an insufficient volume of business compared with the commercial banks, which would make the relative cost of handling credit and loan applications higher for the association.

The reason that PCA members have a higher relative cost than bank borrowers is instead related to the fees charged by the former agency. These fees are levied to cover costs incurred in making the loans. In the first instance an appraiser must visit the farm and certify that the items given as security actually exist. Then, it must be determined if these securities are free of encumbrance. Finally, they must be recorded by the association and with the registrar of deeds, which involves certain clerical costs and fees. These costs to the production credit associations of getting loan records from a large farm do not differ materially from the cost of obtaining records from a small one. In both instances the same number of visits to the farm is required—only one recording is made at the courthouse, only one name is entered in the accounts book of the association. For these reasons the cost is relatively less for large than for small loans and this is reflected in the substantial difference in the effective rates to the farmers between small loans from production credit associations and small loans from commercial banks.

Cost of Merchant Credit

Merchant credit, in contrast to the cost of PCA and bank loans, is very expensive. When farmers use this form of credit they pay in excess of 33 per cent. The reason for this excessive cost is found in the difference between cash and "time" prices for the supplies purchased, and in the length of time between the purchase and actual payment. "Time" prices for supplies are always higher than

cash prices. The difference is to cover the risks incurred by the merchant, interest on money which he borrows that enables him to give farmers

credit, extra cost involved in keeping records of individual sales, cost of collection, and other costs, such as bad debts, incident to selling on "time."

THE EFFECT OF CHANGES IN FIXED CHARGES ON THE COST OF LOANS

Cost per \$100
(dollars)

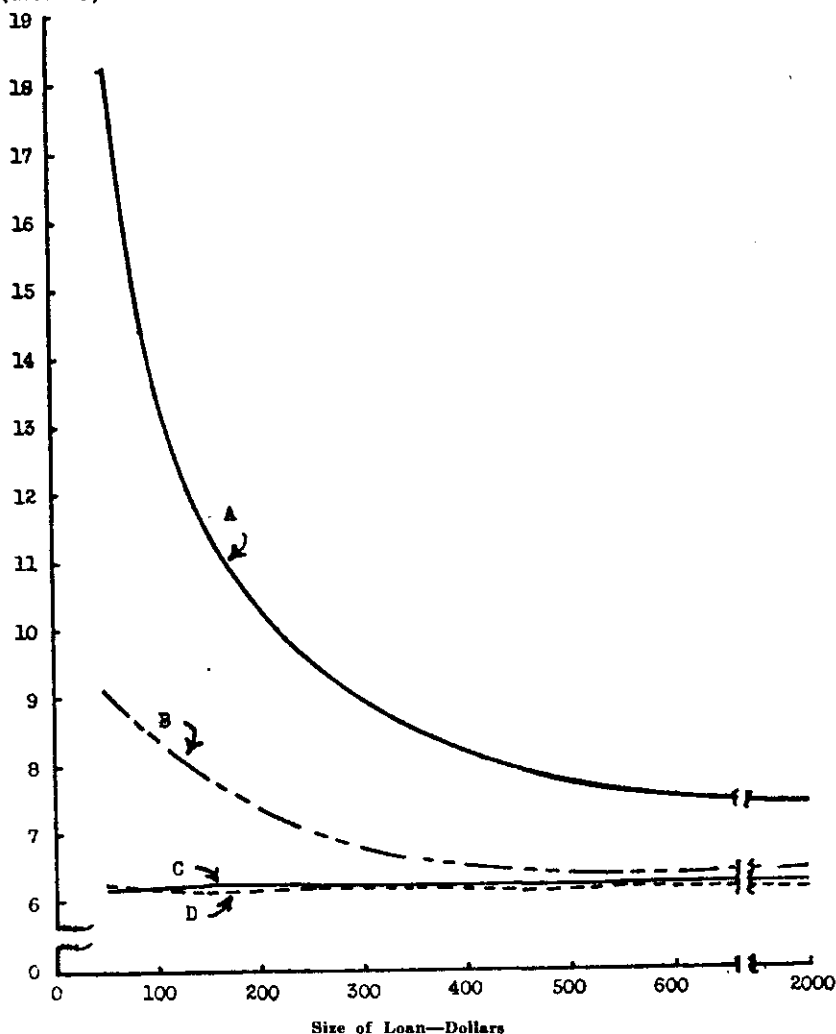


Figure 3. This figure shows the effect of variation of fixed charges on the cost of loans. "A" shows the cost of PCA loans at 1940 and "B" 1944 fixed charges. "C" is the cost of PCA loans if made by commercial banks, and "D" is the cost of loans made by banks. The reduction in fixed charges on PCA loans is relatively more significant on small than on large loans (contrast A and B). The lower fixed charges (1944) also enable the PCA's to compete more effectively with banks especially on loans over \$500.

The average true rate of merchant credit is shown in Table 4. This rate takes into consideration not only the difference between the cash and "time" prices for supplies purchased, but also the period for which such services were extended. For example, suppose that a farmer purchased \$110 worth of farm supplies at "time" prices which could have been bought for \$100 cash. The difference is \$10, the rate of interest might appear to be 10 per cent, and this would be true if the farmer did not pay the merchant until twelve months had elapsed. But usually the farmers' accounts are settled in from five to seven months. Suppose in this case the farmer paid his account at the end of six months, then the effective rate would not be 10 per cent, the difference between cash and "time" prices, but 20 per cent. The difference in the two rates is a result of the time ele-

ment since rates are usually calculated on an annual basis.

The amount of merchant credit used has little or no effect on its cost, although there is a tendency for the true rate to decline as the volume of purchases increases. (See Table 4.) For example, the true rate was 41.62 per cent for seven farmers whose average purchase was less than \$50. Whereas for seven farmers, whose purchases averaged over \$200, the true rate was 35.11 per cent. However, the true rate varied little for those farmers who purchased between \$50 and \$100 on the average and those who purchased between \$150 and \$200. The reason for these variations is to be found partly in the difference between cash and "time" prices and in the difference in the time which elapsed between making the purchase and paying the account.

TABLE 4. THE AMOUNT AND COST OF MERCHANT CREDIT, JOHNSTON COUNTY, NORTH CAROLINA, 1940

Amount of Credit ¹ (Dollars)	No. of borrowers ²	Total Credit Purchases		Per Cent Time Is Of Cash Price	Average True Per Annum Rate of Interest (Per Cent)
		Time Price (Dollars)	Cash Price (Dollars)		
Below 50	7	243.45	195.95	124.2	41.62
50- 99.99	12	1,116.44	936.98	119.2	37.71
100-149.99	19	2,639.97	2,305.29	114.5	27.10
150-199.99	11	2,179.00	1,823.94	119.5	37.31
200 and above	7	2,197.12	1,871.24	117.4	35.11

¹ Based upon cash price.

² Included here are thirteen borrowers who patronized other credit agencies for an amount greater than that obtained from merchants.

LENGTH OF TERM, SEASONAL VARIATIONS IN EXTENSIONS AND REPAYMENTS

Length of Term

Credit should be available when farmers need it and the terms of the loan should be adapted to the type of farming. For these and other reasons, the Federal Government created the production credit system. Commercial

credit agencies, the chief source of farm production credit prior to 1923, are geared to commerce and industry where the investment of the borrower has usually a rapid turnover. For this reason, commercial loans are made for short periods of 30, 60, or

90 days. Farmers, on the other hand, usually need funds for much longer periods. The length of time for which the funds are needed, it is true, depends upon the type of farming, but is seldom less than six months. That is to say, the time between initiation of the loan and the time the farmer realizes income out of which to repay the loan is usually more than six months, and in many cases, eight to twelve months.

According to the laws under which the intermediate credit banks discount PCA loans, no loan can be discounted which has maturity in excess of three years from the date on which the loan is made. In reality, PCA loans are extended for a period of much less than the legal maximum. The average length of term for PCA loans was found to be 8.2 months in Wake, 7.8 months in Johnston, and 7.9 months in Guilford.

The mean period for which commercial bank loans were outstanding in Wake and Johnston counties was found to be 6.6 months and 7.4 months, respectively. These periods were shorter than the periods for which PCA loans were made. It is difficult to say what factors were responsible for this difference. There was no indication that there was any difference in the type of farming of the borrowers. It may be that the custom of commercial banks to extend loans for three months is the explanation, whereas the PCA loans were extended for the full period requested by the borrower.

Seasonal Variations in Extensions and Repayments

Though there are certain differences in the type of farming in the three counties, farmers' need for credit is felt during approximately the same period of the year. In the case of PCA loans the largest ex-

tensions were made during the months of February, March, and April, when crop production is started and heavy expenditures have to be made. The months during which the greatest number of loans were made by production credit associations were identical with those during which the greatest amount of extensions were made, namely, February, March, and April. These data indicate, then, that no great seasonal variation existed in the size of loans.

The amount of credit outstanding each month in each county reached the maximum during June, July, and August. The lowest amount of credit outstanding was found in December and January. In Wake County the maximum amount of credit outstanding in any one month was 63.3 times greater than the minimum amount. The corresponding figures were 82.5 for Johnston and 53.4 for Guilford County.

The seasonal variations in extension and repayments of bank credit are presented in Figure 4. The greatest number of commercial bank loans in Wake County were made during the months of April, May, June, and July. Many loans were made in July, but the aggregate amount of these loans was relatively small. The largest amount of money borrowed in Johnston County was during July. This was also the month during which the fewest loans were negotiated.

A comparison between bank loans and PCA loans with respect to time of extension reveals that the commercial banks made their greatest amount of extensions later than the production credit associations. Information received through interviews with the bank managers indicated that a considerable number of bank loans were made to finance tobacco curing which takes place in July and August. PCA credit, on the other

TIME OF EXTENSION AND REPAYMENT OF LOANS—WAKE COUNTY

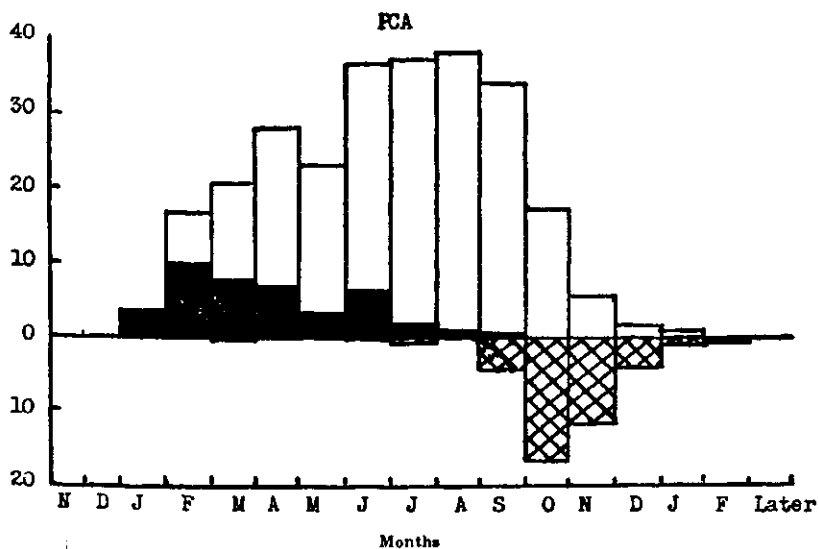
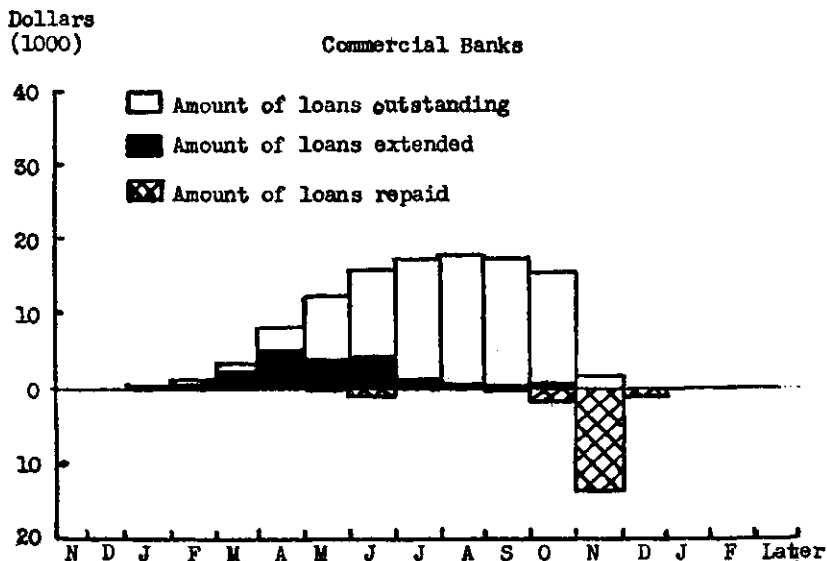


Figure 4. Most PCA loans are extended in February, March and April, whereas most bank loans are extended during March, April, May, June and July. For both agencies the loans outstanding reached their maximum during May, June and July. Loans are usually repaid during the last quarter of the year.

hand, was mostly extended for the purpose of financing planting operations which begin earlier in the year. The bank loans were usually repaid during the last quarter of the year. In both Wake and Johnston counties the largest amount of collections in any single month was made in November.

The conclusions from this discussion may be summarized as follows: A slight but significant difference was found with respect to length of term between PCA loans in Guilford County and PCA loans in Wake or Johnston. This difference may be explained by differences in types of farming. No great variation in length of term between PCA loans was found within any of the three counties. PCA borrowers drew most of their credit during the months of February, March, and April, whereas bank borrowers received the larger part of

their loans during April, June, and July. PCA borrowers made most of their repayments during the months of September and October and bank borrowers in November and December. The amount of credit outstanding in the three production credit associations reached its maximum in June, July, and August as compared with the months of July, August, and September in commercial banks. Both PCA loans and commercial bank loans appeared to be adjusted to the needs of the farmer, both to the time when farmers need credit and the time of repayment. There is no evidence that farmers were denied credit when needed nor were they embarrassed by having their loan fall due before the income was available out of which loans could be repaid. It may be said, therefore, that both agencies were in a position to serve the farmers effectively.

LOAN SECURITIES

When any lending agency extends credit, it usually requires the borrower to provide or pledge security. This, as already pointed out (see page 4), is to insure that the loan will be repaid or if not the security can be sold and the loan liquidated. When production credit associations extend loans, they require the borrower to pledge as security a crop lien and a chattel mortgage on livestock and farm implements. Commercial banks, on the other hand, seldom require a crop lien or chattel mortgage. They depend largely upon a promissory note which in effect pledges all of the assets of the borrower on which there is no prior claim, to the extent of the amount of the note.

Value of Security of PCA Loans

It is obvious that in extending loans the value of security should be at least equal to the amount of the loan

extended. Unless this policy is followed the lending agency may not be able to remain liquid, i.e., continue in business. It is true that exceptions are made to this rule and loans are made solely on the character of the individual borrower. This is often true in the case of merchant credit. But in the case of cash loans this is a dangerous policy to follow. It is much safer to have tangible property pledged as security in case the borrower cannot or will not pay his loan. In this respect the PCA's have followed, and are following, a sound policy. The relationship between the size of the loan and the value of the security pledged, in addition to the crop lien, is shown in Table 5. (See Figure 5.) The value of the security tends to increase with the size of the loan. There are, however, exceptions to this tendency. For example, in Wake County nine loans for less than

\$300, twelve varying from \$300 to \$499, and six for \$500 or more all had about the same value of security (\$600-\$700). The average value of the chattel mortgage was nearly twice the average value of the loans extended in Wake County. In Guilford County the mean value of the ratio of loans to value of security was 1 to 3½. In only 16 per cent of the cases in the three

counties did the amount of the loan exceed the value of the security.¹⁴

These data point clearly to the fact that the PCA loans are usually well secured. This may very well be one of the reasons that so few losses have been incurred. Undoubtedly, this is one of the major advantages of this

¹⁴ It should be remembered that the security is in addition to the crop lien.

RATIO BETWEEN THE VALUE OF SECURITY AND LOANS EXTENDED BY PCA

Per cent value
of collateral
is of loans

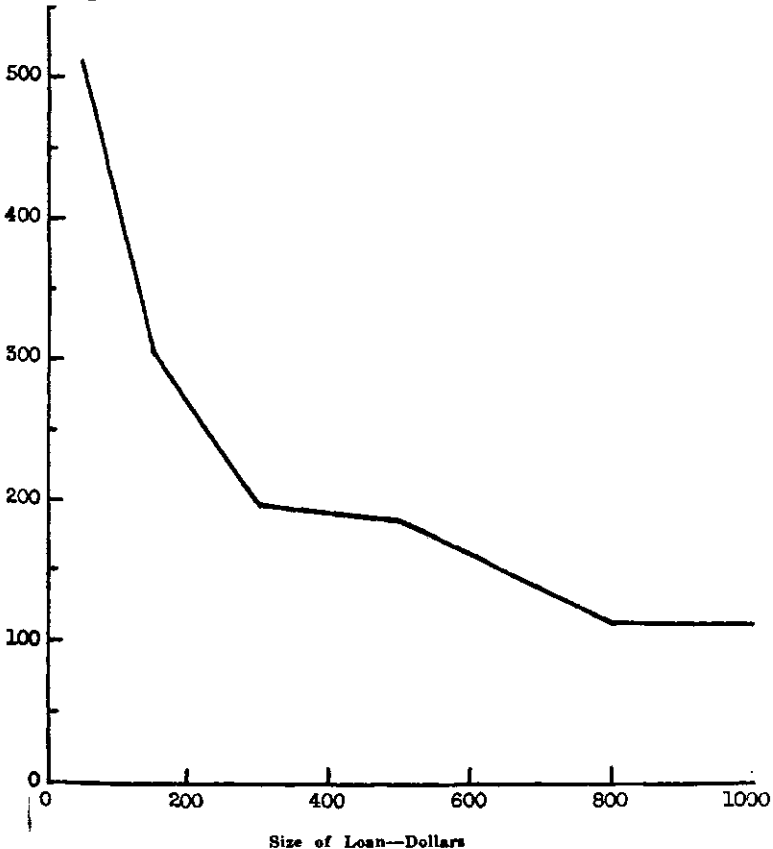


Figure 5. The value of the security for PCA loans varies with the size of the loan. The smaller the loan the larger relatively is the security taken. For loans of \$100 or less, extended in Wake County in 1940, the collateral represented over 500 per cent of the loan, whereas for loans of \$1,000 or over the collateral represented only 105 per cent.

form of credit. Risks are small and the agency is highly solvent. These accomplishments have been achieved at the expense of some definite disadvantages. First, the high security requirements have prevented some farmers from making use of the PCA as a source of credit. Second, the size and the complexity of the collateral make administration and recording an expensive process. On the other hand, the security requirement, since it includes both a crop lien and a chattel mortgage, tends to prevent the borrowers from obtaining funds from other sources. This gives the PCA control over the borrowing program of the farmer, which perhaps in most cases is a distinct advantage to the association and to the farmer.

TABLE 5. NUMBER OF LOANS EXTENDED BY PRODUCTION CREDIT ASSOCIATIONS ACCORDING TO AMOUNT OF LOAN AND VALUE OF CHATTEL MORTGAGE

Amount of Loan (Dollars)	VALUE OF CHATTEL MORTGAGE (Dollars)										
	Below 99	100-199	200-299	300-399	400-499	500-599	600-799	800-999	1000-1199	1200-1599	1600 & above
<i>Wake County</i>											
Below 100			1	2		1					
100-149		1	1	1	2		1				
150-199			4	2			3	1			
200-299		1	3	4	2	4	6				
300-399		2	2	4	2	3	6		2		
400-499				2	4	3	6		2		
500-599					1	1	2		2		
600-799			1	1	1	1	3		3		
800-999							1			1	
1000 and above								1	1	2	2
Total		4	12	16	12	13	28	11	2	2	2
<i>Johnston County</i>											
Below 100											
100-149			2	3	1	2					
150-199		2	3	2	1	1					
200-299		1	10	9	9	6	4	6	1		
300-399			3	1	9	11	4	1			
400-499					5	2	2	4	1	2	
500-599						1	2				1
600-799						1	3	3	2		
800-999						1		2			
1000 and above							1			1	1
Total		3	18	15	25	25	16	16	4	2	2
<i>Guilford County</i>											
Below 100											
100-149			1	4	3	2	2	1			
150-199			1	12	13	7	3	1		1	
200-299				1	1	7	5		2		1
300-399					2	4	4	7	3	1	1
400-499							4	1		1	2
500-599								2			1
600-799								2			
800-999									2		
1000 and above											1
Total		2	17	19	20	18	14	6	4	4	5

The Security for Bank Loans

The safety of the bank loans depends solely upon the character of the borrower, and the value of his free assets, i.e., those assets on which there is no prior lien or mortgage. This is true because the only evidence of indebtedness held by the bank against the borrower is a promissory note. For this reason, it is impossible to determine the value of the collateral which might be available to the bank in case the borrower defaulted in the payment of the loan. In view of this, the rights conferred upon the bank by a promissory note are significant. When a promissory note is executed or made, the maker (i.e., the borrower) actually pledges all of his assets on which there is no claim at the time the note is made. Prior claims may be taxes, mortgages, and other legal exemptions, such as personal or homestead exemptions. The holder of a promissory note has no legal recourse if the maker encumbers his assets after the note is made.

