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ABSTRACT

The history of state government debt in North Dakota can be divided into three 30-year periods which should be interpreted in terms of the political, social, and economic conditions of each period. The early statehood period of 1889-1918 began with the use of debt to construct facilities necessary to carry out the normal functions of state government. Although total expenditures increased because of tremendous population growth, per capita expenditures declined significantly. During the second period (1919-1949), population continued to grow but at a decreasing rate. Farmers' organizations were successful in having laws passed to regulate railroads, elevators, mills, and grain dealers. During the Depression years, debt grew, and North Dakota's bond rating was lowered. During World War II, state debt was reduced without undue strain on the taxpayer. The third period (1950-1978) saw prosperity and public construction. Data were analyzed and indicated: (1) regionalization of bond ratings and debt outstanding; (2) differences and similarities among economic variables within the North Central Region of the United States; (3) North Dakota in the North Central Region; and (4) determinants of the amount of state debt outstanding. Data analyses are appended. (SM)

A HISTORY OF STATE DEBT IN NORTH DAKOTA

by

Donald R. Escarraz

OCCASIONAL PAPERS

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PREFACE

The writing about the history of a particular aspect of the government and of the economy of a state cannot be accomplished without a knowledge of the general political and economic history of that state. Therefore, this study required a significant amount of reading of the published histories of North Dakota despite my prior knowledge of the state government debt of North Dakota. I am not completely satisfied that I have read enough or talked to enough people knowledgable of the history of North Dakota but with another year of study I probably would not be satisfied with my level of understanding. I know that this was true when I took five years to write a history of state government debt in Georgia. I can only hope that this more concentrated effort over one summer has yielded a sufficient amount of insight of the general political and economic aspects of North Dakota to make the presentation of my knowledge of the state government debt more readable and understandable to the readers of this work.

The encouragement of the faculty of the Management Department and the Deans of the College of Business and Public Administratior must be acknowledgd along with some financial support provided to motivate me to do this particular study. I also wish to acknowledge the support of my wife Barbara for her reading, editing, rephrasing, and typing during the long hard summer of 1986 and my daughter Pattie for her reading and editing in the fall of 1986. Finally, I acknowledege the authors of the excellent histories of North Dakota which I read in preparation of this paper. They are acknowledged by name in my references to them at various places in this paper. I can only hope that I have understood enough from them to make this work an acceptable addition to the readers knowledge about North Dakota. Errors of ommission and commission are mine and are not to be attributed to anyone else.

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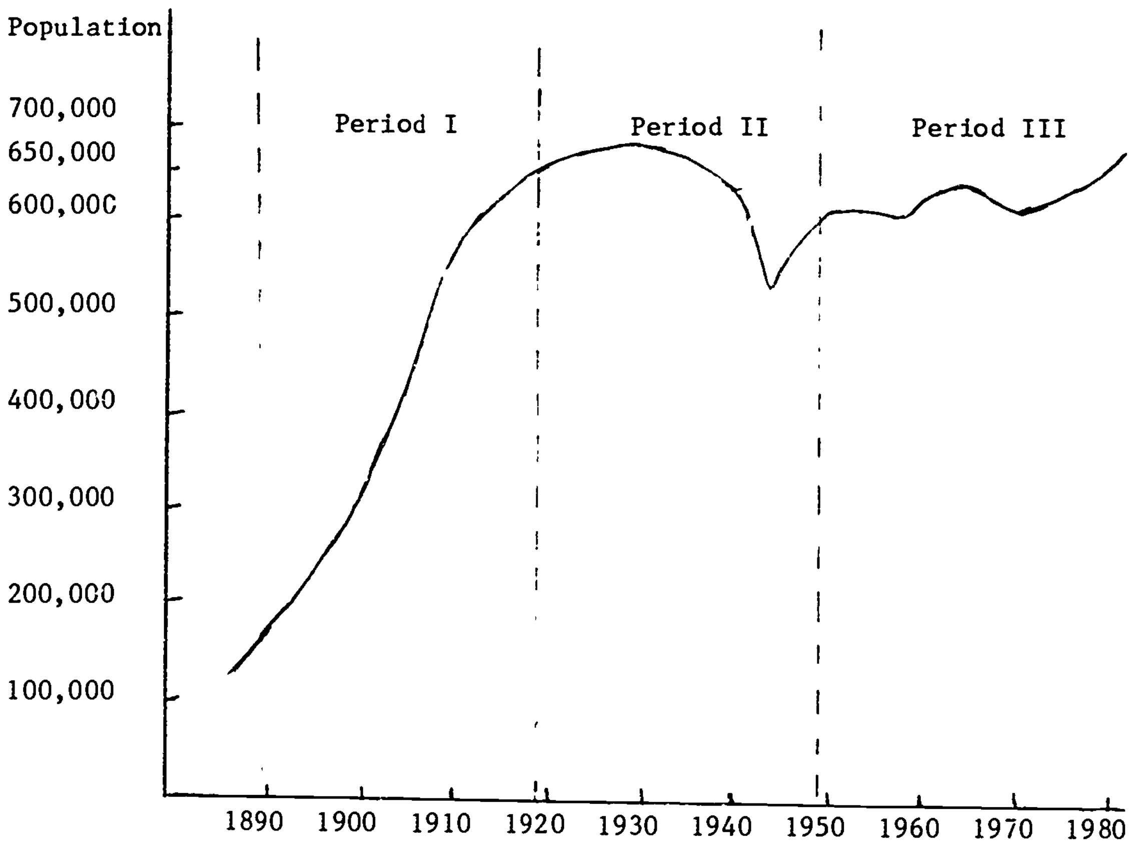
INTRODUCTION