To enhance the value of a promissory note, the lender may require co-signers or endorsers who become liable for the debt to the same extent and in the same manner as the maker. That

is, the endorser's assets after all prior claims have been liquidated can be held to satisfy the debt.

It appears from what is said above that the PCA loans are much better secured than those of commercial banks, because the former have a superior claim on specified assets, while the claims of the latter can be enforced only against assets that are free from superior encumbrance.

The wisdom of the policy of commercial banks cannot be discussed on the basis of security only. It can be said, however, that the use of the promissory note permits the banks to extend loans with less expense. The assets of the borrower need not be evaluated by means of costly appraisals. Since claims are not attached to any specific property, crops and chattels do not have to be identified and located, neither is it necessary to keep records of the property pledged. There is no legal requirement concerning the recording of the note with the registrar of deeds. The making of appraisals, the recording of security, the registering of instruments are all costly procedures, ultimately to be paid for by the borrower. By dispensing with these procedures, considerable saving is realized.

SUMMARY

The use of credit by farmers has become a regular and necessary routine. It is no longer possible, nor indeed desirable, for farmers to operate their farms without using some borrowed funds. The reason for this is found in the transition which has taken place in the character of farming. Formerly, farming was a mode of life in which the farmer's attention was directed almost solely to the production of those things needed by himself and his family. Today, by contrast, farming is a business enterprise. It is true that the farm is in

part, and should continue to be, self-sufficient, but in addition the farmer is engaged in producing large quantities of commodities intended primarily for sale. The modern farm requires, therefore, large supplies of materials, such as seeds, plants, fertilizer, highly specialized machines and equipment, and skilled labor. All of these things must be purchased since the farmer either cannot produce them at all or he finds it much cheaper to buy them from specialized producers. This means the expenditure of large sums of money annually, a

part of which must be obtained through borrowing or the use of credit in some form.

It seems clear from the nature of modern farming that the farmer must plan his business with consummate care and operate it with skill if he is to avoid heavy losses. One way of reducing cost is to buy with cash the materials, supplies, equipment, power, and labor needed. If the farmer voluntarily uses a "time" basis for the purchase of those things, the cost will be, as has been demonstrated, prohibitive.¹⁵ The only rational procedure is to buy with cash. If the cash is not available from the farmer's own saving, then he should not hesitate to borrow funds. This means that such funds should be available when needed and at a cost which farmers can afford to pay. This bulletin presents the major results obtained from a study of the availability and the cost of production credit. These results may be briefly stated as follows:

1. A study of typical farms in Johnston County indicates that the majority of farmers depend upon production credit to supplement their own funds. Out of 167 typical farms, 121 or 72.5 per cent borrowed funds to carry on their farming operations.

2. Farmers in three areas studied were using several sources of credit including production credit associations, commercial banks, merchants, and other sources. Of these, merchants were the most common source, advancing credit to about 36 per cent of the 121 borrowers, production credit associations were used by 34 per cent, and commercial banks 15 per cent of the borrowers. The remaining borrowers or 15 per cent are classified as using other sources of credit. These data mean that about 64 per cent of all farmers were borrow-

ing cash. About 85 per cent of the volume of loans, however, were cash and only 15 per cent represented merchant credit.

3. The cost of production credit usually consists of interest on the money borrowed and the other charges such as fees for recording chattel mortgages, searching records, clerical assistance, and other similar costs. The interest rate charged by the production credit associations was 4.5 per cent, whereas that charged by banks was 6 per cent discounted in advance. Other costs, levied mostly on PCA loans, varied from \$4 to \$20, depending upon the size of the loan.

4. The average cost of loans varied with the agency making the loan. The cost of PCA loans was higher, on the average, than the cost of regular loans extended by commercial banks. The average PCA loan cost farmers \$9.60 per \$100, whereas the regular commercial bank loan cost \$6.19 per \$100.¹⁶ Merchant credit cost borrowers in excess of \$33 per \$100.

5. The cost of a loan is affected by its size. The costs of PCA loans were relatively much higher for small than for large loans.

6. The cost of loans depended also upon the method of repayment. When loans are repaid in installments, the cost of the loan will be about twice as high if the interest is calculated on the amount of the original loan rather than upon the unpaid balance. In the first instance the borrower pays interest on the original loan, but since the loan is repaid in installments the borrower has the use of the original amount for only approximately one-half the period over which the loan is extended. In the last case the borrower pays interest only on the

¹⁵ See also N. C. Agr. Exp. Station Bulletins Nos. 270 and 271.

¹⁶ It should be emphasized that this contrast between PCA loans and bank loans is based upon regular commercial loans made to farmers. Occasionally banks and other commercial agencies make other types of loans, the cost of which is much higher.

amount of the loan outstanding or still unpaid.

7. The type of security required for loans varies with each lending agency. PCA requires not only a crop lien, but also a chattel mortgage on practically all livestock and equipment. On the other hand, banks usually demand only a promissory note. The loans made by the PCA are exceedingly well secured. The value of the security varies from about $1\frac{1}{2}$ to $3\frac{1}{2}$ times the loan extended.

8. There is no evidence that farmers generally have been unable to obtain credit for productive purposes when and in amounts needed. Small farmers, however, are not using the production credit associations and

commercial banks as much as large farmers. The smaller farmers were using most of the expensive merchant credit whereas large farmers were borrowing cash and buying supplies at cash rather than at "time" prices.

9. Most farmers borrow during February, March and April and repay their loans during the last quarter of the year. There is no evidence that farmers fail to pay loans when due.

10. Commercial banks and production credit associations tend to supplement each other in supplying credit to farmers. Most bank loans are made somewhat later than PCA loans, usually from March to July, and are paid somewhat earlier, mostly in October and November.

APPENDIX¹

Derivation of Formulas for Use in Computing *True* Simple Interest Rates

The General Formula

The correct method for calculating the true simple interest rate is to divide the actual cost of the loan by the actual amount of money borrowed. All formulas, for use in calculating true interest rates, no matter how complicated, can be derived from the above simple statement which may be expressed symbolically as follows:

$$I = \frac{C}{L}$$

I = the true interest rate.

C = actual cost of loan.

L = actual amount of money used.

The above formula is suitable for any length period; but it must be understood that the rate *I* thus obtained applies only to the period of the loan and not to a year. A year is the most common period used in expressing true interest rates. For instance, 6% usually means six per cent *per annum*. An interest rate for any given period can be transformed into a *per annum* rate simply by multiplying the rate obtained for the given period by the number of such periods in a year. The true simple interest rate per annum is therefore expressed as follows:

$$I = \frac{C}{LT}, \text{ where } T = \text{the term of the loan in years.}$$

Illustration. A man borrows \$100 for 3 months and pays \$1.50 interest, at the end of the period. *I* equals \$1.50 divided by 100, or .015. Since there are four 3-month periods in a year, the true per annum rate in this case is .06, or 6%. It is of course conventional to state interest rates on a *per centum* basis. The conventional formula may be restated as follows:

$$I = \frac{100C}{LT}$$

Paying interest in advance. If interest is paid in advance, *L* is the nominal amount of the loan, or the principal, reduced by the amount of interest paid in advance. In the above illustration, advance payment of interest would have made the actual amount of the loan only \$98.50 and the true annual rate of interest would have been computed as follows:

$$I = \frac{1.50}{98.50} \times \frac{12}{3} \times \frac{100}{1} = 6.09\%$$

In such cases as this the formula should be written as follows:

$$I = \frac{100C}{(P-C)T} \text{ where } P \text{ equals the nominal loan, or the principal.}$$

¹ These formulas were prepared by C. Horace Hamilton and R. L. Anderson.

Paying a fixed charge in advance. In the above illustration if the borrower had paid a fixed charge of \$1.50, in addition to his interest of \$1.50, his true *per annum* interest rate would have been computed as follows:

$$I = \frac{3.00}{97.00} \times \frac{12}{3} \times \frac{100}{1} = 12.37\%$$

In this case the formula becomes $I = \frac{100(C + F)}{T(P - C - F)}$ where F equals the fixed advance payment, and C equals the interest cost.

Advanced payment of principal. If a borrower makes advanced payments of principal, without receiving any reimbursement of interest or other costs paid in advance, then his *true* interest rate will be much greater than the *nominal* rate. Many installment plans for repaying borrowed money state the nominal rate to be 6% when the true rate is often two and sometimes three times as high, depending on the length of the loan and terms of repayment.

In any case, there is only one logical way to arrive at the true rate of interest; and that is to divide the actual cost of the loan by the number of dollars borrowed for the equivalent of one year, i.e., by the number of dollar-years actually used.

Illustration: A man borrows \$96.00 at 6% to be paid back in 12 equal monthly installments. The interest of \$5.76 is taken out in advance but the borrower pays back \$8 each month. Obviously the borrower does not have the use of \$96 for one year. He has the use of \$90.24 for one month; \$82.24 for one month, etc. until the 12th month when he has the use of only \$2.24! Actually the borrower has the use of only \$46.24 for the equivalent of one year, for which he pays \$5.76. The true per annum rate in this case would be [$\$5.76 \div \46.24] $\times 100$, or 12.46%! (See Case VII below for correct formula for this illustration.)

Special Cases

We have illustrated several special cases above for the purpose of showing that the solution of all special cases is based upon one general logical proposition or formula. Below are given a number of formulas which provide short-cut methods for calculating the true rate of simple interest per annum for a variety of special cases some of which were used in preparing this bulletin.

CASE I. Principal and interest paid at the end of period.

In this case: I , the true rate, equals R , the nominal or quoted rate.

CASE II. Principal is repaid at end of period but interest is paid in advance.

$$I = \frac{100R}{100 - RT}$$

T = Term of loan in years, or fractional parts of years. Obviously, if RT is greater than 100, the rate becomes negative; because in such cases the advance payment of the interest would be greater than the principal. In some of the other formulas below I would be negative, where the value of L , actual money used, becomes negative.

In the above formula, note that P does not need to appear. It is a simplification of the following formula:

$$I = \frac{\frac{100(PRT)}{100}}{\frac{(P - PRT)T}{100}}$$

CASE III. Principal is repaid at end of period. No interest, but there is a fixed charge paid in advance.

$$I = \frac{100F}{T(P - F)}$$

CASE IV. Principal and interest paid at end of period. There is also a fixed advance charge.

$$I = \frac{100F + PRT}{T(P - F)}$$

CASE V. Principal is repaid at end of period, but both interest and fixed charge are paid in advance.

$$I = \frac{100}{T} \left[\frac{100F + PRT}{100(P - F) - PRT} \right]$$

CASE VI. Principal is repaid in equal monthly installments. Interest at nominal rate is paid at end of period on face value of loan. There is no advance charge. No adjustment of interest for advance payments on loan.

$$I = \frac{24RT}{12T + 1}$$

CASE VII. Same as Case VI, except interest is paid in advance.

$$I = \frac{600RT}{25 + 300T - 6RT^2} \text{ or } \frac{RT}{\frac{12T + 1}{24} - \frac{RT^2}{100}}$$

CASE VIII. Same as Case VI, except interest is paid in regular monthly installments, at end of each month.

$$I = \frac{2400 RT}{100(12T + 1) - RT(12T - 1)} \text{ or } \frac{RT}{\frac{12T + 1}{24} - \frac{RT(12T - 1)}{2400}}$$

CASE IX. Same as Case VI, except a fixed charge is paid in advance.

$$I = \frac{(100F + PRT)24}{P(12T + 1) - 24FT}$$

CASE X. Same as Case VII, except a fixed charge is paid in advance.

$$I = \frac{100F + PRT}{\frac{P(12T + 1)}{24} - \frac{PRT^2}{100} - \frac{FT}{1}}$$

CASE XI. Same as Case VIII, except a fixed charge is paid in advance.

$$I = \frac{100F + PRT}{\frac{P(12T + 1)}{24} - \frac{PRT^2}{200} + \frac{PRT}{2400} - \frac{FT}{1}}$$

CASE XII. *The Typical PCA Loan.*

On the basis of a planned budget, the borrower contracts for a line of credit to run him through the year. The principal is advanced from time to time as the borrower needs it. Repayments are made from time to time as borrower sells his products. Interest is usually paid at the end of the last sub-period. Interest rate is 4.5%. There is a small fixed charge paid in advance. And finally, the borrower is required to buy, at the time credit is first arranged for, \$5 worth of stock for each \$100 or fraction thereof to be borrowed. The borrower usually gets no interest on this stock and it must be held until the loan is completely repaid.

$$I = \frac{100F + R(\Sigma P_1 T_1 - \Sigma P_2 T_2)}{\Sigma P_1 T_1 - \Sigma P_2 T_2 - T(F + S)}$$

where

F = the advance charge

R = the nominal rate, 4.5%

$\Sigma P_1 T_1$ = number of dollar years borrowed, T_1 being the period from the time P_1 is borrowed until the final repayment is made.

$\Sigma P_2 T_2$ = number of dollar years of repayment, T_2 being the period from the date of repayment until the last repayment is made.

S = the cost of stock shares bought.

If dollar months are used instead of dollar years, the above formula may be stated as follows:

$$I = \frac{4.5L + 1200F}{L - T(F + S)}$$

where

L = dollar months of loan

F = fixed charge in advance

T = term of loan in months

S = cost of stock bought.

CASE XIII. *Typical Bank Loans.*

Principal borrowed and repaid at irregular intervals during the year. Interest is paid in advance for specified periods. Repayments may be made before maturity and true interest deducted. No advance fixed charges.

$$I = \frac{100R\Sigma P_i T_i}{100\Sigma P_i T_i - R\Sigma P_i T_i^2}$$

In the case of a 6% bank loan, and where dollar-months are used instead of dollar-years, the formula for practical purposes could be stated as follows:

$$I = \frac{1200L}{200L - L'}$$

where

L = the dollar months

L' = the dollar months of interest lost because of advance payment.

Prepayments may be treated as subtractions for summations of $P_i T_i$ and $P_i T_i^2$.

Note the emphasis on specified periods. It makes a great deal of difference in calculating advance interest. Banks usually loan for 90-day periods or on a basis of specified maturities. It is to the interest of the borrower to use the shortest periods possible. Otherwise his true interest rate rises rapidly.

CASE XIV. Same as XIII, except an advanced charge is made.

$$I = \frac{10,000F + 100R\Sigma P_i T_i}{100\Sigma P_i T_i - R\Sigma P_i T_i^2 - 100FT}$$

RURAL POPULATION PROBLEMS IN NORTH CAROLINA

I. POPULATION GROWTH 1790-1940

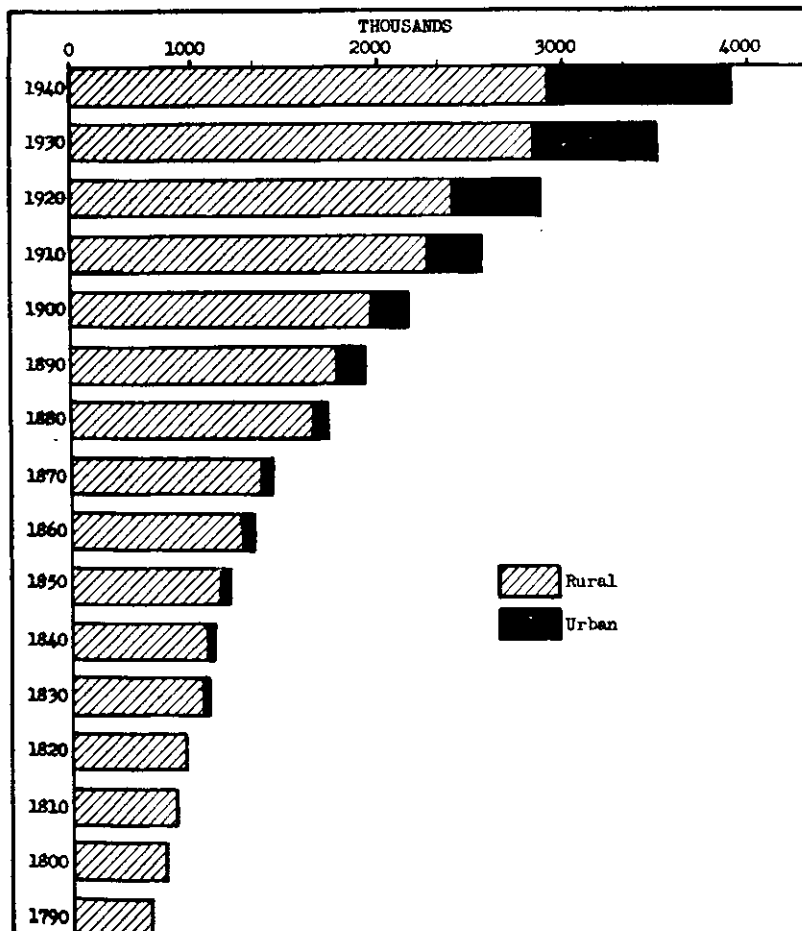


Fig. 1. Rural and urban populations of North Carolina, 1790-1940.

THE AGRICULTURAL EXPERIMENT STATION
OF THE
NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
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TABLE OF CONTENTS

FOREWORD	4
I. INTRODUCTION	5
II. POPULATION ORIGINS	5
Indians	6
English	7
French Huguenots	7
Swiss and Germans	7
Highland-Scotch	8
Scotch-Irish	8
Germans	9
Negroes	9
Other groups	9
Cultural backgrounds	10
III. POPULATION PRIOR TO FIRST FEDERAL CENSUS OF 1790	11
Number	11
Rate of change	12
Movement westward	12
IV. TREND OVER STATE AS A WHOLE, 1790-1940	14
Number	14
Rate of change	14
V. POPULATION GROWTH IN RURAL AND URBAN AREAS	16
Rural population defined	16
Rural counties	17
Urban centers	17
Rural and urban populations	19
Rate of change	20
Proportion in rural and urban areas	21
VI. POPULATION INCREASE AND RACE	22
Total population	23
Rural and urban populations	25
VII. POPULATION GROWTH BY AREAS	28
Rate of population growth in the four areas	29
Rate of rural and urban growth in the four areas	31
Growth of the white population in the four areas	33
Growth of the nonwhite population in the four areas	34
Growth of the white and nonwhite populations within each area	35
Proportion nonwhite	37
VIII. SUMMARY AND CONCLUSIONS	39
Appendix	41

FOREWORD

This is the first of a series of reports presenting the findings of a study of the "Social Significance of Recent Population Trends in Rural North Carolina," conducted by the Department of Rural Sociology at the North Carolina Agricultural Experiment Station. Other reports will deal with age and sex problems, occupational and tenure groups, marriage rates and family types, fertility and natural increase, mobility and rural-urban migration, problems of quality and environment, and finally the future of population growth in North Carolina.

The purpose of these reports is to provide in convenient form a clear and brief statement of the population trends and problems in North Carolina, with particular reference to agriculture and rural life. Such materials are necessary to the development of sound public policies of social and economic adjustment. These materials will also serve as a basis for planning other rural life studies. Or, to put it tersely, all social studies and action programs begin and end with the *people*. No apologies need be made, therefore, for giving careful attention to the social significance of population trends in North Carolina.

These bulletins may be of practical value in many fields; particularly in government, administration, education, and in program planning. School teachers will find them useful as supplementary teaching materials in history, geography, and social science. Administrators of social, educational, and agricultural agencies will find these materials of fundamental value in program planning and administration. The need for public services and institutions now and in the immediate future may be determined only by giving careful attention to population factors such as are analyzed in these reports.

It is true, to be sure, that a knowledge of population alone is insufficient. To present a complete picture of the "life and labor" of a people involves a wider range of social investigation, covering such subjects as income, standards of living, health, housing, organizations and institutions, leadership, farm ownership and tenancy, farm labor, and public welfare. Some of these subjects are now under investigation by the Agricultural Experiment Station and others will be studied as funds and personnel become available. The subject of population, however, is considered to be fundamental. A knowledge of population trends and characteristics helps one to evaluate the importance of conditions and trends in other fields.

Rural Population Problems In North Carolina

I. POPULATION GROWTH 1790-1940

By

SELZ C. MAYO¹ and C. HORACE HAMILTON²

Department of Rural Sociology

I. INTRODUCTION

This bulletin presents a description and analysis of population growth in the state of North Carolina. The period covered is the interval 1790 to 1940, or from the First through the Sixteenth Census of the United States.

First, attention is given to nationality and racial origins of the population. *Second*, population growth prior to the First Census is summarized. *Third*, the increases that have occurred over the state as a whole during the period are summarized and some discussion presented of the factors associated with such changes. *Fourth*, population growth in rural and urban areas is traced. *Fifth*, attention is given to the comparative gains of the racial elements of the population. *Sixth* and finally, attention is given to the comparative increase of the population in the four major areas of the state. The analyses are general, leaving more detailed work to be done through intensive studies of specific population factors in the series.