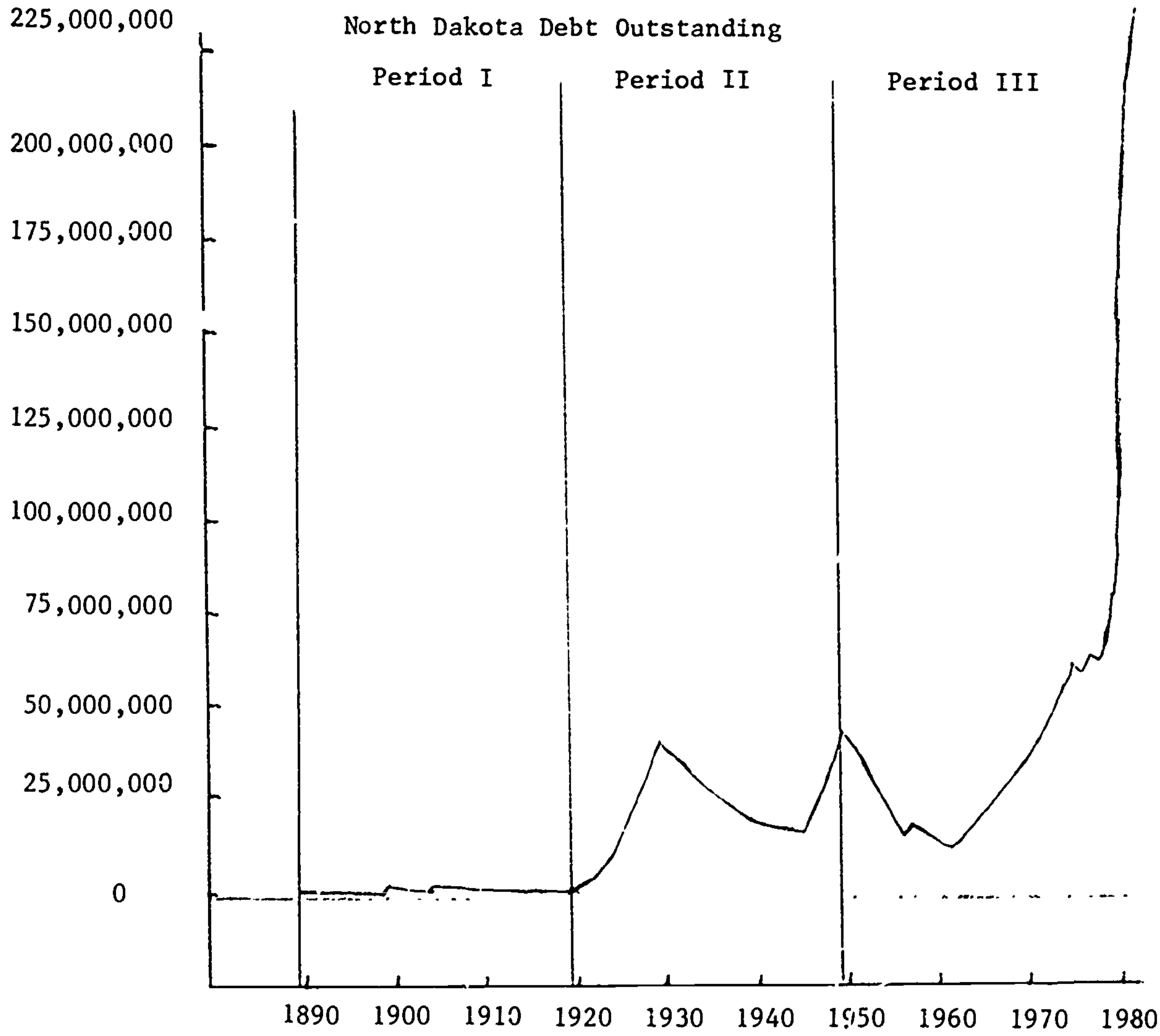
The history of state government debt in North Dakota can be divided into three district 30 year periods. These periods of debt must be interpreted in terms of the political, social, and economic conditions of each period and of those which preceded it. The demographic history of North Dakota is unique among states and the graphical presentation of it can serve as an interesting look at the three debt periods.

Population of North Dakota



Sources: J.M. Gillette, Social Economics of North Dakota; and Department of Commerce, State Personal Income 1929-1982

The first period includes the time of population increasing at an increasing rate. The second debt period covers the time of population growth at a decreasing rate, through a time of decreasing population and into a time of population recovery. The final period covers a time of moderate increases and decreases in population that over the long run can be characterized as slow growth. The unusual pattern of population change is in part a cause and in part an effect, of the same factors which cause the three perious of state government debt.



Sources: 1889 to 1929 Various as noted in text. 1929 to 1980, Department of Commerce, Financial Statistics of the States and Compendium of State Government Financing.

The presentation of the long run picture of debt can be deceptive because of the changing value of the dollar. However, the change over time is not explained entirely by changes in the cost of living. It would only make the apparent extreme growth of debt from one period to the next less extreme. The first period is of growth of debt followed by almost complete decline. The second period is one of even greater growth and then steady decline. The third period has instantaneous and large growth followed by a steady decline but this is followed by a time of increasing growth at an increasing rate.

EARLY STATEHOOD PERIOD: 1889-1918

The background of the early statehood period (1800-1870) includes the movement of Indians into the area because whites had moved into the areas previously occupied by the Indians, the invasion of fur traders from Hudson Bay, the development of settlements, the gold rush in the Black Hills, and the Indian wars.[1] However, the most important elements for understanding the first two debt periods of North Dakota are the development of railroads and the development of a political machine associated with them.

A changing legal status:

From a legal point of view, the geographical area now known as North Dakota was acquired by the United States from the French in the famous 1803 Louisiana Purchase. However, a portion of the area around the Red River of the North was in dispute with England until the northern boundary was established at the 49th parallel at the Convention of London in 1818. The almost equally famous Louis and Clark expedition of 1804 passed through the Dakotas. The expedition went up the Missouri River, spending the first winter with the Mandan Indians at a location near the site of the present capitol of North Dakota, Bismarck. Other white explorers had traveled the same route up the Missouri River before and the Indians had dealt with white fur traders from the northeast (Hudson Bay) for over fifty years, but there were no white settlements along the expedition route in the Dakotas. One white trader's outpost did exist in 1797 on the Red River of the North but it did not become a permanent settlement until it was resettled in 1819.[2]

Thus the Dakotans were under the Louisiana Territory until 1812, when Louisiana became a state. The Dakotas then became a part of the Missouri Territory until 1834, when the area east of the Missouri River became a part of the Michigan Territory. This eastern part of the Dakotas became a portion of the Wisconsin Territory when Michigan was granted status as a state in 1836. Two years later this eastern portion of the Dakotas became a part of the Iowa Territory and remained in this status until Iowa received statehood in 1846. The area was left without any formal territorial status and without a formal government until 1849 when the territory of Minnesota was created by Congress. When Minnesota became a state in 1858, the area west of the Red River and east of the Missouri River again was left without territorial status. The portion of the Dakotas west of the Missouri River stayed a part of the Missouri Territory until 1854, when the Kansas and Nebraska Territories were created.[3] The Dakota Territory was finally established by Congress in 1861. On the eastern boundary were the states of Minnesota and Iowa. The southern boundary was the Missouri River, Running Water River, the Keha Paha River and then the 42nd parallel. The western boundary was the Washington territory (Dakota included part of what is now Wyoming and most of what is not Montana). The northern boundary was the 49th parallel (the Canadian boundary).[4] The national issue of slavery caused the delay in creating a territory after Minnesota was granted statehood. Congressmen from the northern states wanted a specific prohibition of slavery in any new territory. However, in 1861, after Lincoln's election to the Presidency but before he took office, the Dakota Territory was established without a specific prohibition of slavery.