Reports of the United States Census Bureau have provided most of the statistical data for this study. In fact, unless otherwise specifically noted, all the data have come from such sources. Reports for each census were examined, except 1810 and 1820, but most of the data were taken from those published from 1860 through 1940. The later census returns contain excellent summaries of results obtained in the earlier enumerations. A great many errors were present in the earlier published reports, but many of these have been corrected in later summary compilations. The Census Bureau has been constantly revising the results of early enumerations. This is felt to be desirable and necessary in order to make all previous data comparable with that obtained at a given date. However, the notations for such revisions are not presented in as much detail as one would desire. Attention has been given to the problem of maintaining comparability of the data throughout this study.

II. POPULATION ORIGINS

The present population of North Carolina may trace its origin to many racial and nationality groups. In fact, the population still retains certain characteristics of racial groups, such as Negroes, Indians, and whites, but many or perhaps most of the distinguishing nationality characteristics have long been effaced. It is not the purpose of this section to attempt to relate types of agriculture or industry or other methods of making a living to types of people who settled the state. Some writers have tried to prove

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that soil erodes or does not erode because of historical backgrounds of the people. Some have attempted to relate other cultural conditions to nationality or racial origins, but such efforts have not been too fruitful because of the multiplicity of factors which need to be considered in accounting for a given economic or social condition or status. Such studies have been important only in specific areas which are often referred to as "cultural islands." In spite of this, however, it perhaps would not be too difficult to trace to the original groups some of our present artifacts of culture. Each of the groups discussed below have contributed in some degree to the culture total now present in the state. For example, it might be said that to the original English settlers we are indebted for many of our political ideas as translated into the form and character of government at present. The purpose here, however, is simply to indicate the more important groups and population streams which have settled what we now know as the state of North Carolina.

Indians

The exact number of Indians, within the present boundaries of North Carolina, at the arrival of the white man is not known. The Census Bureau began to enumerate the Indian population in 1860 but such data are of little value before 1890. At this date, population in certain Indian territories or Indian Reservations was enumerated which had not been included before. Changes in techniques of enumeration and classification made these data of only limited use and value. It is difficult to arrive at even an approximate figure as to the size of the Indian population before such enumeration began. Some writers accept the estimated number of 35,000 as the total Indian population of the state when the white man arrived.¹ Because of war, disease, the rum of the white man, and other factors, the Indian population was rapidly depleted. In 1940, the census showed that North Carolina had an Indian population of only 22,546. This number, undoubtedly, included many mixed breeds because of the intermediate status maintained by the Indian in the state.

The tribe of Tuscaroras was the most important in the eastern part of the state. This tribe occupied the central part of the eastern half of the territory. A number of smaller tribes lived around this large one. To the southeast, partly in North Carolina and partly in South Carolina, lived several other small tribes. To the west of the Tuscaroras and especially in the north central part of the state, dwelt several small tribes, none of which was important in numbers. Two important tribes, the Cherokees and Catawbias, lived in the western part of the state, and they were spread over parts of Tennessee, South Carolina, and Georgia. The white settlers pushing westward through the state did not come in contact with these groups until 1750 or later.²

The stereotyped popular conception that all these Indians were alike culturally is not borne out by the facts. Attitudes toward the white settlers

¹ Rand, James H., "The Indians of North Carolina and Their Relations with the Settlers." *The James Sprunt Historical Publications*, Chapel Hill, N. C., published by the University, Vol. 12, No. 2, 1913, p. 8.

² *Ibid.*, pp. 6-8. See also: Lawson, John, *Lawson's History of North Carolina*, Richmond, Virginia, Garrett and Massie, pp. 179-ff.

varied from tribe to tribe. Their customs and behavior patterns varied considerably, as did their modes of making a living and living. In short, their culture was not uniform and stereotyped as commonly thought today.

English

It was only a few years after the settlement of Jamestown, Virginia, that hunters, traders, and explorers began to move southward into the present boundaries of North Carolina. Early English pioneers became interested in the area south of Jamestown, later known as the Albemarle region. During the following years, the Virginia authorities sent official expeditions to explore the area around the Albemarle. It was only logical for settlers to follow these wandering explorers and official expeditions. The exact date of the first English movement into the state cannot be established, but the usually accepted period is between 1653 and 1660. By 1665, settlements extended from the Chowan River to the Currituck Sound. Before the end of the century, this English settlement had developed to the extent that it was organized into a county. Shortly after the end of the century, the first town site was selected.

In the meantime, one or more attempts had been made to establish an English settlement on the banks of the Cape Fear River. After only a short time, this effort failed and the colonists left the area. By the end of the first quarter of the eighteenth century, the power of the hostile Indians had been broken; and in or about 1723, a permanent English settlement was established on the Cape Fear. During the first seventy-five years after 1660, the population of North Carolina was almost entirely English, except for a few groups to be described below.³

French Huguenots

It may come as a surprise to many to learn that two small areas on the coast of North Carolina were settled by French Huguenots. The first such colony was established about 1690 on the banks of the Pamlico River. These settlers came from colonies already established along the James River in Virginia. In 1707, a second body of French Huguenots left the same area of Virginia and settled in North Carolina. This group apparently passed the first settlement and found its way to the lands between Neuse and Trent Rivers. It is very probable that these French settlers found the English already established on the Neuse. It is reported that descendants of these French Huguenots live in Buncombe County, where they later moved.⁴

Swiss and Germans

In the early part of 1710, a small group of Swiss and another of Palatine Germans left England for North Carolina. They landed, at separate times, in the autumn of the same year on the banks of the Neuse River. Both

³ Connor, R. D. W., *Race Elements in the White Population of North Carolina*. N. C. State Normal and Industrial College, Historical Publications, Published by the College, No. 1, 1920, pp. 20-43.

⁴ *Ibid.*, pp. 23-24. See also: Hill, D. H., *Young People's History of North Carolina*, Charlotte, N. C., The Stone and Barringer Company, 1907, pp. 69-70.

groups were under the leadership of a Swiss by the name of Christopher DeGraffenried. A town was soon established and this town, now known as New Bern, later became an important center in the state. There is little evidence by which one may be guided in saying as to what became of the Swiss in the colony. The Germans and their descendents scattered into the territory now known as the counties of Craven, Jones, Onslow, and Duplin, as well as settling with the Scotch and other groups in the Cape Fear area.⁵

Highland-Scotch

As early as 1729, a few Highland-Scotch families were settled in North Carolina along the Cape Fear River. In 1734, a Scotsman by the name of Gabriel Johnston became governor of the colony and during his administration exerted great effort to influence his countrymen to come to North Carolina. This stream of emigrants to the state became quite large from the middle of the eighteenth century and continued until the Revolution. It is estimated that, by that time, approximately 20,000 of these settlers had come to the state. The central trading point for this group was Cross Creek, now known as Fayetteville. From the immediate banks of the Cape Fear, these Highland-Scotch moved outward and were soon scattered over the area comprising the counties of Anson, Bladen, Cumberland, Harnett, Montgomery, Moore, Richmond, Robeson, Sampson, Scotland, and Hoke.⁶

Scotch-Irish

The term "Scotch-Irish" is a geographical name used to designate the people from Scotland (principally from the Lowland) who, for various reasons, moved to Ireland many years before coming to the United States. It is those people, Scotch who lived in Ireland and their descendents, in which we are interested in this discussion. The first Scotch-Irish settlement in North Carolina was founded in 1735 or 1736 in the general area covered by the larger New Hanover County. There were Scotch-Irish in the state before the above date, but no specific settlement had been made. Very few of these people entered the state directly, as Philadelphia and Charleston were the important ports of entry into this nation. From Charleston, many of the families pushed to the north along the rivers and finally settled in the Piedmont area of the state. This stream was soon met by another moving southward from the other port of entry. The latter stream was much the larger. It is estimated that during the three or four decades preceding the Revolution approximately 65,000 Scotch-Irish moved into the Piedmont area of North Carolina. The main body of this population settled in what is now the counties of Guilford, Orange, Alamance, Caswell, Iredell, Cabarrus, Mecklenburg, Lincoln, Gaston, and surrounding territory.⁷

⁵ Allen, O. H., "The German Palatines in North Carolina," *The North Carolina Booklet*, Vol. IV, No. 12, (April, 1905), pp. 9-27; Hill, D. H., *op. cit.*, pp. 70-72.

⁶ Hill, D. H., *op. cit.*, pp. 118-119; Connor, R. D. W., *op. cit.*, pp. 44-68; Macrae, J. C., "The Highland-Scotch Settlement in North Carolina," *The North Carolina Booklet*, Vol. IV, No. 10, (February, 1905), pp. 3-24.

⁷ Hill, D. H., *op. cit.*, pp. 117-118; Connor, R. D. W., *op. cit.*, pp. 69-90; McKelway, A. J., "The Scotch-Irish of North Carolina," *The North Carolina Booklet*, Vol. IV, No. 11, (March, 1905), pp. 3-24.

Germans

Along with the Scotch-Irish moving from Pennsylvania, came another stream of settlers—Germans. The two groups moved side by side across Maryland, down the valleys of Virginia, and finally into the cheap and fertile lands of Piedmont, North Carolina. These German settlers moved into the general area of the Yadkin and Catawba Rivers. The first trains began to move to the state about 1745, but the main body came between 1750 and 1775. It is estimated that by the latter date, 25,000 Germans were living in the state. They soon scattered over the territory now included in the counties of Orange, Rowan, Guilford, Burke, Lincoln, Randolph, Stokes, Cabarrus, Davidson, Stanly, Catawba, Alamance, Forsyth, and other surrounding areas. The traditional Easter Sunday Moravian pageant held in Winston-Salem is the product of the culture of this group.*

Negroes

The first Negroes were brought into the Jamestown, Virginia, colony only a dozen years after its settlement. Soon after the Virginia settlers began to push into North Carolina, reference to Negroes is found in literature. So, the Negro constituted a part of the very early settlers of this state. How early, however, cannot be stated with accuracy. In 1732, the Negro population is estimated to have been only 6,000. It should be recognized that this early Negro population, in the state and nation, did not constitute a homogeneous group. They came from very different backgrounds or cultures in their native country. Some spent a period in the islands to the south of the state before being brought to the United States. Very few Negroes were brought into the state direct; most of them came by way of other colonies with better port facilities. The status of the Negro changed radically from time of first entry into this country to 1865. This is to say, it was some time after the first entry before slavery became an established fact. A series of well known circumstances brought about the change; such events need not be repeated here. Even during the period of slavery, there was a rather complicated social and economic structure prevalent among Negroes which was almost as rigid as the caste structure itself. In view of these facts, one may say that the Negro has long been an important part of North Carolina's population. In fact, there are about one million Negroes in the state, and they constitute 27.5 per cent of the total population.

Other Groups

The above described groups certainly do not constitute all the sources from which the population of North Carolina originated. There was, for example, a small group of Irish settlers brought into Duplin County about the middle of the eighteenth century. More recent examples are numerous. During the 1870s and 1880s, Ridgeway in Warren County was the site selected for settlement by a number of German families, most of whom came directly from Germany. Today, there are about forty families in this settle-

* Hill, D. H., *op. cit.*, pp. 119-122; Connor, R. D. W., *op. cit.*, pp. 91-111; Faust, A. B., *The German Element in the United States*, Houghton Mifflin Company, Vol. I, pp. 212-233.

ment. During the 1890s, Valdese, in Burke County, was selected as a site for the settlement of about forty Italian families. This attempt failed, and most of the families work in textile mills in the town of Valdese. The Castle Haynes and St. Helena settlements represent more recent experiments. In the early days of this experiment, about thirty Italian families were brought to the area but Prohibition ruined their industry and most of the families left. Later, ten Belgian families were brought to the area but these, too, soon left. Since these trials, the experiment has been continued with foreign-born emigrants from industrial areas who have been settled in the area. The many nationalities represented make an impressive list: Russians, Italians, Germans, Hollanders, Poles, and Hungarians."

Since the dates of the settlements characterized in this section, many racial and nationality groups have come into North Carolina but not in very large numbers at any given period. The groups already described do constitute the important population streams. It is mainly from these groups that North Carolinians derive their heritage; or, to say it in another way, in mingling, these groups lost much of their identity and characteristics, and the result is the present population of North Carolina.

Cultural Backgrounds

The nationality and racial groups discussed in the preceding sections are not in themselves as important as the culture of the various elements. Distinguishing cultural from national and/or racial traits greatly clarifies and facilitates any attempt to compare or evaluate the relative contribution of the separate elements. Each immigrant group brought to North Carolina different agricultural attitudes and techniques. This is to say, the varying agricultural ideas and methods represented very strong and exacting folkways. There can be little doubt but that these folkways were modified in and by the new environment. Some changes occurred among several groups before reaching this state; but many of the folkways were not, and perhaps as yet have not been, completely obliterated.

The findings of many studies substantiate the above points. For example, one author has the following to say concerning the success of Castle Haynes and St. Helena projects:

Mr. MacRae insists that the cultural conditioning and background of a people is extremely important in determining their success or failure as farm operators. He believes also that it is advisable to mix cultural groups so that each group may contribute its best techniques to the agricultural pattern involved.¹⁰

As pointed out above, each of the early culture groups made a distinctive contribution to the agriculture of the state. For example it has been shown that:

Soil improvement received little or no attention in North Carolina prior to the coming of the Germans; the settlers on the Coastal Plain either continued to farm their lands until they were com-

¹⁰ Kollmorgen, Walter M., "A Reconnaissance of Some Cultural-Agricultural Islands in the South," *Economic Geography*, Vol. 17, No. 4, (October, 1941), pp. 409-430.

¹¹ Kollmorgen, Walter M., *Ibid.*, p. 410.

pletely exhausted or abandoned them after obtaining lightwood.

pitch, tar, and turpentine. Upon their arrival, the Germans began to search for limestone, the absence of which they regarded as their "greatest inconvenience." In Lincoln County they "dunged annually." Significant of the value attached to the use of barnyard manure is the fact that in Cabarrus County a dung fork was listed as an heirloom in 1814.¹

On the other hand, the English and Scotch-Irish showed great organization ability in the development of commercial farming on large holdings.²

It may be said, therefore, that agriculture in North Carolina developed out of a cultural melting pot. The diverse agricultural techniques and folkways as modified by nearness and by necessity in the new environment, have made for richness or the lack of it, in the farming areas of the state.

III. POPULATION PRIOR TO FIRST FEDERAL CENSUS, 1790

Before 1790, there had been no important attempt to ascertain an accurate enumeration of the population in either the entire nation or the area comprising the state of North Carolina. Some effort had been made to determine the number of taxables or the number of males in specific age groups but these efforts were by no means complete. Such records, however, along with other documents and available source materials, make it possible to obtain fairly reliable estimates of the population in the state by decades prior to the First Census.

Number

By making the necessary boundary adjustments and considering only the territory now comprising the state of North Carolina in 1660, the population is estimated to have been 1,000. During the next decade, the population more than doubled and is estimated to have been 2,500 in 1670. By 1680, the population had increased to 4,000, but during the following decade the population decreased so that in 1690 there were only 3,000 persons. In the following decades, the population is estimated to have been: 5,000 in 1700; 7,000 in 1710; 13,060 in 1720; 30,000 in 1730; 50,000 in 1740; 80,000 in 1750; 115,000 in 1760; 230,000 in 1770; and 300,000 in 1780.³ The popula-

¹ Gehrke, William H., "The Ante-Bellum Agriculture of the Germans in North Carolina," *Agricultural History*, Vol. 9, No. 3, (July, 1935), pp. 153-154.

² For other illustrations on these points see: Graeff, A. D., et al., *The Pennsylvania Germans*, Princeton, New Jersey, Princeton University Press, 1942. (See especially Chapter II: "The Pennsylvania German Farmer."); Shryock, R. H., "British Versus German Traditions in Colonial Agriculture," *Mississippi Valley Historical Review*, Vol. XXVI, No. 1, (June, 1939); Shryock, R. H., "Cultural Factors in the History of the South," *The Journal of Southern History*, Vol. V, No. 3, (August, 1939); Neskaug, Selmer R., et al., *How the Swiss Farmers Operate on the Cumberland Plateau*, Monograph No. 35, A.E.S., University of Tennessee, Knoxville, 1937; Kollmorgen, Walter M., *The German-Swiss in Franklin County, Tennessee*, U.S.D.A., B.A.E., Washington, June, 1940; Kollmorgen, Walter M., *The German Settlement in Cullman County, Alabama*, U.S.D.A., B.A.E., Washington, June, 1941.

³ *A Century of Population Growth: From the First Census of the United States to the Twelfth, 1790-1900*, Bureau of the Census, Government Printing Office, Washington, 1909, pp. 9-10.

tion doubled during the decade from 1660 to 1670, but it took three decades for the population to double again. It doubled again in the next twenty years and more than doubled during the following decade. The population continued to double every ten or twenty years to the First Census.

Rate of Change

It may be readily observed from the discussion above that the population of North Carolina did not grow at an even or steady rate during the period from 1660 to 1790. During most of this period, the rate of growth was dependent upon the flow of migrants into the state from other colonies or states and from foreign countries. As a help in visualizing the growth of the state's population, figure 2 has been constructed. It clearly shows that the rates of increase were very high. This is especially true as compared with the rates for the United States. The percentage increase for North Carolina was higher than the rate for the United States for every decade from 1660 to 1790, except two. The state lost population during the decade from 1680 to 1690 and the decrease amounted to 25 per cent. This is the only decade during the years from 1660 to 1940 in which there was an actual decrease in the number of people in the state. The other decade, during the period before 1790, in which the percentage increase for the state was lower than for the nation was from 1780 to 1790. The rate for the nation was higher during this decade than for any other during the period considered in this discussion.² The growth of population in North Carolina during the one hundred and thirty years from 1660 to 1790 is an outstanding phenomenon for, in this period, the population increased from one thousand to nearly four hundred thousand.

Movement Westward

If in 1675, one could have been above and looking down on the shores of North Carolina, two settlements of white population would have been observable. One was located in the Albemarle Sound and Chowan River area, and the second in the Cape Fear River and Wilmington Area. Both settlements were located on the eastern seaboard, one in the northeast and the other in the southeast. By 1700, another small settlement had been added to the two above, and this third was located in the area of the Pamlico and Pungo Rivers. Two decades later, other areas had been settled and the older settlements were expanding westward. By the end of the two following decades, population was pouring over the line into the state from Virginia. Also, streams of population were following the rivers and moving into North Carolina from further south. By 1760, the flow of population into the Piedmont had about covered the state from north to south, and the settlements on the coast were rapidly moving westward. However, the two had not joined, resulting in a considerable portion of the central part of the state being still unsettled. During the next two decades, the central part of the state was settled and the population, in considerable numbers, had reached but hardly penetrated the mountains. From 1780 to 1790, the trend toward the mountains and settlement of that region continued. Even by 1790, however, there were still great tracts of land unsettled in the state.

² *Ibid.*

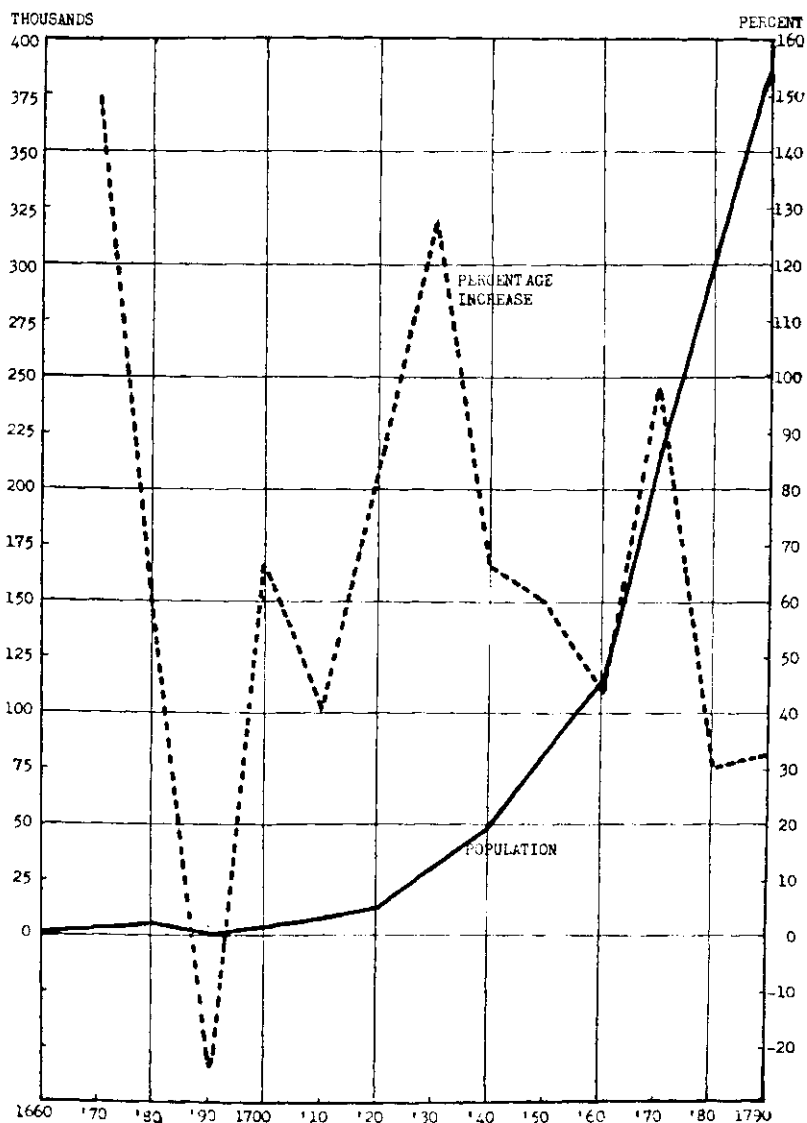


Fig. 2. Population growth and percentage increase in North Carolina, 1660-1790.

especially in the mountain region. The history of settlement in North Carolina from 1660 to 1790 is a chronicle of moving frontier and a movement westward of the population.³

³ Friis, Herman R., "A Series of Population Maps of the Colonies and the United States, 1625-1790," Reprint from *The Geographical Review*, Vol. XXX, No. 3, (July, 1940), pp. 463-470.

IV. TREND OVER STATE AS A WHOLE, 1790-1940

In 1790, the Congress of the United States passed an Act which provided for the enumeration of the population. Several states had, prior to this date, attempted to secure an accurate count of the population. This Act, however, was the first attempt to ascertain a complete enumeration of the population for the entire nation. The Act provided for the First Census to take place on the first Monday in August. The subsequent census dates for 1800, 1810, and 1820 were the same. Beginning with 1830 and continuing through 1900, the date to which the enumeration related was June 1 of the census year. The Thirteenth Census was taken as of April 15, 1910. The Fourteenth Census Act provided that the population enumeration should be as of January 1, 1920.¹ The Fifteenth and Sixteenth Census, 1930 and

Number

At the time of the First Census, the population of North Carolina was a little less than four hundred thousand. The population increased during every following decade; and in 1940, the state had a total population of more than three and one-half millions.² During the one hundred and thirty years considered in the previous section, prior to the First Census, the population doubled several times; however, during the century and one-half from 1790 to 1940, it doubled only three times. The population doubled in the half century between 1790 and 1840. By 1890, it had approximately doubled again and for the third time, doubled again some time during the decade from 1930 to 1940. The greatest absolute gain in the population occurred during the decade from 1920 to 1930. The numerical gain during this period was greater by more than 200,000 than the increase during the following decade from 1930 to 1940. The smallest absolute gain occurred during the decade from 1830 to 1840. In this period, the increase amounted to only about 15,000, as compared with approximately 84,000 between 1790 and 1800, and the 600,000 increase between 1920 and 1930.

Rate of Change

During the decade from 1930 to 1940, the population of North Carolina increased from 3,170,276 to 3,571,623 or 12.7 per cent. This is the third lowest rate for the past century and a half. The lowest percentage gain occurred during the decade ending in 1840. As was noted above, the absolute gain was very small and the percentage increase was only 2.1. This is the lowest rate of increase for any decade since 1690 or two and a half centuries. One historian calls this a period of "Leaving the State" and gives reasons for this as follows:

Many left to occupy lands in Tennessee which had been given them and their fathers for service in the Revolutionary War. Some, especially among the Quakers, left because they disliked slavery. Quaker historians say that in 1850 one-third of the people living in Indiana were from North Carolina. Others moved to the

¹ *Fourteenth Census of the United States, 1920, Population, I, p. 11.* 1940, have been taken as of April 1.

² See Appendix.

fertile lowlands of Alabama, Mississippi, and Louisiana to grow cotton. The invention of the cotton gin made cotton growing by slave labor very profitable. Many young men therefore took their share of the family slaves and went south to buy cheap cotton lands.³

The economic crash of 1837 and events preceding it, undoubtedly, had considerable effect on the movement of population westward.

The population of the state increased only 7.9 per cent during the decade ending in 1870. The low rate for this period is, in part, accounted for by the War during the first half of the decade and the results which followed. Another factor is the acknowledged incomplete enumeration of the census in 1870.⁴ The low rate for the period from 1930 to 1940 is the result of several factors. The economic depression covering the first half of the decade resulted in a further slowing up of the birth rate. During the depression, some migration continued and the rate became higher during the latter half of the decade. Also, the rapidly changing population composition had considerable effect on the rate of growth.

The greatest percentage gain in the population of North Carolina since the First Census occurred in the decade ending in 1880. Part of the explanation for this high rate is to be found in the fact that the population enumeration was incomplete in 1870, and this resulted in an overstatement of growth in 1880. The second highest rate occurred during the period with the greatest absolute gain, between 1920 and 1930. Most of this gain was the result of natural increase. The age and sex composition of the population in North Carolina was very favorable to a high birth rate. Also, the state lost little or no population due to migration. The rapid industrial development in the state absorbed most of the surplus population. Except for the two low and the two high decades already discussed, the percentage increase of the population in the state has been relatively constant, as figure 3 shows so clearly.

It was noted in the previous section that the percentage increase of the population in North Carolina was greater than for the United States from 1700 to 1780. During the decade ending in 1790, the rate for the nation became higher than for the state. This fact was in reality the beginning of a general trend which continued for several decades. The rate for the nation remained a great deal higher than for North Carolina until the decade ending in 1880. Even this reversal of the trend was temporary, as the results of the next decade showed a return to the long time trend. The percentage increase for the decade ending in 1920 was slightly greater for the state than for the nation. The difference became much greater during the following ten years. During the decade from 1930 to 1940, the rate was

³ Hill, D. H., *Young People's History of North Carolina*, Charlotte, North Carolina, the Stone and Barringer Company, 1907, p. 250.

⁴ The enumeration in 1870 was incomplete especially in the south; therefore, the percentage increase for the decade is too low. By the same token, if it is assumed that the 1880 enumeration was complete, then, the rate for that period is too high. On this assumption, the rate for the nation in 1870 should be 26.6 per cent instead of 22.6 per cent. Also, the rate for 1880 should be 26 per cent instead of 30.1 per cent. See: *Fourteenth Census of the United States, 1920*, I, pp. 14-15.

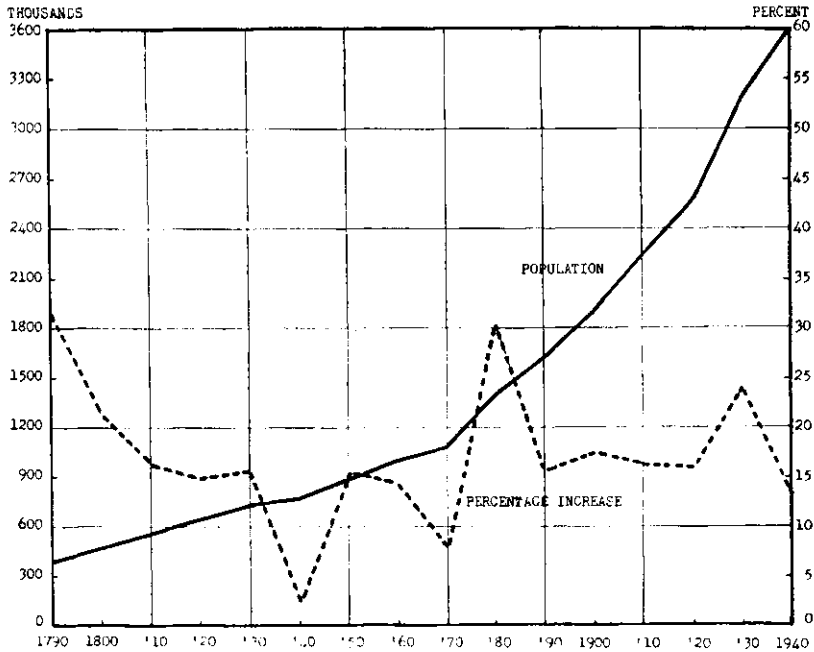


Fig. 3. Population growth and percentage increases in North Carolina, 1790-1940.

higher for the state; however, the rates were closer together than at the end of the preceding decade.³

V. POPULATION GROWTH IN RURAL AND URBAN AREAS

Rural Population Defined

Unfortunately, there has always been more or less confusion in the popular mind as to the meaning of the words "rural" and "urban" as used by the Census Bureau, and in this bulletin. The terms, as defined by the Census Bureau, are strictly *residential* and not *occupational* categories. The census does not even attempt to enumerate or tabulate *agricultural* popula-

³ The 1830 census included 5,318 persons and the 1840 census 6,100 persons on public ships in the service of the United States but not credited to any state or territory.

In 1890, 325,464 persons (117,368 whites; 18,636 Negroes; 189,447 Indians, and 13 Chinese) were enumerated in Indian Territory and on Indian Reservations not included in the 1880 census. Therefore, the rate of increase in 1890 is too high for the nation. The rate should be 24.9 per cent instead of 25.5 per cent.

The changes in census dates make necessary some adjustments in rates. However, the changes are very small. By making the adjustments for the nation the rate for 1910 becomes 21.3 per cent instead of 21 per cent; the 1920 rate becomes 15.4 per cent instead of 14.9 per cent; and the rate for 1930 becomes 15.7 per cent instead of 16.1 per cent. The rates for North Carolina would be adjusted accordingly.

tions as such, although the number of people in the *agricultural labor force* is shown. The *farm* population is also a *residential* category, meaning those people who live on farms, regardless of their occupations (which may be nonagricultural). Also, *farm* people may live in urban as well as in rural areas, that is, the *farm* population is made up of two groups: *urban-farm* and *rural-farm*. If this is all very confusing, then read carefully the following definitions:

An urban area is made up for the most part of cities and other incorporated places having 2,500 inhabitants or more. As far as North Carolina is concerned, the words "for the most part" could be eliminated from this definition. It is only in a few states that the census now classes as *urban* the unincorporated places having 2,500 or more inhabitants, as well as certain densely populated minor civil divisions which have not been incorporated as municipalities.¹

Rural areas consist simply of those places and areas not classed as urban; and rural population consists of those people who live in rural areas. Consequently, rural people are actually a rather heterogeneous social group, including not only a large number of *agricultural* people but also many people not engaged in agriculture. The rural population includes many people living in incorporated places less than 2,500 in population as well as a substantial number of people in *unincorporated* places 2,500 or above in population. Still another large and increasing group of rural people are those who live in the *unincorporated* suburbs of large cities and towns.

Rural Counties

The population of North Carolina, as shown in the United States Census, was all rural prior to 1820. Since then, a smaller and smaller proportion has been found in rural areas. Figure 4 shows the counties with all-rural populations in 1880, 1900, 1920, and 1940. It should be noted that 43 counties in the state still have no incorporated center with a population of 2,500. The remaining 57 counties have one or more urban centers. The bulk of the all-rural counties are located in the extreme eastern and extreme western parts of the state; that is, in the Tidewater and Mountain areas.

Urban Centers

The first North Carolina urban centers appeared in the census of 1820 and these were Fayetteville, New Bern, Raleigh, and Wilmington. No new center appeared before 1870 and Raleigh lost urban status in 1830 and 1840. It is of interest to note that the four places mentioned above were the only centers with 2,500 or more persons at the beginning of the Civil War. After 1880, the number of places attaining urban status increased rapidly. Between 1920 and 1930, 13 places graduated to the urban class and during the last decade, eight new centers reached urban status. At the present time there are 76 urban places in the state. Figure 5 shows the number of urban centers in the state for each decade from 1820 to 1940. Figure 6 shows the size and approximate location of the urban places in the state as

¹ *Sixteenth Census of the United States, 1940, North Carolina, Population, Second Series, p. 2.*

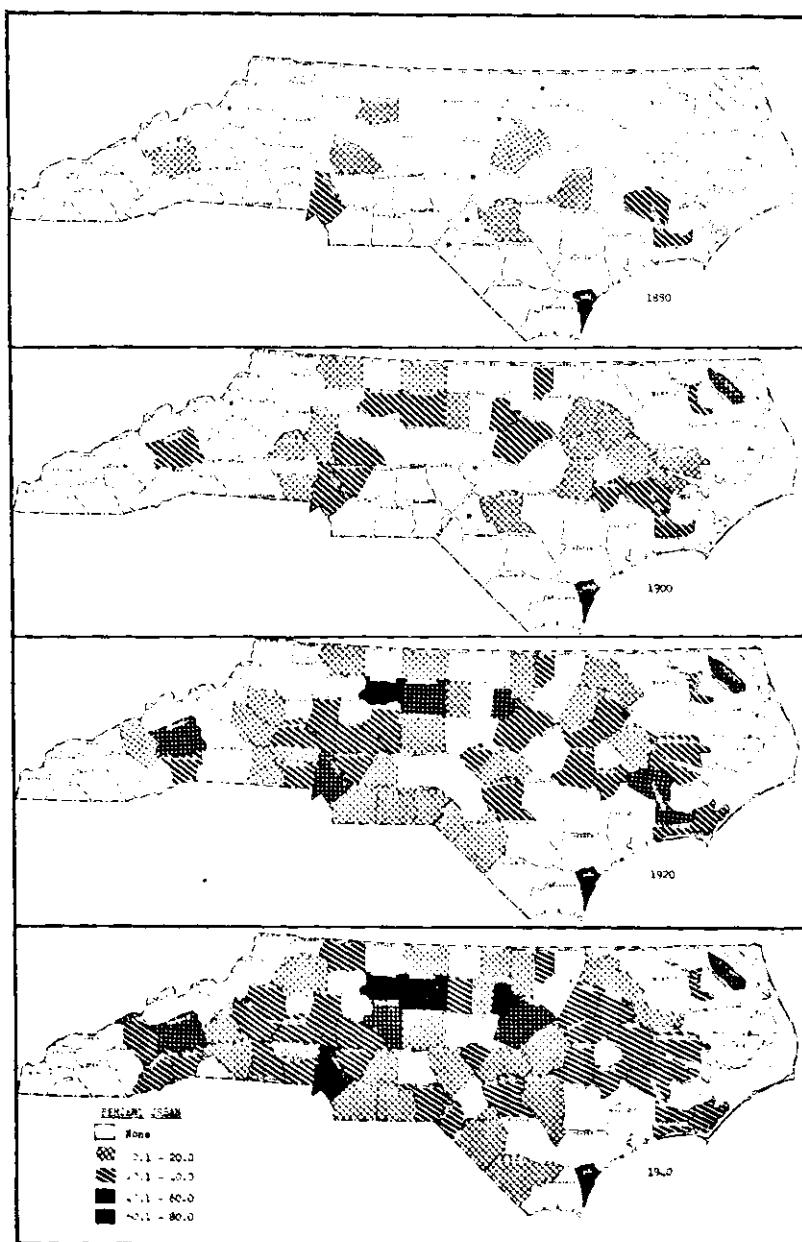


Fig. 4. Percentage of North Carolina population in rural and urban areas, 1880, 1900, 1920, 1940.

* County not organized.

New Hanover county, over 80 percent in first three periods.

of 1940. A table in the appendix gives the complete list of urban centers in North Carolina and the population of each from the census date in which each first appeared with 2,500 or more persons.

NUMBER OF CENTERS

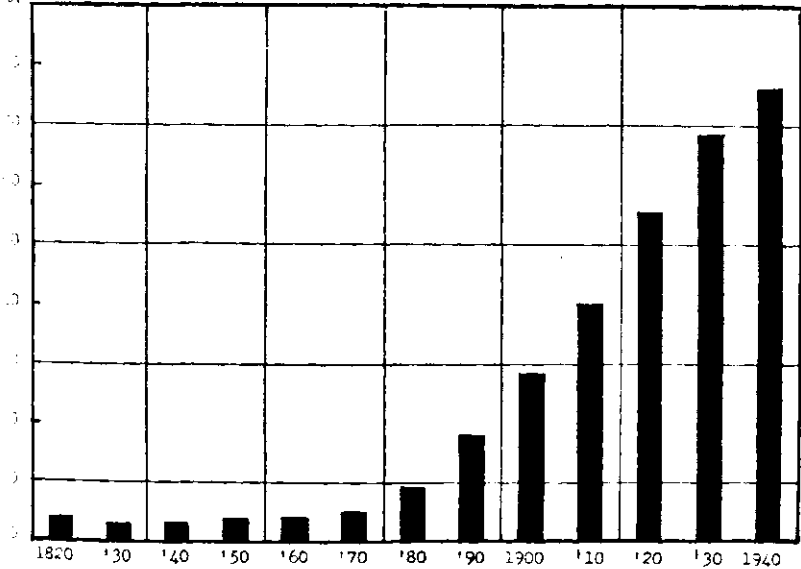


Fig. 5. Number of urban centers in North Carolina, 1820-1940.

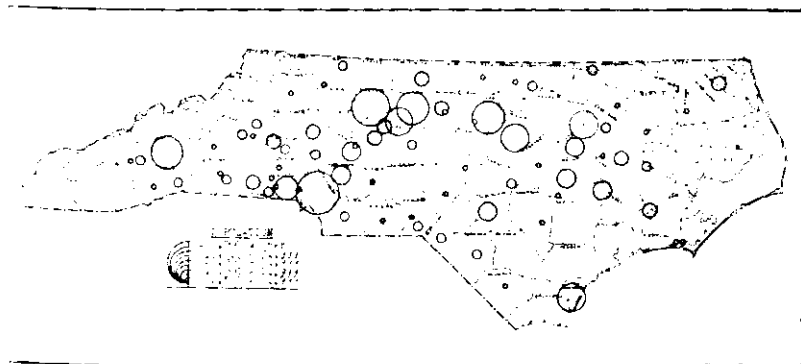


Fig. 6. Size and location of urban centers in North Carolina, 1940.

Rural and Urban Populations

One of the significant trends in North Carolina population growth has been the phenomenal increase in the number of persons in urban centers.

The following shows the number of persons living in rural and urban areas at census periods from 1820 to 1940:

<i>Decade</i>	<i>Rural</i>	<i>Urban</i>
1820	626,327	12,502
1830	727,532	10,455
1840	740,109	13,310
1850	847,930	21,109
1860	968,068	24,554
1870	1,035,143	36,218
1880	1,344,634	55,116
1890	1,502,190	115,759
1900	1,707,020	186,790
1910	1,887,813	318,474
1920	2,068,753	490,370
1930	2,360,429	809,847
1940	2,597,448	974,175

A rough comparison will suffice to demonstrate or point up this outstanding phenomenon: The rural population of the state was four times larger in 1940 than in 1820, while the above figures for the urban represent a growth of 78 times during the same period. Both populations had greater numerical increases during the decade 1920-1930 than for any other similar period. Also, this is the only period in which the actual increase was greater for the urban than for the rural population.

Rate of Change

Both rural and urban populations have increased in numbers during each decade since 1830; however, the rates of change have by no means been identical or even similar. The following shows the percentage change over the preceding decade for the rural and urban populations from 1820 to 1940:

<i>Decade</i>	<i>Rural</i>	<i>Urban</i>
1820
1830	16.2	-16.4
1840	1.7	27.3
1850	14.6	58.6
1860	14.2	16.3
1870	6.9	47.5
1880	29.9	52.2
1890	11.7	110.0
1900	13.6	61.4
1910	10.6	70.5
1920	9.6	54.0
1930	14.1	65.2
1940	10.0	20.3

These data, also presented in figure 7, show that the urban population in the state has increased at a much faster rate than the rural for each decade after 1830. The rural population had its highest rate in 1870-1880 and the urban peak was during the following decade, 1880-1890. During the last decade, 1930-1940, the urban increased twice as fast as the rural; even so, the rates were closer together than for any period during the preceding 80 years. The rural has remained exceptionally constant during the last six decades.

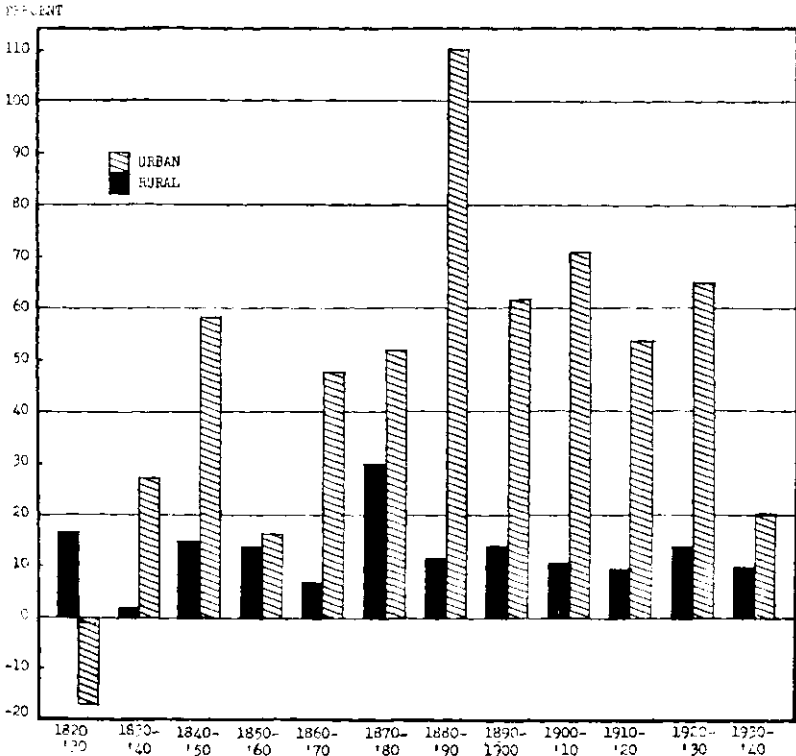


Fig. 7. Percentage increase in the rural and urban populations, North Carolina, 1820-1940.