Factors in the Final Phase:

The prime movers for the creation of a Dakota Territory were settlers in the southeastern corner of the Dakotas (South Dakota).[5] The settlement of the area had been along the rivers from the southeast.[6] The only white settlements in the northern part were settled from Canada south along the Red River of the North.[7] During the early territorial days, the southern part was settled by land companies from Minneapolis-St. Paul and Iowa which bought land in the territory and laid out plans of communities.[8] Early settlement of the northern part was based upon trade which developed between Minneapolis-St. Paul and Winnepeg. The trade moved down the Minnesota River and was portaged over to the Red Rive of the North. The goods were then moved up the Red River which flows north to Winnepeg.[9]

The building of railroads westward across Iowa and westward across Minnesota occurred at about the same time and was vita to the growth and development of both parts of the Dakota Territory. The discovery of gold in the western part of the territory (Black Hills area and Montana), spurred travel across the northern part of the Dakota Territory and travel up the Missouri River. Indian wars caused by the insurge of whites in the Black Hills and by the increased river trade along the Red River slowed growth but not for very long.[10] Many persons whose lives and homes were changed due to the Civil War were looking for a new start and the new territory was a logical location because the best farm land east of the Mississippi had already been taken. With the Homestead Act the first settlers could obtain the best land without having to invest in the purchase of land.[11]

Railroads crossed into the Dakota Territory in both the north and the south at about the same time in the early 1870's. In the southern part of the Dakota Territory communities issued public debt and granted land in order to start new railroad companies which would lay track from the community to the main line of one of the national railroads being built across the territory.[12] In the northern part of the Dakota Territory only two main line railroads entered the territories and the communities did not create local railroads to provide spur lines to other communities. As wheat farming developed in an area, the railroads would build spur lines to grain elevators built in the area by commission houses from Minneapolis. This caused the railroads in the northern part of the territory to have higher capital costs and to be closely affiliated with the grain interests of Minneapolis but it also gave them a monopoly position.13 The financial panic of 1873 slowed the railroad building process but again not for very long. Jay Cook who was responsible for financing the Northern Pacific railroad declared bankruptcy. The railroad stock and bond prices fell on the market. The railroad pulled itself up by selling large tracts of land in North Dakota. One former official of the railroad with partners gained control of over 75,000 acres of land in the Red River Valley and created a "bonanza farm" in 1875. With professional managers, ownership of their own elevators and mills, and special prices from farm equipment suppliers, the farm produced substantial profits. The success of the farm was advertised in the East by the railroads. Some bondholders of the railroad turned in their bonds in exchange for tracts of land in North Dakota. Several other "bonanza farms" were created by this process and their success was advertised both in the East and in Northern Europe. The result was a tremendous surge in population during the 1880's.14 Later during the national financial panic of 1893, the two railroads tried to merge but the federal courts and national anti-trust laws prohibited the merger.15

The Movement for Statehood:

The people of the territory supported by the railroad interests were interested in Dakota statehood from the time the railroads first approached the boundaries of the territory. The population of the entire territory in 1870 was approximately 10,000 but growth was taking place. In 1871, 1872, 1874, and 1877, the territorial legislature requested Congress to consider statehood.[16] Congress did consider statehood bills every year from 1871 to 1889 when a statehood bill was finally passed by both House and Senate. The proposed names of the states varied from one proposal to another. The proposals also differed in terms of whether there should be one state or two and, if two, whether the division would be into north and south, or east and west. The early proposals were generally for a north and south split with the south becoming a state and the north a new territory because the south had a greater population.[17] As the gold rush occurred, east and west divisions became more popular; the west became predominately democratic gold miners and the east was predominately republican farmers.[18] Politically the split into east and west was the most logical. Even in terms of economic differences the east and west split was logical because the East was more fertile soil and less plagued by lack of rain. History of course also favored an east and west split since the territory was formed by combining two parts; an east and a west part. However, one factor favored a north and south split. This was railroad development. The railroads crossed the territory from east to west making a north and south division logical from a transportational point of view and for the well-being of the railroads.[19] Despite the fact that most of the proposals were to split the territory in two parts, in a referendum in 1887, the people voted in favor of statehood as one state.[20]

The capitol was located at Yankton in the very southeast corner of the territory in 1861. Many proposals to change the capital occurred during the early years, but all of the alternatives were still in the southeast corner between the Missouri River and the Big Sioux River.[21] In 1883, the legislature of the territory authorized the construction of several public facilities. Most of these facilities were located in the northern part of the territory. The legislature authorized bond issues for construction of a university at Grand Forks, an insane asylum at Jamestown and a penitentiary at Bismarck. Also an agricultural college was authorized at Fargo but funding was conditioned on the community donating land and providing other local support. Finally, a normal school was authorized at Minot but no funding was approved.22 This favoritism for the north may have been a compromise with the act which created a nine man commission to choose a new territorial capitol. Five of the members were from the southern part of the territory.23 There were rumors that even some of the northern commission members had agreed to vote for Redfield in the southern part of the territory. However, Alexander McKenzie, Sheriff of Burleigh County from 1873 to 1886 was a commission member. He had been in charge of the construction of the Union Pacific Railroad between Fargo and Bismarck and clearly had important connections with the railroads and Minneapolis grain dealers. In fact, he was a close friend of the governor of the territory, Nehemiah Ordway in 1883. He put up $50,000 bail when Ordway was arrested on charges by Yankton businessmen after the commission announced Bismarck as the new territorial capitol.24 McKenzie, without ever serving as a state or territorial officer or legislator was able to influence decisions.25 Much of the period, 1883-1919, was a battle of various groups to overthrow the power of the McKenzie machine in North Dakota politics.