A comparison between North Carolina and the United States should aid in putting the data for the state in setting and the contrasts are interesting and revealing. A comparison of the rural populations reveals two very significant trends: First, from 1820 to 1890, the rate for the nation was higher than for the state, with a single exception. Second, since 1890, the state rate was higher.

Comparison between North Carolina and the United States with respect to rates of increase for the urban populations reveals two definite and clearly defined trends: First, from 1820 through 1870, the urban population for the entire nation grew much more rapidly than in the state. Second, beginning with 1880 and continuing thereafter, the state rate of urban growth has been more rapid than for the entire United States.

Proportion In Rural and Urban Areas

Figure 8 shows that the proportion of the total population residing in urban centers in 1940 was higher than for any previous period in the history of North Carolina—27.3 per cent. By the same token, of course, this means that the proportion in rural areas is the smallest in the history of the state. This is also true for the United States, with 56.5 per cent of the total

population in urban areas. Figure 8 also shows this comparative picture between the state and nation by decades from 1820 to 1940. By studying the chart carefully, one may observe the fact that the state in 1940 was approximately the same degree urban as the nation was sixty years ago. Following the same procedure, one may further note that this situation has existed for several decades, and the relative positions have remained amazingly constant.

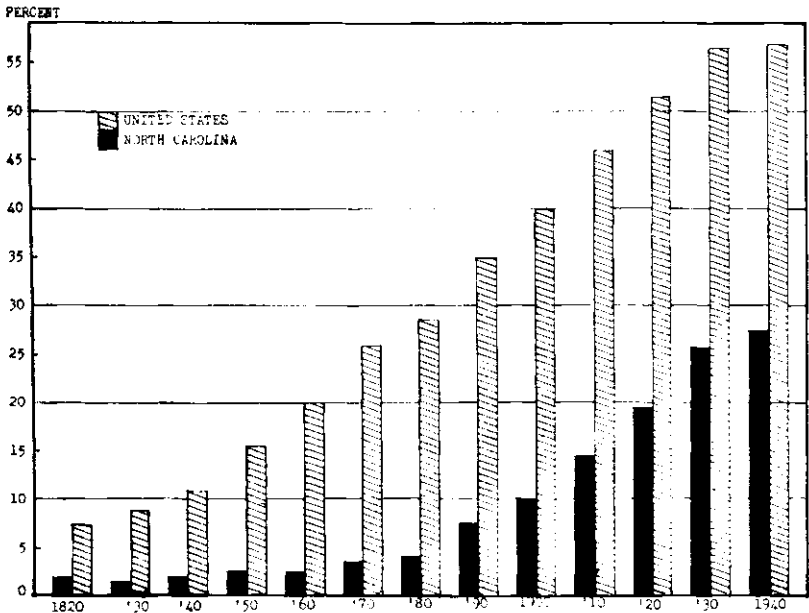


Fig. 8. Percentage of population in urban centers, North Carolina and United States, 1820-1940.

Figure 4 shows the proportion of the total population in urban centers for each county in the state as of 1940. Forty-three of the 100 counties have no incorporated center with 2,500 people; that is, 43 of the counties are totally rural. Of the remaining 57 counties with at least one urban center, 20 have less than 20 per cent of the total population in urban areas. In another 28 counties between 20 and 40 per cent of the population is found in such areas. In four counties, from 40 to 60 per cent of the people live in urban centers. In the remaining 5 counties, Durham, Forsyth, Guilford, Mecklenburg, and New Hanover, 60 or more persons out of each 100 live in incorporated places with 2,500 or more population.

VI. POPULATION INCREASE AND RACE

The significance of studying growth of the main races which comprise North Carolina's population is apparent in the light of the many factors associated with and results which grow out of the fact that the races form one economic and political society. The illustration of one or two such

factors will perhaps suffice in pointing up the meaning and importance of the above statement. The insistence on a dual school system is an outgrowth of races living side by side and one of them being dominant. Such a system increases the tax burden of the population, as well as splitting the financial support available and thereby decreasing the effectiveness of both. Another illustration along the same line is the dual recreational facilities which are publicly supported. Many other public services bear out the same point. In order, then, to do effective state planning, it is necessary to be aware of the historical relations of the various races. Also, because of the particular role that each race plays in relation to the other, many popular misconceptions are held with respect to the growth of the other race or races. The principal races in the state are white and Negro, with only a sprinkling of others.

Total Population

Number. The First Census of 1790 showed that there were 288,204 white and 105,547 nonwhite (nonwhite includes all nonwhite persons as defined in each census) persons in North Carolina. The last census, 1940, showed the population is made up of the following race groups: white, 2,567,636; Negro, 981,298; Indian, 22,546; and all other, 144. For the first time in the history of the state, the nonwhite population passed the one million mark. The two groups, white and nonwhite, have at each census date increased in absolute numbers as compared with the previous period.

Rate of Change. The percentage increase of the nonwhite population in North Carolina was much higher than the white population from 1800 to 1830. This general trend was temporarily reversed in the decade ending in 1840. During this period, the rate for the white was slightly higher than the nonwhite. Beginning with the next census, 1850, the general trend was restored, and the nonwhite rate continued higher through the census of 1880. In 1890, the trend was completely reversed and the white rate of increase became higher and remained higher in succeeding enumerations. These comparisons are shown in figure 9. The extremely low rates in 1870 and the extremely high rates in 1880 for both white and nonwhite populations are the result of an incomplete enumeration in 1870 as already mentioned. The extremely low rate for the nonwhite population in 1890 is due in part, at least, to underenumeration of Negroes.¹ There was, also, an underenumeration of Negroes in 1920. The Census Bureau states that this may have amounted to 150,000. One writer on this subject estimates an undercount of approximately 380,000.² In any case, if it is assumed that the 1930 enumeration was correct, then the 1930 rate for the colored population is recorded too high. How these factors and errors have affected the population growth in North Carolina is difficult to say and is a technical study itself. There can be, however, little doubt but that the rates have been affected, and extreme care should be employed in comparing white and nonwhite rates of population growth.

¹ Wooster, T. J., Jr., *Race and Ethnic Groups in American Life*, New York, McGraw-Hill Book Company, Inc., 1933, Table VIII.

² Wooster, T. J., Jr., "What is the Negro Rate of Increase?" *Journal of the American Statistical Association*, Vol. 26, No. 176, (December, 1931), pp. 461-462.

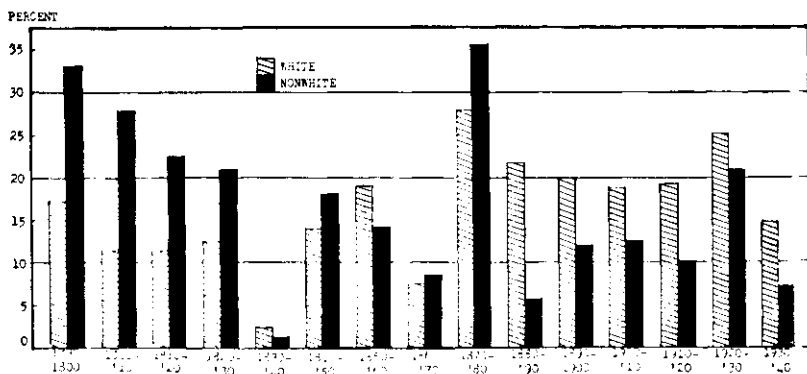


Fig. 9. Percentage increase in the North Carolina population, by race, 1790-1940.

The rates for the state become more meaningful when compared with another area or another population. The white population in the state increased at a much lower rate than the total white population in the United States from 1800 through the 1870 decade. The trend was temporarily reversed in 1880, but this is, no doubt, partly accounted for by the incomplete enumeration of 1870 which causes an overstatement of growth in 1880. The undercount was much greater in the south than in other areas and since the difference between the rates was not great, it is very probable that the true rate for the state in the period was below the rate for the nation. In 1890, the state rate dropped below the nation rate and remained below through the 1910 census. In 1920 the trend was reversed and the state rate for the following three census periods, has been higher than the rate for the United States. The rates were, however, closer together in 1940 than at the previous census of 1930.

In this paragraph, the rates of growth for the nonwhite population in North Carolina are compared with the Negro rates for the United States. The data are fairly comparable since the nonwhite population, other than Negro, is very small in the state. In 1800, the percentage increase for the nonwhite population in the state was higher than for the nation. This situation was reversed in 1810, and the state rate remained lower through the 1870 census. The trend was reversed in 1880 as the state rate became higher. Part of the reversal of trend was due to the underenumeration in 1870, which was especially large in the south. In 1890 and 1900, the nonwhite population of North Carolina grew at a slower rate than the Negro population in the nation. In the following three decades, 1910, 1920, and 1930, the state rates were higher. In 1940, the rate for the nation was higher; however, the difference was very small.

Proportion Nonwhite. The results of differential rates of increase over a period of years is reflected in the proportion of the population classified as nonwhite or white. The proportion of the population in North Carolina classified as nonwhite steadily increased after 1790 until 38 per cent was so classified in 1880 as compared with 26.8 per cent in 1790. In 1890, the trend was completely reversed and the percentage nonwhite began to decrease. Each succeeding census has revealed a lower percentage of nonwhite. In

1940, 28.1 per cent of the state's population was so classified. It should be noted that even though the proportion of the population enumerated as nonwhite has been decreasing for more than a half century, the percentage is still higher than in 1790. There is, however, little doubt but that the present trend will continue and that the proportion of the population designated as nonwhite will continue to decrease in the state.

The percentage of the population classified as nonwhite in the United States decreased consistently after 1790 and has been lower than the proportion in North Carolina. From 1790 to 1870 or 1880, the proportions for the state and nation continued to get further apart, because the percentage for North Carolina was increasing but decreasing for the nation. (See figure 10.) During more recent decades, however, both proportions have been decreasing, but the state more rapidly than the nation. The two have been, therefore, coming closer together.

Rural and Urban Populations

Number. Both the white and nonwhite rural populations increased in each succeeding decade from 1820 and both color groups of the urban population increased in each decade after 1830. The following shows the size of the rural and urban, white and nonwhite populations in North Carolina from 1820 to 1940:

Decade	Rural		Urban	
	White	Nonwhite	White	Nonwhite
1820	413,532	212,795	5,668	6,834
1830	468,123	259,409	4,720	5,735
1840	478,330	261,779	6,540	6,770
1850	542,712	305,218	10,316	10,793
1860	616,881	351,187	13,061	11,493
1870	662,293	372,850	16,177	20,041
1880	841,067	503,567	26,175	28,941
1890	995,333	506,855	60,049	55,710
1900	1,153,027	553,993	110,576	76,214
1910	1,298,073	589,740	202,438	116,036
1920	1,448,688	620,065	335,091	155,279
1930	1,671,470	688,959	563,478	246,369
1940	1,893,047	704,401	674,588	299,587

Rate of Change. The percentage increase of the rural population in North Carolina by race is shown in figure 11. It should be noted that the white rural population has increased more rapidly than the nonwhite since 1880. The difference is very large for the last decade, 1930-1940; the white population increased nearly six times faster than the nonwhite, 13.3 per cent for the white as compared with 2.2 per cent for the nonwhite.

The white urban population of North Carolina increased much faster than the nonwhite from 1880 to 1930. (See figure 12). However, this trend was reversed during the last decade, 1930-1940, and the nonwhite population increased 21.6 per cent as compared with 19.7 per cent for the white. The difference is small but the fact itself is very significant as a trend of sixty years came to an end. These facts point up two significant observations: (1) during the last decade the excess reproduction of the rural nonwhite population was either absorbed in urban centers within the state, or (2) migrated to areas outside the state.

PERCENT

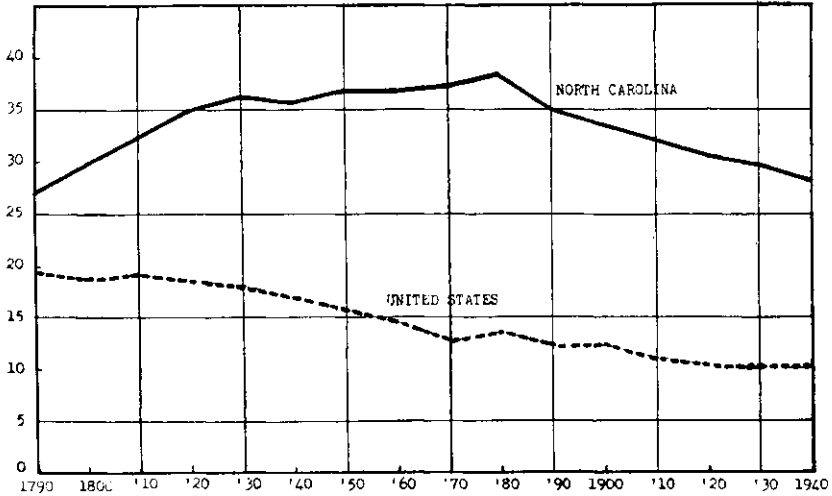


Fig. 10. Percentage of population classed as nonwhite, North Carolina and United States, 1790-1940.

PERCENT

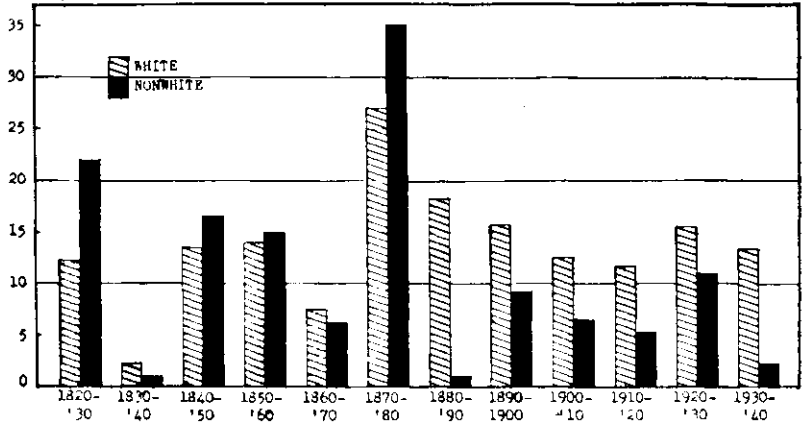


Fig. 11. Percentage increase in the rural population, North Carolina, by race, 1820-1940.

The white urban population has increased much faster than the white rural for the entire period from 1830 to 1940. The rates were, however, closer together in 1930-1940 than at any time during the previous century. A corresponding comparison between the rural and urban nonwhite population reveals that the urban increased faster than the rural from 1860 to 1940.

Proportion Nonwhite. The result of differential rates of increase over a period of years is reflected in the proportion of the population classified as nonwhite or white. Figure 13 shows the per cent of rural and urban popula-

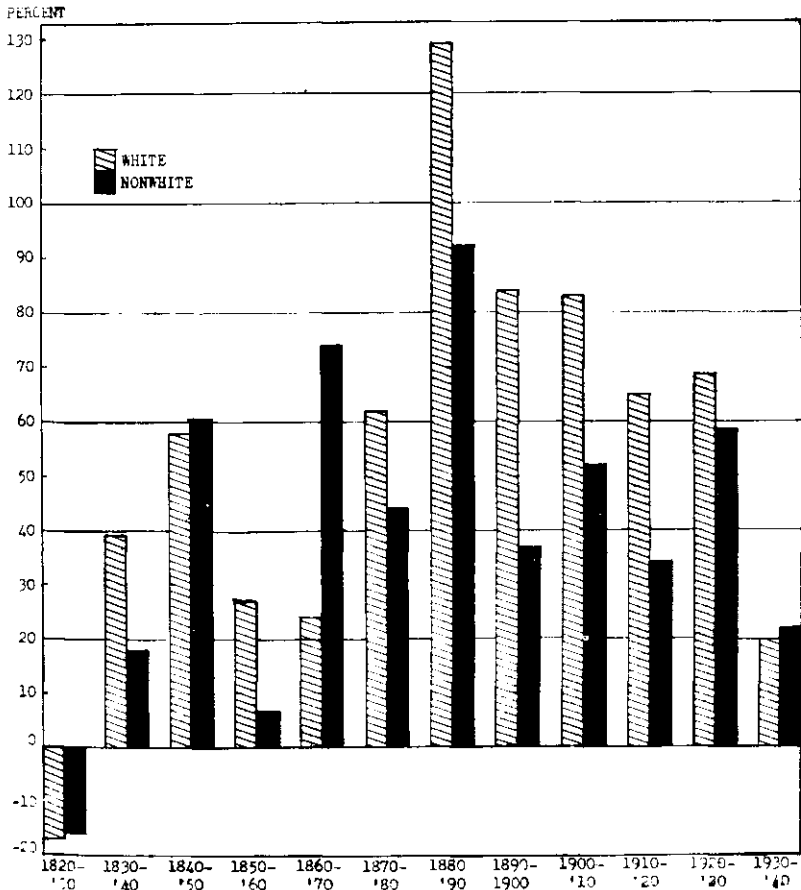


Fig. 12. Percentage increase in the urban population, North Carolina, by race, 1820-1940.

tions enumerated as nonwhite in North Carolina from 1820 to 1940. From 1820 to 1880, except for one period, 1860, more than half of the urban population was classified as nonwhite. The peak was reached in 1870 as 55.3 per cent of the urban population was nonwhite. After this peak, the proportion decreased with each succeeding enumeration through 1930. The latest returns show a reversal of this trend as the percentage recorded as nonwhite in 1940 was higher than in 1930.

For the entire period under consideration, a smaller proportion of the rural population has been classified as nonwhite than in urban areas. The peak was reached in 1880 with 37.5 per cent so enumerated. The proportion continued to decrease thereafter until only 27.1 per cent was nonwhite in 1940.

Proportion of White and Nonwhite Populations in Urban Centers. Attention is now turned to the phase of determining the proportion of the total

PERCENT

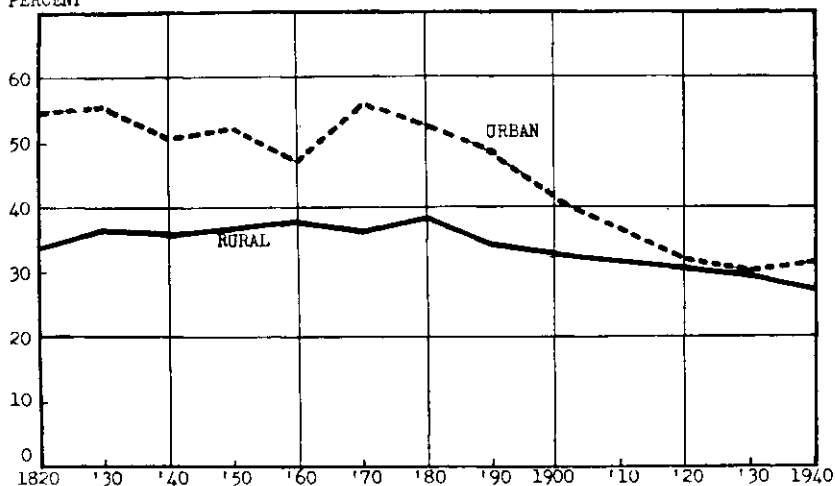


FIG. 13. Percentage of rural and urban populations classed as nonwhite, North Carolina, 1820-1940.

white and nonwhite populations in urban centers. The following data show the percentage of each race class in urban areas by decades for North Carolina:

Date	White	Nonwhite
1820	1.4	3.1
1830	1.0	2.2
1840	1.3	2.5
1850	1.9	3.4
1860	2.1	3.2
1870	2.4	5.1
1880	3.0	5.4
1890	5.7	9.9
1900	8.8	12.1
1910	13.5	16.4
1920	18.8	20.0
1930	25.2	26.3
1940	26.3	29.8

The most striking fact revealed by the above data is that for the entire urban history of North Carolina, a larger proportion of the nonwhite population has lived in urban areas than the white. (See figure 14). This point is of signal importance in view of the fact that the popular assumption or belief pictures the Negro as a typical rural dweller. In terms of total numbers this belief has some foundation, but on a proportionate basis, the assumption is untrue as the data allow only the opposite conclusion.

VII. POPULATION GROWTH BY AREAS

The areas or regions considered in the following analysis are outlined in figure 15. The population by counties is arranged in the same order in an appendix table. The four areas, Tidewater, Coastal Plain, Piedmont, and Mountain, are recognized as logical divisions of the state. They are not,

perhaps, cultural areas, but do represent the settlement and development of North Carolina as the population moved westward regardless of other factors involved.