The choice of Bismarck as territorial capitol was fought in the courts where individuals were accused of various illegal acts in order to discredit them and their part in the decision but the courts maintained the decision and the people involved. The decision also increased the amount and intensity of the attempts to obtain statehood from Congress. The Senate after 1883, passed bills for statehood but the House did not.[26] The Northwest Ordinance of 1787 clearly made territorial status a temporary status which was expected to be followed by statehood[27] but some people thought the process was going too fast for territories we of the Mississippi River. Washington, Idaho, Montana, and Wyoming were all seeking statehood along with North and South Dakota in 1888, when Benjamin Harrison was elected President. Harrison had been in the Senate and was a strong supporter of North and South Dakota. There were rumors that Harrison might call a special session of Congress in March if some of the statehood issues were not approved by then. The House therefore, voted in favor of a statehood bill in January 1889. It included statehood for a single state Dakota, and for Montana, Washington, Idaho, and New Mexico. The Senate bill provided for the division of Dakota into North and South Dakota and did not include Idaho or New Mexico for statehood. The joint committee of Congress could not reach agreement so the House part of the committee sought the advise of the Full House. A second meeting of the joint committee resulted in approval of the Senate version. Thus, in February the bill went to President Cleveland for signature granting statehood to North Dakota, South Dakota, Montana, and Washington. It was signed on George Washington's birthday, February 22, 1889.[28]

The Enabling Act for North and South Dakota required that each area have a constitutional convention although several had already been conducted before the Enabling Act was passed. The act also required that each convention appoint members to a joint committee of the convention in order to determine an equitable distribution of physical facilities, records, and debts of the territories among the two states. Clearly, the bonds issued for the university, insane asylum, and penitentiary were debts of North Dakota. The total debt on April 1, 1889, was reported to be $83,507.46.[29]

Government of the New State:

The first government of the state was relatively conservative and generally under the direction of the McKenzie machine. McKenzie never controlled in the sense of others acting as puppets for him but McKenzie's influence on the general tone of legislation and control through manipulation and compromise agreements of specific laws is unquestioned throughout his life.[30] The first session was plagued with controversy. The Louisiana Lottery Company which conducted a lottery nationwide had lost its Louisiana corporate charter. They sought a charter in North Dakota with pledges of payments to the state which would eliminate the entire state debt in five years or less. However, there were also reported bribes of individual legislators. The governor opposed the lottery and attempted to get support for the defeat of the bill in the House. The governor failed but the issue died when the U.S. Congress outlawed the transportation of lottery tickets across state boundaries.[31]

North Dakota Debt Outstanding
in thousands of dollars (000)

1889	84
1900	973
1905	1,020
1918	447

The Populist and Progressive Movements:

The national Populist Movement of the 1890's and early 1900's had a greater than average impact on the north central states of Wisconsin, Minnesota and North Dakota. The movement included changes in laws to give more control of government to the people and more liberal spending to provide government facilities to serve the people. The 1893 legislative session appropriated $210,000 more than revenues received. They also authorized a $50,000 bond issue for construction of a south wing of the capitol and $6,000 was appropriated for construction of the governor's mansion. The election of the second governor of the state shows the growth of the Populist Movement. As well as having to borrow to cover the excess of expenditures over revenues from the 1893 fiscal year, the new Populist government appropriated $150,000 more than expected revenues.[32] In fact, the bonded indebtedness increased to $845,000 by June 30, 1900. This included what was left of the territorial debt and $85,000 of bonds issued for the Industrial School at Ellendale, bonds issued for the hospital at Jamestown, and bonds issued for the Soldier's Home at Lisbon. A twine production facility had been constructed at the state penitentiary at Bismarck. The $128,000 cost was financed by certificates of indebtedness (short term notes instead of bonds). In 1903, the legislature authorized a $100,000 bond issue for construction of the north wing of the capitol building.[33] The bonds were issued in 1905.[34]

The Populist and Progressive Movements affected the state both by laws granting the people more ways of affecting government, and by the amount of expenditures and debt, but that is not to say that the McKenzie machine was defeated. Alexander McKenzie was able to effect the choice of candidates for the Republican Party especially for governor and for congressional elections. The Republican Party did dominate the state so that only the second and tenth governors were of the Democratic Party. Despite the Farmer Alliance and other groups which attempted to increase the role of the government in the protection of farmers from the economic interests of railroads and Minneapolis grain dealers, Alexander McKenzie was able to prevail on specific bills and most of the time set a conservative tone to state government.[35]

No new bonded debt was issued by the state of North Dakota from 1905 to 1919, so that on January 1, 1918 the debt outstanding was only $447,000.[36] The time was not quiet, however. Rapid population growth generated more state revenues but it also created demands for public goods. The conservative government kept spending down. More and more people felt they were not being served by their government. Changes in the laws generated from the Populist Movement did not seem to bring government into the hands of the people. In fact, throughout the period, the idea grew that big business controlled the destiny of farmers with the aid of the government. The Progressive legislature of 1894-95, had passed a bill authorizing the state to purchase or construct a mill in Minnesota or Wisconsin but the government never followed through.[37] The legislature in 1903 authorized state agencies to issue bonds with revenue from the sale of state lands to be used to pay principle and interest. However, in order to make the bonds saleable the law also stated that if in any year in which land sale funds were insufficient to meet debt requirements unappropriated funds of the State Treasury should be used. The Supreme Court ruled that this would still be debt and could not be issued without the usual legislative process and not at all if the state debt was at the debt limit. Thus, the state institutions did not obtain needed funds for new facilities.[38]

The state legislature in 1909, passed a constitutional amendment authorizing the purchase or construction of a mill and elevator in Minnesota or Wisconsin.

As required by the constitution, it again went to the legislature in 1911, and again passed. Therefore, it went to a vote of the public in 1912, and was accepted. However, still no action was taken to actually acquire a mill or elevator.39

Thus, even when farmers and others seeking increased spending were able to get the legislature and governor to pass laws, no actions were taken. Court suits, slander, reassignment to legislative committees for review or report, authorizing action without authorizing funding, etc. were used to prevent the fulfillment of progressive programs. However, a new primary election law was passed and put into effect. This was used by a new farmer's organization to rest control of the House and most state office positions including governship, away from the McKenzie machine. In 1916 the "old Gang" still had a majority of the Senate and prevented many bills passed by the House from reaching the governor. The biggest of which was Bill 44. It amounted to a revised constitution.40

Summary:

To summarize some thoughts about the period, it started with the use of debt to construct facilities necessary to carry on the normal functions of state government. A splurge of spending did occur under the one term of the Democratic governor and Progressive legislature. The period ended with a relatively low level of debt. In fact, near the end of the period, although total expenditures of government increased due to the tremendous increase in population, per capita expenditures declined significantly. "The railroad corporations were a major conservative force, and genial Alexander McKenzie built a political machine to influence the state government in the interests of railroads and their natural allies, the grain dealers and bankers of Minneapolis and St. Paul."41 This political machine dominated politics up to the end of the period. The Farmer's Alliance, the Populist Movement, and other progressive organizations were active in the state throughout the period but their successes were mostly in terms of laws improving the ability of the people to affect the passage of new laws and the election of legislators and other state officials. Farmers, which constituted 80 percent of the population of the state at the end of the period, felt desperate. Even in good crop years, they found it difficult to make profits. They were in debt and paying relatively high interest rates. They considered that the state government had not met their needs by passing regulatory laws to prevent some of the practices of railroads, local elevators, and grain dealers. They also believed that they faced an economic market which was not competitive and that state government owned facilities could be used to obtain a more competitive market for farmers. The McKenzie political machine had prevented them from achieving relief through state government actions.

1. J.M. Gillette, Social Economics of North Dakota, Burgess Publishing Co., 1942, pp.

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8. Herbert S. Schell, History of South Dakota, Third Edition Revised, THe University of Nebraska Press, 1975, pp.

9. George B. Winship, "Forty Years of Development of the Red River Valley," in History of the Red River Valley, Volume 1, Herald Printing Company and C.F. Cooper & Company, 1909; pp. 74-79.

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13. D. Jerome Tweton and Theodore B. Jelliff, North Dakota: The Heritage of a People, North Dakota Institute for Regional Studies, 1983, p. 80.

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16. Ibid, pp. 130-131.

17. Lounsbary, pp. 365-375.

18. Schell, pp.

19. Fish and Black, pp. 67-69.

20. Lounsbary, p. 370.

21. Fish and Black, pp. 67-69.

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23. George B. Winship, "Political History of the Red River Valley" in History of the Red River Valley, Volume 1, Herald Printing Co. and C.F. Cooper & Company.

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25. Louis Crawford, History of North Dakota, Volume 1, The American Historical Society, Inc., 1931, pp. 420-421.

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27. Milton, p. 64.

28. Lounsbary, pp. 365-375.

29. Compendium of History and Biography of North Dakota, George A. Ogle & Co., 19001, pp. 97-117.

30. Robinson, p. 231.

31. Fish and Black, pp. 144-146.

32. Crawford, pp. 381-382.

33. Ibid, pp. 389-393.

34. Fish and Black, p. 179.

35. Robinson, pp. 265-278.

36. Moody's Municipals: 1919.

37. Crawford, p. 381.

38. Fish and Black, p. 178.

39. Robinson, pp. 274-275.

40. Herbert E. Gaston, The Nonpartisan League, Harcourt, Brace and Howe, 1920, p. 139.

41. Robinson, p. 257.

PASSING THE PEAK: 1919-1949

At some time around 1919 the population growth of North Dakota reached an important point (point of inflection) where population continues to grow but at a decreasing rate.[42] In a frontier agricultural state it is typical for rural or farm population to reach such a point. With the amount of good fertile farm land fixed, new persons move onto the land until land begins to become scarce and only marginal farm land remains available. Some persons will continue to come but either have to buy land which is only capable of good crops under above average conditions or they have to pay higher prices for good land so that profits are only possible in years of above average prices. Thus, farm population grows at a declining rate. In fact, the rural population of North Dakota declined when comparing 1920 and 1930.[43]

The effect of this good farm land shortage on total population depends to a large degree upon how successful, in terms of profits, farms were during the period of available good land and on the degree to which the profits that were made are retained in the area. Some people believed that all of the land in North Dakota was inferior farm land but the "bonanza farms" proved that to be a myth. The Red River Valley in particular was fertile and had sufficient rain. The growing season was short but intense.[44] Even other parts of the state despite the lower amounts of rainfall appeared to be productive enough to generate profits if well managed and average weather conditions occurred. However, if the potential profits had been made and retained in North Dakota during the period prior to 1919, one would expect total population to continue to grow at an increasing rate even if rural (farm) population began to increase at a decreasing rate. The retained profits in the state should have generated other industry in the state and it in turn would attract more people.

The fact that the point of inflection occurred for the total population in North Dakota in 1919 is evidence that something went wrong. Those who had made profits in the early period might blame what happened on state government in the 1916 to 1921 time period. The fact that some did take their profits and leave the state at this time is some support of this concept. However, the large number of farmers who were not profitable even under the best of conditions is an indication that other factors had caused the profits from the crops to flow out of the state.

Farmer's Organizations:

Farmer's organizations in areas where farming is generally profitable tend to be more social in nature. They become the organization which serves the function of providing quality leisure activities for farmers. In areas where farming is less profitable, farmer's organizations tend to be more political and economic than social. They organize to remove the barriers which prevent profits.