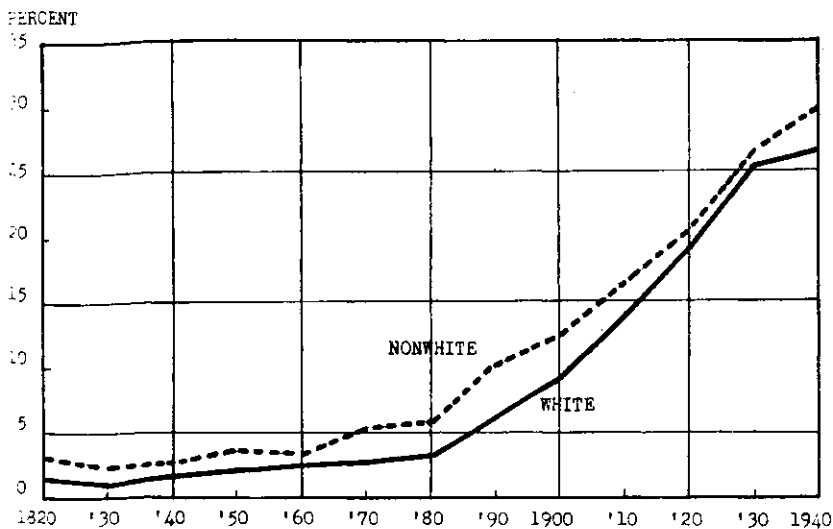


Fig. 14. Percentage of total white and nonwhite populations in urban centers, North Carolina, 1820-1940.

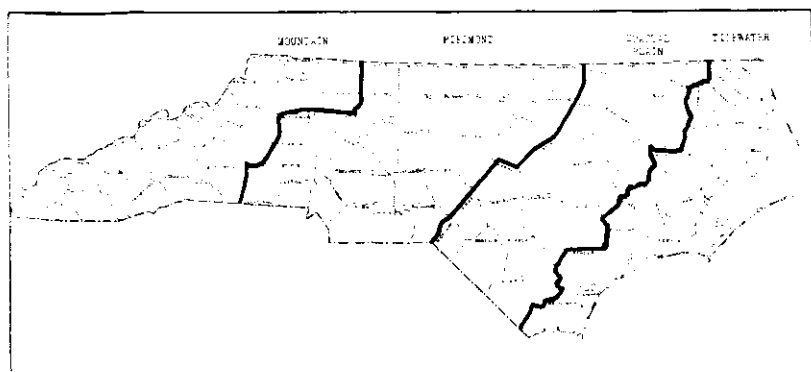


Fig. 15. The four areas of North Carolina as used in this study.

Rate of Population Growth in the Four Areas

The populations of the areas have not gained at the same rate. In general, it can be said that the rate has been progressively higher from east to west. The Mountain area gained population at a higher rate than other areas for the entire period under consideration, except for thirty years from 1900 to 1930. The Tidewater area has had the lowest rate of increase for the entire

period, except for two decades—1800-1810 and 1900-1910. During the decade from 1900 to 1910, the Coastal Plain area had the highest and the Mountain area the lowest rates of increase. During the period of rapid industrial development from 1910 to 1930, the Piedmont area showed the highest rate of population gain, but in 1940 the Mountain area regained its place of leadership. In 1810, the Coastal Plain had the lowest rate of gain as did the Mountain area in 1910, otherwise the Tidewater has been lowest. During the decade ending in 1940, the population gained at the lowest rate in the Tidewater and the rate was progressively higher in each westward area.

Percent

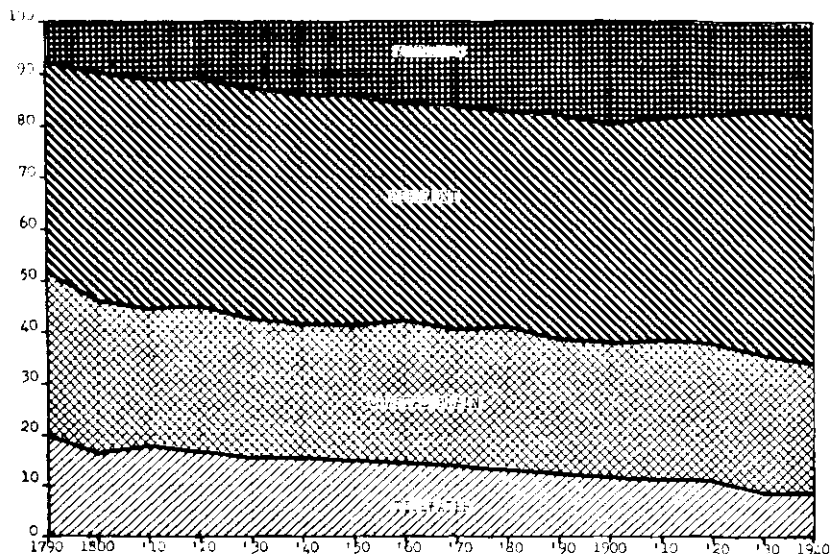


Fig. 16. Percentage of total population of North Carolina in the four areas, 1790-1940.

The two following tables are arranged to show the areas with the highest and lowest numerical and percentage increases by race for each decade from 1790 to 1940.

AREAS LEADING IN POPULATION GROWTH BY DECADES

Decade	Areas of Highest Numerical Increase			Areas of Highest Per Cent Increase		
	Total	White	Colored	Total	White	Colored
1790-1800	Piedmont	Piedmont	Piedmont	Mountain	Mountain	Mountain
1800-1810	Piedmont	Piedmont	Piedmont	Mountain	Mountain	Mountain
1810-1820	Piedmont	Piedmont	Piedmont	Mountain	Mountain	Mountain
1820-1830	Piedmont	Piedmont	Piedmont	Mountain	Mountain	Mountain
1830-1840	Mountain	Mountain	Piedmont	Mountain	Mountain	Coastal Plain
1840-1850	Piedmont	Piedmont	Piedmont	Mountain	Mountain	Mountain
1850-1860	Coastal Plain	Mountain	Coastal Plain	Mountain	Mountain	Mountain
1860-1870	Piedmont	Mountain	Piedmont	Mountain	Mountain	Piedmont
1870-1880	Piedmont	Piedmont	Coastal Plain	Mountain	Mountain	Coastal Plain

Decade	Areas of Lowest Numerical Increase			Areas of Lowest Per Cent Increase		
	Total	White	Colored	Total	White	Colored
1880-1890	Piedmont	Piedmont	Piedmont	Mountain	Mountain	Mountain
1890-1900	Piedmont	Piedmont	Coastal Plain	Mountain	Mountain	Coastal Plain
1900-1910	Piedmont	Piedmont	Coastal Plain	Coastal Plain	Piedmont	Coastal Plain
1910-1920	Piedmont	Piedmont	Coastal Plain	Piedmont	Piedmont	Coastal Plain
1920-1930	Piedmont	Piedmont	Piedmont	Piedmont	Piedmont	Piedmont
1930-1940	Piedmont	Piedmont	Coastal Plain	Mountain	Mountain	Coastal Plain

AREAS OF LOWEST POPULATION GROWTH BY DECADES

Decade	Areas of Lowest Numerical Increase			Areas of Lowest Per Cent Increase		
	Total	White	Colored	Total	White	Colored
1790-1800	Tidewater	Coastal Plain	Mountain	Tidewater	Coastal Plain	Tidewater
1800-1810	Coastal Plain	Coastal Plain	Mountain	Coastal Plain	Coastal Plain	Coastal Plain
1810-1820	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Tidewater
1820-1830	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Tidewater
1830-1840	Tidewater ¹	Coastal Plain ¹	Tidewater ¹	Tidewater ¹	Coastal Plain ¹	Mountain ¹
1840-1850	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Coastal Plain
1850-1860	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Tidewater
1860-1870	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Tidewater
1870-1880	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Mountain
1880-1890	Tidewater	Tidewater	Coastal Plain	Tidewater	Tidewater	Coastal Plain
1890-1900	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Tidewater
1900-1910	Tidewater	Tidewater	Mountain ¹	Mountain	Mountain	Mountain ¹
1910-1920	Tidewater	Tidewater	Tidewater ¹	Tidewater	Tidewater	Tidewater ¹
1920-1930	Tidewater	Tidewater	Tidewater	Tidewater	Tidewater	Tidewater
1930-1940	Tidewater	Tidewater	Mountain	Tidewater	Tidewater	Tidewater

¹An actual loss.

Rates of Rural and Urban Growth in the Four Areas

The rural population increased at a lower rate in the decade 1930-1940 than during the previous decade in all areas except the Mountain. The following table shows the areas with the highest and lowest percentage increase of the rural population from 1880-1940:

Decade	Areas of	
	Highest Per Cent Increase	Lowest Per Cent Increase
1880-1890	Mountain	Tidewater
1890-1900	Mountain	Tidewater
1900-1910	Coastal Plain	Piedmont and Mountain
1910-1920	Coastal Plain	Tidewater
1920-1930	Coastal Plain	Tidewater
1930-1940	Mountain	Tidewater

The Tidewater area has predominated in having the lowest rate, while the Mountain and Coastal Plain areas have dominated the highest position. No urban center appeared in the Mountain area prior to 1880 and so the total and rural populations are identical. Also, there were no urban centers in the

Piedmont during two early decades. Because of these circumstances, comparison among all four areas are limited to the period above. However, several points should be noted concerning the trends prior to this date: For all decades before 1880, the Coastal Plain had a higher rate of increase than the Tidewater. The Piedmont had the highest rate in only one decade, 1860-1870. The highest rural rate for all three areas during the entire period occurred in the decade 1870-1880.

The rate of urban population increase was lower during the decade 1930-1940 than during the previous decade in all areas except the Tidewater. The following table shows the areas with the urban population from 1880-1940:

<i>Decade</i>	<i>Areas of Highest Per Cent Increase</i>	<i>Areas of Lowest Per Cent Increase</i>
1880-1890	Mountain	Coastal Plain
1890-1900	Coastal Plain	Tidewater
1900-1910	Piedmont	Tidewater
1910-1920	Coastal Plain	Tidewater
1920-1930	Mountain	Tidewater
1930-1940	Coastal Plain	Tidewater

It is obvious from the above data that the Tidewater area has predominated in having the lowest percentage increase of urban population. The trend is not so definite with respect to the other category—areas having highest percentage increase. However, the Coastal Plain held first place in half of the six decades. Prior to 1880 there was no specific trend as to high or low areas.

The urban rate was higher than the rural in all the regions from 1880 to 1940. The one exception to the above was in the Tidewater areas for the decade 1920-1930. During the decades prior to 1880, generally, the urban rate was higher in the Tidewater and Piedmont, but in the Coastal Plain, the rural was predominately higher.

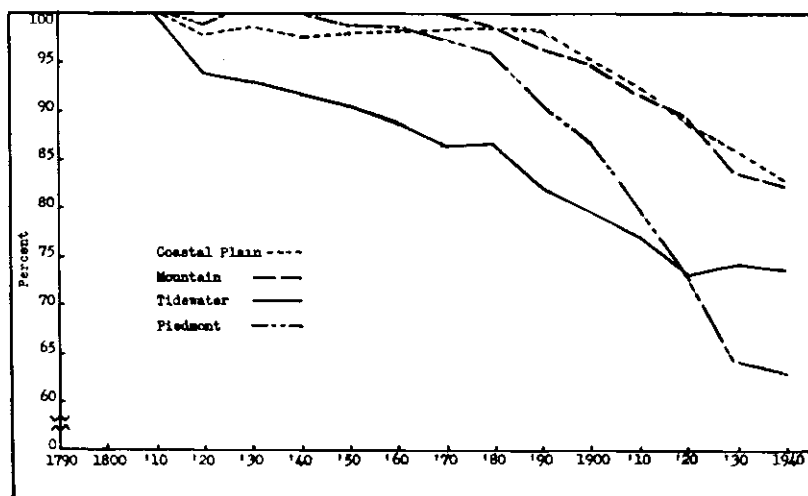


Fig. 17. Percentage of population classed as rural, four areas in North Carolina, 1790-1940.

Growth of the White Population in the Four Areas

Total. The white population of the Mountain area has increased at the highest rate during the period studied except from 1900 to 1930. With very few exceptions, the Tidewater area has had the lowest rate of white population increase. The Piedmont had the highest rate from 1900 to 1930, but the Mountain regained its place of leadership in 1940. It should be noted that neither the Tidewater nor Coastal Plain have had the highest rate during the entire period. Also, the Piedmont has never had the lowest and the Mountain area only once, in 1910. In 1840, both the Tidewater and Coastal Plain areas lost white population and the decrease amounted to about one per cent. These two areas had higher rates in 1880 than for any decade before or since. The rates for all the regions, except the Tidewater, were higher in 1930 than in 1920. In 1940, however, the Tidewater gained over the preceding decade, but the rates for the other areas were lower than in 1930. In fact, the 1940 rate in the Piedmont was less than half as great as in 1930.

Rural and Urban. During the past sixty years the Tidewater area has had generally the lowest rate of rural white population increase. During half of the same period, the Coastal Plain has maintained the highest rate. However, as shown by the following table, the rural white population increased faster in the Piedmont than in other areas during the last decade.

<i>Decade</i>	<i>Areas of Highest Per Cent Increase</i>	<i>Areas of Lowest Per Cent Increase</i>
1880-1890	Mountain	Tidewater
1890-1900	Mountain	Tidewater
1900-1910	Coastal Plain	Mountain
1910-1920	Coastal Plain	Tidewater
1920-1930	Coastal Plain	Tidewater
1930-1940	Piedmont	Tidewater

Prior to 1880, the Coastal Plain maintained the highest rate and the Tidewater the lowest. During the last decade, 1930-1940, in the Tidewater and Mountain areas the rural white population increased more rapidly than during the preceding decade. In the other two areas the 1930-1940 rate was lower than in the previous period.

The picture for the white urban population is somewhat different as shown by the following table:

<i>Decade</i>	<i>Areas of Highest Per Cent Increase</i>	<i>Areas of Lowest Per Cent Increase</i>
1880-1890	Mountain	Coastal Plain
1890-1900	Coastal Plain	Tidewater
1900-1910	Piedmont	Tidewater
1910-1920	Coastal Plain	Tidewater
1920-1930	Mountain	Tidewater
1930-1940	Coastal Plain	Tidewater

The Tidewater has consistently maintained the position of having the lowest rate of increase for the white urban population. The Coastal Plain has had the highest rate for half of the decades. Prior to 1880 there was no

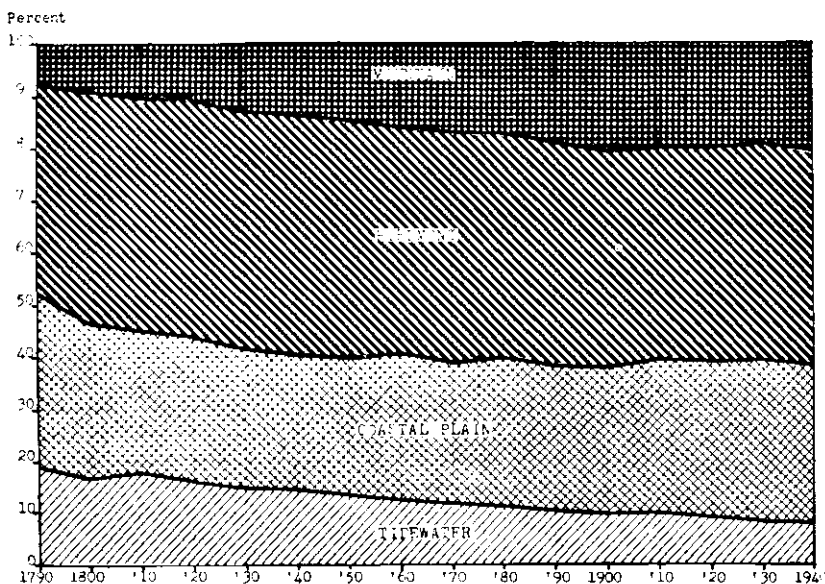


Fig. 18. Percentage of rural population in four areas, North Carolina, 1790-1940.

consistent trend. The Tidewater was the only area in which the white urban population increased faster during the last decade than in the previous.

The white urban population increased at a faster rate than the white rural from 1880 to 1940 during each decade in all areas except the Tidewater. In the Tidewater the rural white grew faster than the urban during the two decades from 1920 to 1940. The urban rate was usually greater than the rural in the decades prior to 1880.

Growth of the Nonwhite Population in the Four Areas

Total. The trend for nonwhite population by areas is not as consistent as for the white population. During the early part of the period to 1860, except for one decade, the Mountain area had the highest rate. Since 1860, the Coastal Plain area has dominated, not without exceptions, however, in the nonwhite population growth. The Tidewater has had the lowest nonwhite rate of increase during most of the period. In 1910, the Mountain and in 1920, the Tidewater areas lost nonwhite population. The rates for 1930 were higher for all regions than in 1920. In 1940 however all the regions had lower rates of nonwhite population growth than in the previous period. It is important to note that the rate for the Piedmont was highest in 1930 for the first time after 1870. This fact is especially important in view of the industrial development in the area.

Rural and Urban. During the past five decades the Coastal Plain area has had a higher rate of rural nonwhite population increase than other areas. There is no definite trend as to which area has had the lowest rate as is shown by the following table:

<i>Decade</i>	<i>Areas of Highest Per Cent Increase</i>	<i>Areas of Lowest Per Cent Increase</i>
1880-1890	Mountain	Tidewater*
1890-1900	Coastal Plain	Tidewater
1900-1910	Coastal Plain	Mountain
1910-1920	Coastal Plain	Tidewater*
1920-1930	Coastal Plain	Mountain
1930-1940	Coastal Plain	Piedmont*

* An actual loss.

It should be noted that in four of the six decades shown above, the area having the lowest rate for the nonwhite rural population, actually showed a decrease. All the areas except Mountain had a lower rate in 1930-1940 than for the previous decade.

During the past five decades, the Tidewater area has had the lowest percentage increase of urban nonwhite population, also, the Coastal Plain area has predominated in having the highest rate as shown by the following table:

<i>Decade</i>	<i>Areas of Highest Per Cent Increase</i>	<i>Areas of Lowest Per Cent Increase</i>
1880-1890	Mountain	Coastal Plain
1890-1900	Coastal Plain	Tidewater
1900-1910	Coastal Plain	Tidewater
1910-1920	Coastal Plain	Tidewater
1920-1930	Mountain	Tidewater*
1930-1940	Coastal Plain	Tidewater

* An actual loss.

The urban nonwhite population grew faster than the rural in all areas from 1880 to 1940. The only exception to this was in the Tidewater in the decade 1920-1930 and then the rural nonwhite increased more rapidly. Prior to 1880 the urban nonwhite rate was usually higher in the Piedmont and Tidewater areas, but there was no definite trend in the Coastal Plain.

Growth of the White and Nonwhite Populations Within Each Area

In the preceding two sections, the four areas were compared with respect to white and nonwhite population rates of growth. Attention is now turned to a comparison of the rates of growth for the two racial groups within each area.

Tidewater: Total—During the last fifty years, the white population in the Tidewater has increased at a much higher rate than the nonwhite. Prior to 1890, the trend is not so definite. The nonwhite gained at a more rapid rate than the white from 1800 to 1830. Both populations lost in 1840, but the loss was greater for the nonwhite. In the next four decades, 1850, 1860, 1870, and 1880, there was no trend as the white rate was higher during the two middle periods and the nonwhite rate was higher during the first and fourth. From 1930 to 1940, the white population increased 9.1 per cent but the nonwhite gained only 1.8 per cent.

Rural and Urban—(1) The rural white population increased at a higher rate than the nonwhite in each decade for the period 1880-1940. Prior to 1880, the trend was not so definite, but the nonwhite rate tended to be higher. (2) In the urban population, the white rate was higher than the nonwhite from 1880-1940. During the six decades prior to 1880, there was no definite trend as the white was higher in three decades and the nonwhite was higher in the other three. (3) A comparison of the rural and urban white population shows in the last two decades, 1930 and 1940, the rural rate was higher. Prior to this the urban rate was higher for the entire period, except for the decade 1870. (4) The urban nonwhite population increased faster than the rural over the period 1820-1940, except in the decades of 1930 and 1880.

Coastal Plain: Total—Beginning with 1890, the white population has increased faster than nonwhite except in 1910; the difference was very small at this date. From 1800 to 1860, the nonwhite population gained more rapidly than the white. For example, in 1800, the rate of increase was only 0.1 per cent for the white population as compared with 24.4 per cent for the nonwhite. The white population was actually smaller in 1840 than in 1830. In 1870, the white gained more rapidly and the nonwhite rate was higher in 1880. This last mentioned shift is due, in some measure, to the fact that the enumeration in 1870 was more incomplete for the nonwhite than for the white population.