Farmer organizations (the Grange and the Farmer's Alliance) date back before the turn of the century. The Grange was the first major farm organization in North Dakota before 1880. The Farmer's Alliance took the place of the Grange after 1880, becoming a politically oriented organization which led the Progressive Movement in the Republican Party and helped to elect the two Democratic governors who were elected in the first thirty years of North Dakota history by crossing over party lines in the election. They also supported several attempts of farmers to form cooperatives. Of special importance was The Equity Cooperative Exchange. Many of the officers of The Equity Cooperative Exchange were active in the Farmer's Alliance.45 However, the most important farmer's organization in the history of North Dakota, The Non-Partisan League

(NPL), was started in 1915 by Arthur C. Townley. By 1916 he had brought in many of the leaders of the old Farmer's Alliance and claimed to have a membership of 30,000. Their goals were to break the monopoly power of the big banking interests (especially those dominated by financial interests outside of North Dakota), control the monopoly practices of railroads, break the monopsony power of the buyers of farm products, have the government provide services not available through the private sector and eliminate taxes which were not equitable to farmers. Specific objectives to accomplish these goals were to have:

1. state ownership of terminal elevators, flour mills, packing houses, and cold-storage plants,
2. state inspection of grain and grain dockage,
3. exemption of farm improvements from taxation,
4. state hail insurance on an acreage-tax basis, and
5. rural-credit banks for low interest loans.[45]

The objectives or programs of the NPL addressed many of the problems which farmers had been complaining about for years but it would not have been any more successful than any other organization if it were not for the ability of the organizers and the methods used to accomplish objectives. Paid organizers moved into an area and in private meetings obtained the support of a local leader. The local leader and paid organizers then conducted public meetings at which dues were collected. Post-dated checks were accepted in payment for dues. This gave each farmer a financial interest in following through with the next step. The NPL promised to hold political caucuses around the state and then a state convention in order to obtain candidates for every state public office. The NPL was not to be a new political party. The candidates were to run in the primary election of the political party to which they already belonged. In other words, the chosen NPL candidates would technically run in the primary in order to have the endorsement of the Democratic or Republican Party. However, each had already made a commitment to the program of the NPL in order to obtain the support of the NPL members in the primary no matter what program the Democratic or Republican Party adopted.

Farmer's Government:

The method worked. NPL members voted in the primaries and the NPL chosen candidates won a place in their political parties. Since North Dakota farmers are predominately Republican, all but one of the candidates were Republican. In a sense through the use of the new rules for primary elections, the NPL captured control of the Republican Party but their method left them open to the support of democrats who might want to support the NPL programs. NPL candidates won every major state office, control of the House, and a majority of Senate positions which were up for election in 1916. The problem was that only 50 percent plus one of the Senators are up for election in a given year. Therefore, to have control of the Senate, the NPL would have had to win every Senate seat up for election. The result was that the "old Gang" prevented many of the bills passed by the NPL controlled House from reaching the governor.48

The 1918 election, however, indicated no decline in the ability of the NPL to get their candidates elected, therefore, NPL candidates had control of both the House and Senate as well as every major state office and they passed legislation to carry out every objective in their program.

Two acts were the basis for almost all debt of the state of North Dakota for the next 30 years.

1. February 19, 1919 - An act to establish the Bank of North Dakota.

Capital of the bank was to be $2,000,000 and it was to be obtained by the sale of bonds which were the obligation of the state. This state owned bank was to be multi-purposed. All state, county, township, municipal and school district funds and all funds of penal, educational, and industrial institutions of the state were to be deposited in the state bank Thus, the state bank was to act as fiscal agent for the state and all political subdivisions thereof. To fulfill this purpose, it could advance money to agencies of the state (i.e., Expenditures could be made before taxes were collected).[49]

The Bank of North Dakota could also accept deposits from the general public and from other banks. It could make deposits in other banks. Therefore, the bank could act as a central bank for all small banks in North Dakota. When a bank had a cash shortage, the Bank of North Dakota could make an additional deposit. Also permitting banks to rediscount notes with the Bank of North Dakota, is another means of a central bank controlling the behavior of banks who make loans that are of poor quality and helping these banks if they need cash to get over a bad situation.

The Bank of North Dakota was limited by the act in terms of the kinds of loans it could make. The Bank could make loans secured by first mortgages on real estate. The intent was they would make direct loans to farmers based upon the value of their property. Since the bank had capital of only $2,000,000 to make long-term real estate loans would be considered a poor banking practice. Long-term loans should be based on funds that a bank has obtained on a long-term basis.

Therefore, the law provided that the State would supply up to $10,000,000 by issuing state bonds secured by the first mortgages on farms. The process was that when the bank had made loans of $100,000 they would turn the security for the loans over to the State Treasurer who in turn would sell State Bonds and deposit the funds from the sale in the Bank of North Dakota so that the bank could make more loans. Thus, the real estate loans were to be based on deposits of the state government which were not available for appropriations and in effect would be long-term deposits.

The Bank of North Dakota could also make loans when warehouse receipts of a licensed warehouse in the state of North Dakota were used as security. Thus, farmers could borrow on grain being held in a licensed warehouse. This would provide a source of funds so that farmers could hold their grain off the market until prices went up.[50]

To summarize, the Bank of North Dakota was created to perform two generally separate functions: Central Bank and Farm Support Lending powers to perform both functions were granted to the bank. However, the fact that all ultimate power was given to the Industrial Commission composed of the Governor, state treasurer, and state auditor (changed to the state commissioner of agriculture and labor) made it a questionable situation. The Bank officials were not provided any separation from political pressures. Therefore, the bank would logically be under pressure to favor banks and farmers who were supportive of NPL programs. The ones with ultimate power obtained their position from their association with the NPL and their continuation in their position was dependent upon their continuation of a good relationship with the NPL.

2. February 25, 1919 - An Act to establish the North Dakota Mill and Elevator Association.

The act created an organization under the Industrial Commission. The organization was to obtain, through purchase and/or construction, and to operate, mills and elevators in the state of North Dakota. The tax levied on real estate in 1913 to buy or construct a mill and elevator in Minnesota or Wisconsin and never used for that purpose was to be used for the mills and elevators authorized by this act. Also another act authorized the state to issue bonds to be called the "Mill and Elevator Series" bearing no more that 6% interest and secured by the property obtained by the North Dakota Mill and Elevator Association (NDMEA).[51]

The obvious purpose of NDMEA was to provide actual and potential competition for the mills in Minnesota and the elevators located in North Dakota and Minnesota. In 1920, over 54 percent of the local elevators in North Dakota were "commercial line" elevators, and over 5 percent were "mill line" elevators. In other words, they were owned by mill and elevator companies in Minnesota.[52]

The following statement expresses the NPL's belief about their position which NDMEA and Bank of North Dakota might change:

> The farmer lost when he borrowed money at exorbitant rates, when he sold his wheat on fictitious grades fixed against him by a power over which he had no control, when he was docked for impurities that did not exists, when his wheat was hawked about the Minneapolis Chamber of Commerce by parasitical or phantom handlers and unnecessary brokers, when it went to a mixing-house to be housed and doctored, . . and . . . sales that were never

made. And all supported and buttressed by huge financial interest . . . the huge milling concern, the wealth, power, politics, social organization of the entire Northwest in one solid enduring league.[53]

Opposition Forces:

The NPL's success in winning the elections soon developed problems. As the debate on the bills got underway the Attorney-General and the State Auditor came out against several of the main points of the NPL program. They also assisted the opposition after the bills had been passed.[54] Both of the above acts were tested in the courts; NDMEA going all the way to the United State Supreme Court.[55] The legal tactics only created delays. The bank managed to get into operation in 1919. The fact that the state government and all sub-political unit governments had to deposit all their funds in the Bank of North Dakota meant that the bank was able to open its doors and immediately had cash with which to conduct business. The State could not sell the bank series of bonds which was intended to provide operating capital but the deposits of governmental units provided working capital sufficient to operate the bank. The State also was unable to sell the bonds of the NDMEA. Therefore, once the legal battles were over, the Bank of North Dakota bought the bonds of NDMEA. As the bank started its real estate loan program, the State also found that it could not sell the real estate bonds. The problem was that the financial institutions of the East appeared to have united against the State of North Dakota. Eastern newspapers carried articles about the Socialist Government of North Dakota. The fact that opponents of NPL had made sedition charges against officers and the founder of NPL during World War I was used against the State even though none of the charges were ever proved in a court. The North Dakota Bankers Association led by the large banks offered to handle the sale of the State bonds but only if the State would limit the activities of the NDMEA and Bank of North Dakota. The Industrial Commission refused the offer. A group of Minneapolis banks made a similar offer to handle the sale of the state bonds but again it would be conditioned on the State restricting the activities of the NDMEA and Bank of North Dakota. Again the Industrial Commission refused the offer. They were not going to be dictated to by Eastern Financial interests.

It did not take long for the bank's financial condition to deteriorate since they had to provide the capital investment funds of NDMEA and had no capital funds of their c . The long-term real estate loans were being made without receiving the proceeds from State bond sales. Therefcre, the bank had a large amount of long-term investment and nothing but demand deposits as a source of funds.[56]

The NPL lost control of their program in 1921. They had passed legislation, in the tradition of the Progressive Movement, which would make it easier to recall state officers. The "old gang" conservative republicans and even some conservative NPL members led by the Attorney General, William Langer, had formed the Independent Voters Association (IVA) which used the new recall procedures to defeat the NPL. The special election involved the three state officers who constitute the Industrial Commission and a list of referendum items. The IVA used the financial condition of the Bank of North Dakota and the management of the bank as the main issues.[57] It was not hard to show that the Bank of North Dakota had favored small banks which were near bankruptcy (a purpose not recognized by many people of the state but one which is normally considered by economist as a central bank function) and banks associated with leaders of the NPL. It also was not hard to show that the bank was not in good financial condition. The fact that the primary problem was that investment bankers of the east refused to handle the sale of State bonds was not recognized by many of the people. Some specific cases of direct benefit and favoritism of NPL leaders were also shown to the public. The result was that IVA candidates took over three state office positions which controlled the institutions created in accordance with the NPL program. However, all of the referendum measures that would either limit or eliminate the activities of the NPL created State Institutions were defeated in the election. The people were concerned about their leadership but they were still for their program.

A New Government:

The IVA governor and pressure of local government officials forced the NPL legislature to pass a bill giving the local units of government the right to choose in which bank to place their deposits. The passage of this act almost destroyed the Bank of North Dakota and forced the bank to take some actions which resulted in many small commercial banks of the state to file bankruptcy. Since some of these were associated with leaders of the NPL, the NPL organization was further hurt. The IVA did not have control of the legislature but they controlled the Industrial Commission which had ultimate authority over the Bank of North Dakota. Therefore, they were able to restrict the activities of these institutions even though they could not pass laws to eliminate or restrict the NPL created institutions.

The NPL Industrial Commission had found an investment banking firm in Ohio to handle the sale of some state bonds just before they were recalled from office. The IVA Industrial Commission which replaced them did not fully honor the contract with the Ohio investment banking firm but they did feel the pressure of the people to obtain another Investment Banking firm to handle the sale of the bonds. Thus with conservative management of the bank and with funds being made available to the bank from bond sales as originally planned, the bank's financial condition improved.[58]

The State Debt Picture:

The Bank Series and Mill and Elevator Series were issued in 1919, but were bought by the Bank of North Dakota. Therefore, in a sense, it was not until 1922 that State of North Dakota Bank Series and Mill and Elevator Series bonds were actually outstanding. Rural Credit Series bonds were first issued to the public in 1921. These are the bonds sold by the State to provide funds to the Bank of North Dakota for making real estate secured loans to farmers. Over the thirty year period 1919 to 1949, the $10,000,000 limit had to be raised. This NPL program was the major source of North Dakota debt until long after the end of the program, in 1932. At the peak, 1932, the State of North Dakota had $35,357,200 in rural credit bonds outstanding.

NORTH DAKOTA DEBT OUTSTANDING

	(000)
30	$37,884
31	36,100
37	26,600
38	23,521
39	23,070
40	21,642
41	25,607
42	23,958
43	23,538
44	21,257
45	19,927
46	19,912
47	18,313
48	18,265
49	46,354
50	43,571
51	39,354
52	34,566
53	30,829
54	26,355
55	21,848
56	18,538
57	14,321
58	19,580
59	14,828
60	14,648
61	13,813
62	15,271
63	16,090
64	19,932
65	22,556
66	24,822
67	31,465
68	31,767
69	34,639
70	37,300
71	40,582
72	56,000
73	59,243
74	65,495
75	63,308
76	70,081
77	67,326
78	81,427
79	130,792
80	219,276

Source: Financial Statistics of the States, later retitled, Compendium of State Government Finances, Department of Commerce Government Printing Office, 1931-1981.