Rural and Urban—(1) The white rural population increased faster than the nonwhite from 1800 to 1940, except for one decade, 1870. Prior to 1880, the nonwhite rate was higher, except for one decade, 1870. (2) In the urban population, the white rate was higher than the nonwhite in the period 1880-1940, except for the decade, 1930. In a majority of the decades prior to 1880, the white rate was higher also. (3) A comparison of the rural and urban white population shows the urban rate higher than the rural from 1880-1940; no definite trend prior to 1880. (4) The urban nonwhite population increased at a higher rate than the rural nonwhite during the period 1880-1940; no definite trend prior to 1880.

Piedmont: Total—A comparison of the rates of white and nonwhite population growth in the Piedmont area shows two distinct trends: the nonwhite gained more rapidly from 1800 to 1880, and the white gained much faster from 1890 to 1940. The rates for both populations were lower in 1940 than in 1930. In fact, the 1940 rate for the white population was about one-half of the 1930 rate, and the nonwhite rate in 1940 was only about one-fourth as great as in 1930. During the last decade, the white population increased 15.5 per cent as compared with 7.5 per cent for the nonwhite. Thus, in this decade, the white population in the Piedmont area increased more than twice as fast as the nonwhite.

Rural and Urban—(1) The white rural population increased faster than the nonwhite in each decade from 1880-1940. The nonwhite rate was higher in the three decades prior to 1880. (2) In 1940 the urban white rate was lower than the nonwhite for the first time in sixty years. (3) A comparison of the white population in rural and urban areas shows the rural rate of growth has been lower than the urban during each decade from 1850-1940. There was very little difference (0.1 per cent) between the rates in 1940.

(4) A similar comparison of nonwhite rural and urban population shows the urban rate higher from 1860-1940. The rural nonwhite population was actually smaller in 1940 than in 1930.

Mountain: Total—During the last eighty years, from 1860 to 1940, the white population increased faster than the nonwhite in the mountain area. The nonwhite population gained more rapidly than the white from 1800 to 1830. In 1840, the white had gained about 12 per cent, but the nonwhite decreased 2 per cent during the decade. In 1850, the nonwhite rate was higher than the white. The nonwhite again decreased about 2 per cent, during the decade ending in 1910. The rates for both populations were lower in 1940 than in 1930. The white rate was 20.3 per cent in 1930, as compared with 16.1 per cent in 1940. In 1930, the rate for the nonwhite population was 26.3 per cent, while in 1940 the rate was only 4.2 per cent. Thus, in the Mountain area, during the last decade, the white population increased four times faster than the nonwhite.

Rural and Urban—(1) The white rural population maintained a higher rate of increase than the nonwhite for the entire period 1880-1940. (2) The white urban population increased at a higher rate than the nonwhite in each decade over the period. (3) A comparison of the white population in rural and urban areas shows that the urban rate was much higher than the rural. (4) A similar comparison of the nonwhite population in rural and urban areas shows the urban rate much higher than for the period 1880-1940.

Proportion Nonwhite

The results of differential rates of increase over a period of years is reflected in the proportion of the population recorded as nonwhite or as white. Due to the faster rate of growth of the nonwhite population during the early years of the period under discussion, the percentage of the population recorded as nonwhite steadily increased. In 1790, 35.6 per cent of the population in the Tidewater was classified as nonwhite and the proportion became lower in each region moving westward, so that in the Mountain area only 8 per cent was nonwhite. The high point for the Mountain area was 1830, when 15 per cent of the population was nonwhite. After 1840, the percentage declined steadily until in 1940 only 7.5 per cent of the Mountain population was nonwhite.

In the other three areas, the percentage nonwhite continued to increase until the high point was reached in 1880. At this date, the proportions nonwhite in the regions were as follows: Tidewater, 47.8 per cent; Coastal Plain, 50.8 per cent; and Piedmont, 37.4 per cent. Beginning with 1890, the trend was reversed so that the nonwhite population has made up a smaller and smaller part of the total. In 1940, of the total population, 37.3 per cent of the Tidewater, 43.7 per cent of the Coastal Plain, and 25.6 per cent of the Piedmont, was nonwhite. However, except in the Mountain area, the proportion of the total population classified as nonwhite was still larger in 1940 than in 1790.

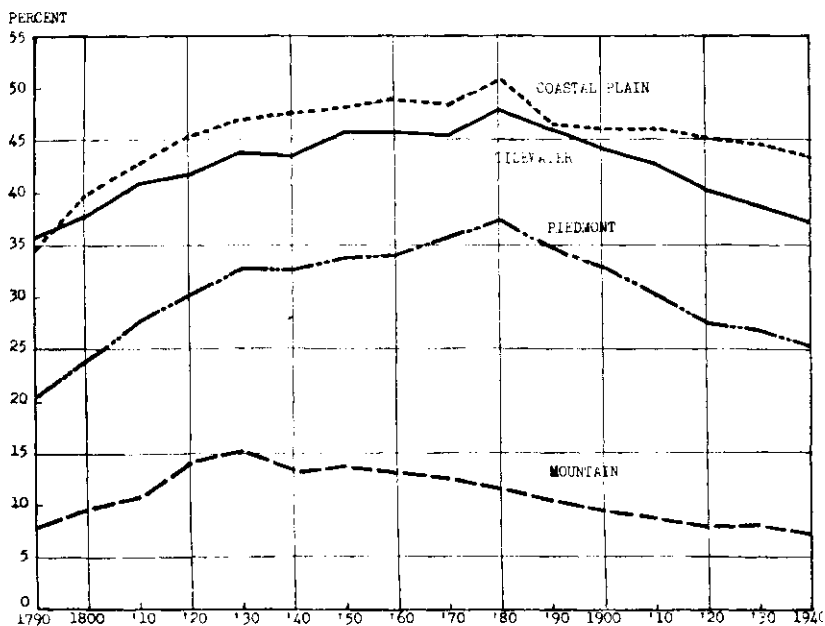


Fig. 19. Percentage of population classed as nonwhite, four areas in North Carolina, 1790-1940.

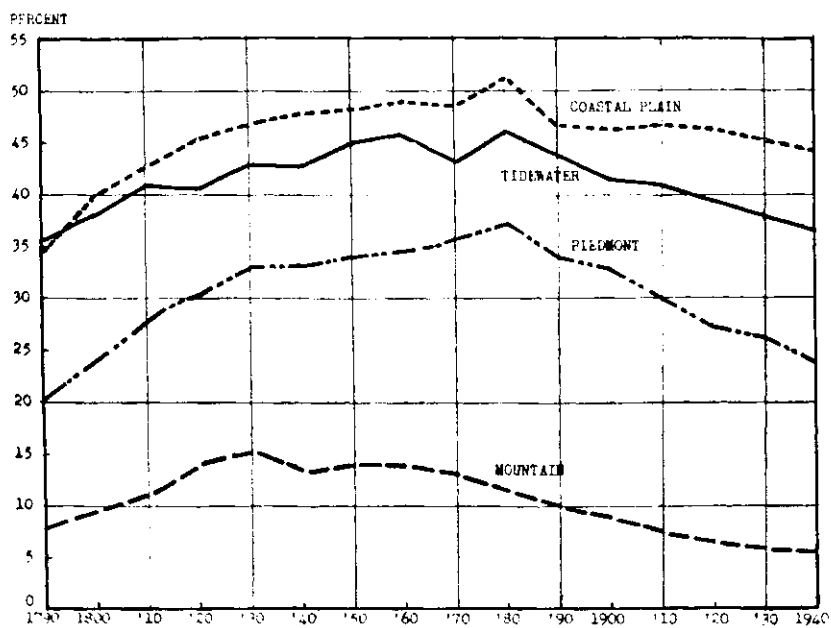


Fig. 20. Percentage of rural population classed as nonwhite in the four areas, North Carolina, 1790-1940.

VIII. SUMMARY AND CONCLUSIONS

North Carolina holds a unique position in the Southeastern region with respect to its population and population growth. The Southeast, as a region, embodies the following states: Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, and Louisiana.¹ Among these states, according to the last census of 1940, North Carolina ranks: (1) First, as to size of total population; (2) First, as to size of rural population; and (3) Fifth, as to size of urban population. This point is further illustrated by the fact that during the last decade, 1930-1940, this state, as compared with others in the region, ranks as follows with respect to percentage of population increase: (1) Second, as to percentage increase in total population; Florida is higher; (2) Second, but tied with Kentucky, as to percentage increase in rural population; Florida is higher; (3) Fourth, but tied with Virginia, as to percentage increase in urban population. Also, North Carolina ranks fourth in percentage of population in rural areas; i.e., three states—South Carolina, Mississippi, and Arkansas—have a greater proportion of the total population in rural areas. All three population classes, total, rural, and urban in the state increased at a higher rate than for the entire nation during the last decade.

The statements made above indicate the fertility and high reproduction of the North Carolina people. Also, indicated is the fact that a large proportion of the natural increase remains in the state. This is another way of pointing up the superabundance and variety of human and natural resources in this state. Further reflected is the balance which has been worked out and is being maintained between natural agricultural resources and the continuous development of industry in North Carolina.

The state is outstanding in that it has a very small foreign born element, as well as, few native born of foreign parentage. The population is predominantly white with the Negro as the only other important racial group. However, the present population is the result of mixing many and varied nationality and cultural groups. All of the racial and cultural elements have made important contributions to the agricultural and industrial, as well as, the political life of the state.

During the last few decades, North Carolina has experienced a very rapid increase of urban population. The expansion has been so great, in fact, that its growth ranks as one of the outstanding population features of the past century. However, the state is still predominantly rural. The 76 urban centers of this state are characterized by dispersion; i.e., most of the centers are small and scattered well over the state. There is, then, an absence of large urban centers; as there are only five over 50,000 and only one with 100,000 population. This means that the urban centers are to a great extent special service centers. Many of these urban centers are really agricultural towns; i.e., their main function is to serve the agricultural population of the given area. The existence of such centers is interwoven so closely with the conditions of agriculture in adjacent areas, that the fortunes of both rise and fall together. In many of the other urban centers, the whole town is built around one or a very few specialized industries to such an extent that any

¹ Orlum, Howard W., *Southern Regions of the United States*, Chapel Hill, University of North Carolina Press, 1936.

factor affecting the operation of these plants is immediately reflected in living standards of the surrounding population.

The proportion of the total population classified as nonwhite in North Carolina has been smaller in each succeeding decade since 1880. This means that the white population of the state has increased faster than the nonwhite during the past sixty years. However, a larger proportion of the nonwhite than the white population has been in urban centers during the entire urban history of North Carolina. More specifically, in 1940, 30.8 per cent of the urban population was nonwhite as compared with 28.1 per cent of the total population.

The early history of population growth in North Carolina was characterized by a continuous westward movement. The flow of population was from the eastern seaboard to the central and western parts of the state. These streams of population were soon joined by other streams moving into the state from both north and south. During more recent years, the redistribution of population in the state has continued. The central and western areas of North Carolina are gaining population at the expense of the Tidewater. All indications point to the continuation of such redistribution as commercial agriculture develops in the Coastal Plain and as industrial centers grow in the Piedmont.

APPENDIX

TABLE 1. The Population of North Carolina by Regions, Counties, Residence, and Percentage Nonwhite 1790-1940. (Rural populations are shown in bold face except where county is all rural.)

	1940		1930		1920		1910		1900		1890		1880		1870	
	Total	Percent Nonwhite*	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite
STATE: TOTAL	3,571,823	28.1	3,170,276	29.5	2,559,123	30.3	2,206,287	32.0	1,893,810	33.3	1,617,949**	34.8	1,399,750	38.0	1,071,361	36.7
RURAL	2,597,448	27.1	2,360,429	29.2	2,068,753	30.0	1,887,813	31.2	1,707,020	32.5	1,502,190**	33.7	1,344,634	37.5	1,035,143	36.0
TIDEWATER	293,196	37.3	275,904	38.9	261,300	40.2	247,344	43.0	218,044	44.2	193,440	46.2	178,829	47.8	143,770	45.5
RURAL	217,039	36.2	204,578	38.1	191,788	39.3	191,360	40.9	173,742	41.6	158,745	43.7	155,036	45.7	124,475	43.1
Beaufort	36,431	37.9	35,026	38.6	31,024	39.0	30,877	41.9	26,404	42.9	21,072	43.7	17,474	42.6	13,011	35.6
Rural	27,862	36.7	27,991	37.0	24,710	37.3	21,803	38.7	21,562	40.7	17,527	41.8				
Brunswick	17,125	33.9	15,818	37.5	14,876	36.1	14,432	37.5	12,657	39.9	10,900	43.7	9,389	43.2	7,754	42.6
Camden	5,440	41.3	5,461	40.1	5,382	39.5	5,640	39.2	5,474	40.0	5,667	40.9	6,274	39.6	5,361	39.6
Carteret	18,284	14.8	16,900	15.0	15,384	15.5	13,776	16.6	11,811	18.0	10,825	21.2	9,784	27.4	9,010	30.2
Rural	11,317	8.1	10,460	7.5	9,458	8.6										
Chowan	11,572	46.9	11,282	47.2	10,649	49.8	11,303	54.5	10,258	57.0	9,167	56.3	7,900	54.0	6,450	52.2
Rural	7,737	49.2	7,719	49.8	7,872	47.4	8,514	52.7	7,212	52.1						
Craven	31,298	44.8	30,665	48.3	29,048	52.3	25,594	55.9	24,160	60.2	20,533	65.1	19,729	66.2	20,516	59.1
Rural	19,483	42.1	18,684	45.7	16,850	50.2	15,633	55.4	15,070	57.5	12,690	63.7	13,286	66.5	14,667	66.5
Currituck	6,709	34.8	6,710	33.6	7,268	36.3	7,693	33.8	6,529	27.2	6,747	29.9	6,476	30.6	5,131	22.2
Dare	6,041	7.8	5,202	7.8	5,115	7.8	4,841	10.2	4,757	12.1	3,768	10.8	3,243	11.3	2,778	13.6
Hyde	7,860	41.2	8,550	40.9	8,386	38.9	8,840	41.9	9,278	43.3	8,903	44.3	7,765	43.0	6,445	36.9
Jones	10,926	43.9	10,428	44.9	9,912	45.0	8,721	47.0	8,226	45.7	7,403	47.5	7,491	57.1	5,002	53.1
New Hanover	47,935	35.6	43,010	39.0	40,620	40.6	32,037	47.8	25,785	50.9	24,026	58.0	21,376	61.8	27,978	57.9
Rural	14,528	24.4	10,740	34.3	7,248	41.8	6,289	50.9	4,809	56.2	3,970	65.8	4,026	68.4	14,532	57.0
Onalaw	17,939	27.1	15,289	26.7	14,703	30.2	14,125	30.0	11,940	30.2	10,303	28.3	9,829	32.9	7,569	31.7
Pamlico	9,706	34.8	9,299	33.9	9,060	35.5	9,966	37.9	8,045	32.8	7,146	33.3	6,323	33.5		
Pasquotank	20,568	42.6	19,143	42.9	17,670	44.4	16,693	50.1	13,660	51.5	10,748	51.6	10,369	53.2	8,131	48.6
Rural	9,004	47.7	9,106	49.2	8,745	50.3	8,281	52.9	7,312	52.8	7,497	54.1				
Pender	17,710	46.4	15,686	48.2	14,788	49.5	15,471	49.3	13,381	51.6	12,514	52.3	12,468	55.8		
Perquimans	9,773	48.4	10,668	49.6	11,137	49.1	11,054	50.6	10,091	49.6	9,293	49.2	9,466	49.3	7,945	50.3
Tyrrell	5,556	36.2	5,164	33.1	4,849	30.4	5,219	31.5	4,980	29.4	4,225	29.0	4,545	31.6	4,173	31.2
Washington	12,323	44.4	11,603	46.9	11,429	48.7	11,062	49.8	10,608	50.6	10,200	51.4	8,928	49.0	6,516	42.6

	1860		1850		1840		1830		1820		1810		1800		1790	
	Total	Percent Nonwhite*	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite
COASTAL PLAIN	271,732	48.7	227,763	48.0	198,898	47.5	198,401	46.6	176,084	45.1	150,863	42.5	140,180	39.5	129,248	34.5
RURAL	266,942	48.8	223,117	48.0	194,613	47.5	195,533	46.6	172,352	45.1	150,863	42.5	140,180	39.5	129,248	34.5
Bertie	14,310	59.4	12,851	58.5	12,175	57.7	12,262	57.1	10,805	55.3	11,218	55.9	11,249	50.8	12,606	43.5
Bladen	11,995	48.0	9,767	48.3	8,922	46.2	7,811	47.4	7,276	49.3	5,671	37.0	7,028	34.9	5,084	34.1
Columbus	8,597	32.8	5,969	28.0	3,941	29.0	4,141	27.6	3,912	25.3	3,022	24.2	3,022	24.9	3,022	24.2
Cumberland	16,369	41.6	20,610	39.6	15,284	40.9	14,834	38.7	14,446	36.8	9,382	30.8	9,264	30.7	8,671	26.1
Rural	11,579	41.7	15,964	37.9	10,999	38.1	11,966	36.4	10,914	33.9	10,914	33.9	9,264	30.7	8,671	26.1
Duplin	15,784	47.5	19,514	47.0	11,182	44.2	11,291	40.8	9,744	37.6	7,863	31.1	6,796	28.2	5,662	24.5
Edgewcombe	17,376	60.4	17,189	51.4	15,708	49.6	14,935	48.9	13,276	45.2	12,423	43.0	10,421	38.5	10,255	31.4
Galen	8,443	50.5	8,426	50.6	8,151	49.3	7,866	50.5	6,837	41.7	5,965	48.7	5,881	47.1	5,392	42.9
Greene	7,325	51.7	6,519	50.8	6,595	48.8	6,413	46.5	4,533	49.4	4,867	39.0	4,218	36.1	6,893	28.4
Hudfux	19,442	65.8	16,589	63.2	16,365	66.7	17,739	66.9	17,237	63.8	13,620	57.7	13,945	56.5	13,065	49.8
Hurnett	8,039	33.4	8,142	56.4	7,484	54.8	8,537	54.6	7,712	52.3	6,052	51.4	6,701	49.2	5,828	45.6
Hertford	9,594	58.5	13,726	36.3	10,359	34.0	10,938	34.4	9,607	33.3	6,867	34.3	6,301	28.5	5,634	24.7
Johnston	16,656	32.6	7,828	54.4	7,605	51.5	7,723	52.4	6,799	51.0	5,572	43.8	4,005	39.5	3,629	35.0
Lenoir	10,220	52.0	8,307	44.4	7,437	41.9	8,539	42.1	6,320	46.6	5,987	41.6	5,629	35.0	6,080	32.6
Martin	10,195	46.7	10,657	44.0	9,047	45.4	8,490	47.0	8,185	44.8	7,268	41.6	6,975	39.3	7,393	29.7
Nash	11,687	45.9	13,355	55.1	13,369	56.5	13,391	61.1	13,242	60.3	13,082	59.9	12,353	54.6	9,381	48.8
Northampton	13,372	55.8	13,397	50.3	11,806	48.1	12,093	44.9	10,001	42.7	9,169	39.1	9,084	32.1	8,275	28.9
Pitt	16,980	53.5	12,826	43.6	10,370	39.6	9,433	32.9	8,294	30.8	7,528	28.3	6,839	19.6	5,326	15.2
Robeson	15,489	44.7	14,585	42.2	12,157	38.5	11,634	35.5	8,998	34.0	6,620	31.1	6,719	27.5	6,065	21.8
Sampson	16,624	45.2	13,486	42.2	10,891	38.0	10,331	35.4	9,040	36.7	8,687	33.0	6,772	30.6	6,433	26.0
Wayne	14,905	41.5	13,486	42.2	10,891	38.0	10,331	35.4	9,040	36.7	8,687	33.0	6,772	30.6	6,433	26.0
Wilson	9,720	38.9	13,486	42.2	10,891	38.0	10,331	35.4	9,040	36.7	8,687	33.0	6,772	30.6	6,433	26.0

	1940		1930		1920		1910		1900		1880		1870	
	Total	Percent Nonwhite*	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite
Montgomery	16,280	23.0	16,218	23.0	14,607	22.5	14,967	24.5	14,197	25.9	11,239	20.1	9,374	26.9
Rural	30,969	30.2	28,215	34.7	21,388	29.9	17,010	33.2	23,622	33.2	20,479	31.7	16,821	31.7
Orange	27,714	28.0	25,691	34.8	17,895	31.5	15,064	32.7	14,680	35.8	14,948	35.1	23,698	38.6
Rural	23,072	31.0	21,171	32.6	18,973	43.1	17,356	43.1	16,685	42.1	15,151	45.5	13,719	47.5
Person	19,418	31.1	22,039	39.7	30,856	11.5	29,491	11.6	28,232	13.0	25,195	13.3	20,836	14.8
Rural	20,430	39.3	18,382	41.7	28,297	11.0	19,073	46.9	15,855	49.0	23,948	54.1	18,245	55.4
Randolph	44,551	9.7	30,259	10.6	19,250	44.4	36,142	28.7	33,193	35.0	25,363	40.1	21,744	42.8
Rural	37,573	8.5	34,016	38.1	44,149	24.1	31,614	27.1	29,901	34.8	22,394	39.1	19,065	31.8
Richmond	36,810	33.3	26,309	40.8	38,816	22.3	31,521	24.2	31,066	26.1	24,123	28.9	17,242	29.7
Rural	28,042	33.0	31,083	22.5	25,597	41.2	27,668	20.2	24,789	23.0	19,765	25.3	17,242	29.7
Rockingham	57,898	20.8	41,232	20.7	43,062	21.0	36,368	21.9	27,429	13.0	24,738	14.3	15,220	11.8
Rural	47,311	17.5	56,065	20.3	27,429	13.0	19,909	10.7	15,220	11.8	12,136	12.4	10,505	12.7
Rowan	69,206	18.7	30,216	11.7	24,738	14.3	20,151	12.7	19,866	15.1	17,199	16.4	15,353	23.3
Rural	47,097	17.4	28,774	13.0	20,575	11.1	33,277	28.1	27,156	29.5	21,259	26.1	18,056	25.1
Stanley	32,834	11.9	22,290	10.9	36,029	24.1	29,125	27.7	16,684	58.5	17,581	63.4	13,390	63.3
Rural	28,774	13.0	40,979	24.5	31,945	23.9	19,425	51.5	12,938	58.4	13,390	63.3	47,030	49.3
Stokes	22,656	10.1	22,290	10.9	17,577	46.2	14,922	50.4	54,026	44.6	43,207	47.0	38,674	49.9
Rural	39,097	23.5	34,879	23.1	75,155	38.9	63,229	40.3	40,863	45.3	36,329	45.9	27,827	43.5
Union	32,622	21.4	27,294	44.0	50,737	40.7	44,011	42.0	19,151	68.2	19,360	69.6	22,619	71.8
Vance	29,914	46.6	20,949	43.8	21,593	64.0	20,266	65.3	19,151	68.2	19,360	69.6	17,768	70.3
Rural	109,514	33.6	57,378	37.2	21,593	64.0	20,266	65.3	19,151	68.2	19,360	69.6	17,768	70.3
Wake	62,647	33.5	23,364	63.5	21,593	64.0	20,266	65.3	19,151	68.2	19,360	69.6	17,768	70.3
Rural	23,145	65.3	23,364	63.5	21,593	64.0	20,266	65.3	19,151	68.2	19,360	69.6	17,768	70.3

	1940		1930		1920		1910		1900		1890		1880		1870	
	Total	Percent Nonwhite*	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite	Total	Percent Nonwhite
MOUNTAIN	639,592	7.5	555,666	8.2	459,933	7.9	469,446	8.7	366,948	9.8	302,217	10.5	238,946	11.7	176,544	12.7
RURAL	528,631	5.7	463,905	5.7	413,788	6.3	377,946	7.2	349,574	8.8	291,992	9.6	236,330	11.4	176,544	12.7
Alleghany	8,341	3.1	7,186	4.8	7,403	6.5	7,745	4.4	7,579	6.0	7,523	7.1	5,486	9.5	3,691	7.9
Ashe	22,664	2.1	21,019	2.0	21,001	2.4	19,074	2.9	19,581	3.5	15,628	3.8	14,437	6.7	9,573	6.1
Avery	13,561	1.9	11,803	2.3	10,335	2.4	49,798	16.0	44,288	18.3	35,366	18.8	21,909	15.9	15,412	14.9
Buncombe	108,755	14.9	97,937	17.0	64,148	15.0	41,706	16.0	41,938	18.3	35,366	18.8	21,909	15.9	15,412	14.9
Burke	57,445	4.7	47,744	5.0	35,644	7.0	31,031	8.5	25,031	11.5	25,031	12.2	19,293	13.3	14,939	23.7
Catawba	38,615	8.2	29,410	8.9	23,297	11.4	21,408	12.0	17,639	15.1	14,939	17.1	12,809	21.2	9,777	23.7
Cherokee	28,330	6.6	23,409	6.8	20,430	10.0	18,696	9.5	15,694	12.4	12,298	12.7	10,291	15.5	8,476	16.3
Caldwell	35,795	7.5	28,016	8.6	19,984	9.0	20,579	11.7	16,266	13.8	14,104	12.5	12,589	10.3	10,281	13.5
Carter	28,197	4.4	21,484	5.1	16,266	6.8	17,215	9.3	11,860	4.0	9,976	3.2	8,182	4.7	8,080	9.7
Clay	18,813	1.2	15,151	2.4	15,232	2.2	14,136	3.8	4,582	3.0	4,197	3.4	3,316	4.3	2,461	5.8
Columbus	6,405	1.2	5,434	2.2	4,636	2.8	3,909	4.0	4,363	3.5	3,313	5.3	2,385	9.1	1,621	11.1
Granville	6,418	2.7	3,841	3.5	4,822	3.3	4,749	3.3	4,363	3.5	3,313	5.3	2,385	9.1	1,621	11.1
Haywood	34,894	2.6	28,273	2.5	23,496	3.0	21,020	2.7	16,222	3.8	13,346	3.9	10,271	4.7	7,921	6.5
Henderson	26,827	1.4	23,156	2.6	20,912	2.9	16,262	11.2	14,104	12.5	12,589	10.3	10,281	13.5	7,706	15.7
Henderson	26,049	8.2	23,404	9.4	18,268	10.0	16,262	11.2	14,104	12.5	12,589	10.3	10,281	13.5	7,706	15.7
Jackson	20,668	4.6	18,334	5.1	14,528	6.4	13,444	8.0	11,853	7.9	9,512	8.7	7,343	10.2	6,683	14.7
Madison	19,386	7.2	17,519	6.5	13,396	8.2	12,998	8.1	12,104	5.6	10,102	6.6	8,064	8.3	6,615	6.7
Madison	15,880	2.9	13,672	3.3	12,887	3.6	12,191	4.7	20,644	2.7	17,805	4.0	12,810	3.6	8,192	4.1
McDowell	22,522	1.0	20,306	1.3	20,083	1.7	20,132	2.1	20,644	2.7	17,805	4.0	12,810	3.6	8,192	4.1
McDowell	22,996	8.0	20,336	9.8	16,763	11.8	13,538	15.4	12,587	15.1	10,939	16.7	9,836	19.3	7,592	23.3
Mitchell	20,107	8.6	15,980	0.4	11,278	0.5	17,245	2.0	15,221	3.5	12,907	4.3	9,485	5.3	4,705	4.5
Polk	11,874	13.8	10,216	15.0	8,832	16.9	7,640	14.3	7,004	17.2	5,902	18.6	5,062	22.6	4,319	22.6
Rutherford	45,577	13.5	40,152	13.3	31,426	14.2	28,385	15.1	25,101	17.7	18,770	19.7	16,198	21.6	13,121	20.1
Rutherford	36,500	13.2	33,317	14.2	23,156	14.2	23,156	14.2	23,156	14.2	23,156	14.2	23,156	14.2	23,156	14.2
Surry	41,783	6.1	39,749	6.8	32,464	7.3	25,705	8.9	25,515	11.4	19,281	12.2	15,802	13.6	11,252	13.9
Swain	32,763	6.0	33,704	6.6	27,712	7.0	25,861	7.8	22,835	9.7	19,281	12.2	15,802	13.6	11,252	13.9
Transylvania	12,177	12.7	11,568	10.8	13,224	7.4	10,403	9.6	8,401	12.5	6,577	14.1	3,784	14.5	3,536	8.7
Transylvania	12,241	6.9	9,589	6.7	9,303	6.8	7,191	8.9	6,620	9.3	5,881	8.7	5,340	9.7	3,536	8.7
Transylvania	9,180	3.4	8,180	3.4	7,180	3.4	6,180	3.4	5,180	3.4	4,180	3.4	3,180	3.4	2,180	3.4
Watauga	18,114	2.0	15,165	1.7	13,477	1.5	13,556	2.0	13,417	2.9	10,611	4.1	8,160	5.1	5,287	4.3
Wilkes	43,003	6.6	36,162	7.5	32,644	7.1	30,282	8.6	26,872	9.1	22,675	9.0	19,181	10.0	15,539	10.7
Wilkes	38,525	6.0	32,494	7.0	27,712	7.0	25,861	7.8	22,835	9.7	19,281	12.2	15,802	13.6	11,252	13.9
Yadkin	20,657	5.7	18,010	5.5	16,391	6.7	15,428	7.6	14,083	8.0	13,790	9.9	12,420	12.4	10,697	13.5
Yadkin	17,202	0.9	14,486	1.1	15,093	1.8	12,072	1.9	11,464	2.5	9,490	3.1	7,694	4.2	5,909	5.2

	1860		1850		1840		1830		1820		1810		1800		1790	
	Total	Nonwhite*	Total	Nonwhite	Total	Nonwhite	Total	Nonwhite	Total	Nonwhite	Total	Nonwhite	Total	Nonwhite	Total	Nonwhite
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
MOUNTAIN	155,967	13.6	125,388	13.8	104,576	13.4	95,096	15.0	69,999	14.0	59,380	10.8	46,029	9.5	31,260	8.0
Alleghany	3,500	6.7	8,777	7.8	7,407	7.4	6,987	8.5	4,395	6.7	3,694	4.1	2,783	5.0		
Ashe	7,566	6.7	13,425	13.6	10,084	12.8	10,281	10.8	10,542	10.2	9,277	7.7	5,812	6.6		
Buncombe	12,654	16.2	7,772	23.5	15,799	22.0	17,888	21.4	13,411	14.9	11,007	13.6	9,929	8.8		
Burke	9,237	28.1	6,317	20.8												
Caldwell	7,497	16.0	6,838	5.0	3,427	6.5										
Cherokee	9,165	6.4	7,074	6.1	4,975	6.5	4,578	7.7	4,073	7.2	2,780	6.8				
Haywood	5,801	5.6	6,853	14.0	5,129	9.8										
Henderson	10,448	14.0	6,389	10.3	4,869	8.7	5,333	9.3								
Jackson	5,515	24.2	6,246	23.6												
Madison	6,004	11.5														
Macon	5,908	3.9														
Madison	7,120	22.2														
McDowell	4,043	18.1														
Polk	11,573	21.7	13,550	23.1	19,202	17.3	17,557	19.8	15,351	21.9	13,202	7.7	10,553	10.1	7,808	7.9
Rutherford	10,380	13.8	18,443	12.4	15,079	13.2	14,504	14.7	12,320	12.0	10,366	15.0	9,505	10.8	7,191	9.9
Surry	4,957	3.7	3,400	4.6												
Watauga	11,749	10.0	12,059	11.3	12,577	12.7	11,968	13.6	9,967	13.4	9,054	14.2	7,247	11.8	8,143	6.8
Wilkes	10,714	15.0	8,205	4.8	5,962	4.7										
Yadkin																
Yancey	8,655	5.0														

* Nonwhite includes all races except those listed in the Census reports as white.

** State total includes 2 Indians specially enumerated, but not included in population of any county.

*** In 1860 1,158 Indians included in white population.

**** Data not available.

FOOTNOTES FOR COUNTIES*

1. Alamance: formed in 1849 from Orange (some sources give 1848).
2. Alexander: formed in 1847 from Iredell, Caldwell and Wilkes.
3. Alleghany: formed in 1859 from Ashe; parts of Wilkes, Ashe and Surry annexed in 1871, 1872 and 1875.
4. Anson: formed in 1750 from Bladen (some sources give 1749); divided in 1842 to form Union.
5. Ashe: formed in 1799 from Wilkes; divided in 1849 to form Watauga; part annexed to Alleghany in 1872.
6. Avery: organized from parts of Caldwell, Mitchell and Watauga in 1911.
7. Beaufort: formed in 1712 from Bath (some sources give 1705); parts annexed to Pamlico in 1874 and 1875.
8. Bertie: formed in 1722 from Albemarle (some sources give Bath).
9. Bladen: formed in 1734 from Bath and Clarendon; parts annexed to Columbus and Cumberland in 1873 and 1874.
10. Brunswick: formed in 1764 from Bladen and New Hanover; parts annexed to Columbus in 1876 and 1877.
11. Buncombe: formed in 1791 from Burke and Rutherford (some sources give 1792); part of McDowell annexed in 1925.
12. Burke: formed in 1777 from Rowan; divided in 1842 to form McDowell.
13. Cabarrus: formed in 1792 from Mecklenburg.
14. Caldwell: formed in 1841 from Burke and Wilkes; divided in 1847 and 1849 to form Alexander and Watauga; part taken to form part of Avery in 1911.
15. Camden: formed in 1777 from Pasquotank.
16. Carteret: formed in 1722 from Bath; part of Craven annexed between 1880 and 1890.
17. Caswell: formed in 1777 from Orange.
18. Catawba: formed in 1842 from Lincoln.
19. Chatham: formed in 1771 from Orange (some sources give 1770); part taken to form part of Lee in 1908.
20. Cherokee: formed in 1839 from Macon; part taken to form Graham in 1872.
21. Chowan: formed in 1670 from Albemarle (some sources give 1672).
22. Clay: formed in 1861 from Cherokee; part of Macon annexed in 1872.
23. Cleveland: formed in 1841 from Lincoln and Rutherford; part of Gaston annexed in 1916.
24. Columbus: formed in 1808 from Bladen and Brunswick; part of Bladen annexed in 1873 and parts of Brunswick annexed in 1876 and 1877.
25. Craven: formed in 1712 from Bath; part taken to form Pamlico in 1872 and part annexed to Carteret between 1880 and 1890 boundary with Pamlico changed in 1875.

26. **Cumberland:** formed in 1754 from Bladen (some sources give 1753); part of Bladen annexed in 1874; part annexed to Harnett and part taken to form part of Hoke in 1911.
27. **Currituck:** formed in 1670 from Albemarle (some sources give 1672); part annexed to Dare in 1919.
28. **Dare:** formed in 1870 from Currituck, Hyde and Tyrrell; part of Currituck annexed in 1919.
29. **Davidson:** formed in 1822 from Rowan; part annexed to Forsyth between 1880 and 1890; part to Forsyth in 1921.
30. **Davie:** formed in 1836 from Rowan.
31. **Duplin:** formed in 1750 from New Hanover (some sources give 1749).
32. **Durham:** formed in 1881 from Orange and Wake; part of Wake annexed in 1911.
33. **Edgecombe:** formed in 1741 (some sources give 1732 from Bath; another gives 1735 from Bertie; another gives 1733 from Craven).
34. **Forsyth:** formed in 1849 from Stokes; part of Davidson annexed between 1880 and 1890; parts of Davidson and Yadkin annexed in 1921 and 1927.
35. **Franklin:** formed in 1779 from Bute; parts of Granville annexed in 1873 and 1875; part taken to form part of Vance in 1881.
36. **Gaston:** formed in 1846 from Lincoln; part annexed to Cleveland in 1916; boundary with Lincoln changed in 1875.
37. **Gates:** formed in 1779 from Chowan, Hertford and Perquimans (some sources give 1778).
38. **Graham:** formed in 1872 from Cherokee; boundaries with Yancey, Macon and Swain changed in 1874.
39. **Granville:** formed in 1746 from Edgecombe; parts annexed to Franklin in 1873 and 1875; part taken to form part of Vance in 1881.
40. **Greene:** formed in 1799 from Glasgow and Craven or in 1791 as Glasgow from Dobbs and in 1799 known as Greene.
41. **Guilford:** formed in 1770 from Orange and Rowan.
42. **Halifax:** formed in 1759 from Edgecombe (some sources give 1758).
43. **Harnett:** formed in 1855 from Cumberland; part of Cumberland annexed in 1911.
44. **Haywood:** formed in 1808 from Buncombe.
45. **Henderson:** formed in 1838 from Buncombe; part annexed to Polk in 1911.
46. **Hertford:** formed in 1760 from Bertie, Chowan and Northampton (some sources give 1759).
47. **Hoke:** formed in 1911 from Cumberland and Robeson.
48. **Hyde:** formed as Wickham in 1705 from Bath but became Hyde in 1712.
49. **Iredell:** formed in 1788 from Rowan; divided in 1847 to form Alexander.
50. **Jackson:** formed in 1851 from Haywood and Macon; part taken to form part of Swain in 1871.

1. Johnston: formed in 1746 from Craven.
2. Jones: formed in 1779 from Craven (some sources give 1778).
3. Lee: formed in 1907 from Chatham and Moore (some sources give 1906 and others 1908).
4. Lenoir: formed in 1791 from Craven and Dobbs.
5. Lincoln: formed in 1779 from Tryon; divided in 1842 and 1846 to form Catawba and Gaston.
6. McDowell: formed in 1842 from Burke and Rutherford; part to Buncombe in 1925.
7. Macon: formed in 1828 from Haywood; part taken to form part of Swain in 1871 and part annexed to Clay in 1872; boundaries with Yancey, Graham and Swain changed in 1874.
8. Madison: formed in 1851 from Buncombe and Yancey.
9. Martin: formed in 1774 from Halifax and Tyrrell.
10. Mecklenburg: formed in 1763 from Anson (some sources give 1762); divided in 1842 to form Union.
11. Mitchell: formed in 1861 from Burke, Caldwell, McDowell, Watauga and Yancey; part of Yancey annexed in 1872; part taken to form part of Avery in 1911.
12. Montgomery: formed in 1779 from Anson (some sources give 1778); divided after 1840 to form Stanly.
13. Moore: formed in 1784 from Cumberland; part taken to form part of Lee in 1908.
14. Nash: formed in 1777 from Edgecombe.
15. New Hanover: formed in 1729 from Bath (some sources give Bath and Clarendon, another source gives 1728; part annexed to Sampson in 1872; part taken to form Pender in 1875.
16. Northampton: formed in 1741 from Bertie.
17. Onslow: formed in 1734 from Bath.
18. Orange: formed in 1752 from Bladen, Granville and Johnston (some sources give 1753, another 1751); divided in 1849 to form Alamance; part taken to form part of Durham in 1881.
19. Pamlico: formed in 1872 from Beaufort and Craven; parts of Beaufort annexed in 1874 and 1875; boundary with Craven changed in 1875.
20. Pasquotank: formed in 1670 from Albemarle (some sources give 1672).
21. Pender: formed in 1875 from New Hanover.
22. Perquimans: formed in 1670 from Albemarle (some sources give 1672).
23. Person: formed in 1792 from Caswell (some sources give 1791).
24. Pitt: formed in 1761 from Beaufort (some sources give 1760).
25. Polk: formed in 1855 from Henderson and Rutherford; part of Henderson annexed in 1911.
26. Randolph: formed in 1779 from Guilford.
27. Richmond: formed in 1779 from Anson; part taken to form Scotland in 1900.

78. Robeson: formed in 1786 from Bladen; part taken to form part of Hoke in 1911.
79. Rockingham: formed in 1785 from Guilford.
80. Rowan: formed in 1753 from Anson.
81. Rutherford: formed in 1779 from Burke and Tryon; divided in 18-2 to form McDowell.
82. Sampson: formed in 1784 from Duplin and New Hanover; part of New Hanover annexed in 1872.
83. Scotland: formed in 1899 from Richmond.
84. Stanly: formed in 1841 from Montgomery.
85. Stokes: formed in 1789 from Surry (several sources give 1798, but this appears to be a transposition error); divided in 1849 to form Forsyth.
86. Surry: formed in 1771 from Rowan (some sources give 1770); part annexed to Alleghany in 1875.
87. Swain: formed in 1871 from Jackson and Macon; boundaries with Graham and Macon changed in 1874.
88. Transylvania: formed in 1861 from Henderson and Jackson.
89. Tyrrell: formed in 1729 from Albemarle.
90. Union: formed in 1842 from Anson and Mecklenburg.
91. Vance: formed in 1881 from Franklin, Granville and Warren.
92. Wake: formed in 1771 from Cumberland, Johnston and Orange (some sources give 1770); part taken to form part of Durham in 1881; part annexed to Durham in 1911.
93. Warren: formed in 1779 from Bute (some sources give Bute and Granville); part taken to form part of Vance in 1881.
94. Washington: formed in 1799 from Tyrrell.
95. Watauga: formed in 1849 from Ashe, Caldwell, Wilkes and Yancey; part taken to form part of Avery in 1911.
96. Wayne: formed in 1779 from Craven and Dobbs.
97. Wilkes: formed in 1778 from Burke and Surry (some sources give 1777); divided in 1847 and 1849 to form Alexander and Watauga; part annexed to Alleghany in 1871.
98. Wilson: formed in 1855 from Edgecombe, Johnson, Nash and Wayne.
99. Yadkin: formed in 1850 from Surry; part to Forsyth in 1927.
100. Yancey: formed in 1833 from Buncombe and Burke; divided in 1849 to form Watauga; part annexed to Mitchell in 1872; boundaries with Graham and Macon changed in 1874.

* The first dates listed for the formation of counties are according to Newsome, A. R. and Lefler, H. T., *The Growth of North Carolina*, New York, World Book Company, 1940, pp. 449-450. (Permission from the publisher.)