In 1923, a second Mill and Elevator Series was issued to provide operating capital of $1,000,000. It was secured by the revenue of NDMEA but if revenues were not available in any given year unappropriated state funds from any source were to be used to service the bond issue. State Capitol Building Fund Certificates were issued in 1932 because the State Capitol Building had been destroyed by fire. Thus, natural disaster caused the debt outstanding to increase after the rural credit program ended but not for long. In 1932, the debt outstanding declined for the first year since the NPL took control of the legislature in 1919. All debt was retired as it came due during the period. All of the increase between 1923 and 1931 was due to the rural credit program handled by the Bank of North Dakota. The amount of debt outstanding declined or remained the same every year from 1934 to 1948. Certificates of indebtedness were issued every year from 1937 to 1942, but these were issued with a one year maturity date. They were issued in amounts up to 75 percent of the amount of uncollected real estate taxes for the current and preceding four years. They were considered a general obligation debt of the state. As back taxes were collected the funds were held for payment of the certificates. The Bank of North Dakota bought all of these certificates that were issued. Thus, the bank was used as a means of avoiding showing operating deficits due to the problem of collecting taxes during the depression years. No other debt was issued in the period. In fact, in the period through 1935 through 1938, some bonds which were not due were paid off in advance. In 1937, the North Dakota Water Conservation Commission was created and bonds were authorized but they do not appear as state debt after the date of issue. They were purchased by the North Dakota Rehabilitation Corporation and the Bank of North Dakota. The Bank of North Dakota also purchased all of the outstanding Capitol Building Certificates before their maturity. In 1944, the

State did authorize the issuance of $12,360,000 in Highway Certificates. These were to be revenue anticipation certificates secured by future gasoline tax collections. The Bank of North Dakota financed these certificates as they had the Real Estate Tax Anticipation Certificates.

Summary:

The NPL had accomplished their objectives in that all of the State institutions implied in those objectives had been created along with several others. Also, laws regulating the practices used by railroads to accomplish monopoly profits were passed. Laws regulating the practices used by elevators, mills, and grain dealers to accomplish lower purchase costs in their monopsony position were passed. New services to the public, especially farmers were created as a part of State government. Tax changes favoring farmers and new programs to assist the poor were made. However, the institutions which were created were quickly limited in their activities so that it is questionable whether or not the goals of the NPL were achieved. The regulatory laws did alter the practices of monopoly railroads and monopsony grain dealers. The NDMEA only built only one plant and it did not even obtain maximum levels of production but its existence was potential competition and does appear to have had some impact on prices paid to farmers. However, even if the monopsony power was completely broken, the farmer found that grain sells ultimately in an international market which approaches pure competition. Therefore, only the best managed farms which have capital sufficient to keep up with all cost cutting technological developments and which have land with average or above fertility can survive in the long run. The 1920's proved the above as farmer income went down even though some monopoly and monopsony practices used on them before 1920 were eliminated.

The problem of the 1920's was the purely competitive nature of world grain markets which forced market prices all over the world to decline. International prices remained low in the Great Depression years of the 1930's but to this was added some of the worst years for farming in North Dakota. Extreme heat in the summer, extreme cold in winter, extreme dry weather in both summer and winter, and extreme problems of controlling grasshoppers and grain diseases lasted for many of the depression years. Few if any could make a living at farming in many of the years. It was not the failure of the NPL programs that caused the problems.[60] In fact, the successes of the program only make it more clear that all of the farmer's problems of the early years were not the monopoly and monopsony powers they faced in an otherwise competitive system.

Whatever degree of success or failure one wants to put on the NPL it must be admitted that they define a unique period in North Dakota debt history. It is also clear that the financial markets of Eastern United States resisted the programs and in some degree attempted to make them fail. Moody's bond ratings for North Dakota were lowered from Aaa to Aa as soon as the bank and NDMEA bonds were issued. Therefore, North Dakota and New Mexico were the only states in the union with a bond rating less than Aaa when the depression hit the entire nation. The process of reducing bond ratings after the depression started resulted in still lower ratings for North Dakota. By 1935 the bond rating was still the lowest in the country for state government general obligation bonds (Baa). The rating was not raised until 1939, after a period of five years of paying off debt in advance. Even in 1985, a Vice President of Moody's expressed concern for the rating of bonds for a state that would create institutions which were to compete with private enterprise. However, the State does now have an Aaa rating.[61]

42. Gillette, pp.

43. Robinson, p. 379.

44. Sheppard, pp. 200-201.

45. Charles Conrad and Joyce Conrad, 50 Years North Dakota Farmers Union, North Dakota Farmers Union, 1976. pp. 1-10.

46. Robinson, pp. 330-333.

47. Tweton and Jelliff, p. 140.

48. Crawford, pp. 421-426.

49. Russell, pp. 257-259.

50. Alvin S. Tostlebe, "The Bank of North Dakota: An Experiment in Agrarian Banking," Studies in History, Economics, and Public Law, Vol. CXIV, Number 1, Columbia University, 1924, pp. 77-93.

51. Russell, pp. 260-262.

52. Tostlebe, pp. 36-37.

53. Russell, p. 93.

54. Ibid, pp. 282-292.

55. Herbert E. Gaston, The Non-Partisan league, Harcourt, Brace and Howe, 1920.

56. Tostlebe, pp. 123-150.

57. Tweton and Jelliff, pp. 143-144.

58. Tostlebe, pp. 150-160.

59. Moody's Muncipals, 1919-1949.

60. Gillette

61. Cohen in private conversation at the American Society of Public Administration Meetings, March 1985.

PROSPERITY AT LAST 1949-1978

Not only did North Dakota reduce its debt during World War II, it did it without much strain on the taxpayer. The war time economy brought prosperity to the people of the nation. The war economy of World War I also brought prosperity but there was a difference. During World War I, North Dakotans did not share in the prosperity to the extent that they did in World War II. The difference was that during World War I the price set by government on wheat was barely above the pre-war price but during World War II, the price of wheat was permitted to reach all time highs. It gave many farmers a chance to reduce their personal and farm debt. At the start of the war, North Dakotans were in worse condition than the average of the nation because of the nature of farm business. Many farmers throughout the 1920's and the 1930's went into debt in order to get their crop into the ground, but at harvest time could not pay their debts. Therefore, personal and farm debt grew and, of course, many lost their farms. In any case, the war economy gave those who had survived the depression an opportunity to pay off their accumulated debts. Income in the state and tax collections grew rapidly. The State, as noted above, used its increased revenues during the war to reduce its debt. It did not pay off debt in advance of maturity as it did in the 1930's, but it built up a sinking fund which was equal to or greater than the amount of debt outstanding.[62] State facilities had been neglected through the thirties and state employees suffered. The prosperity of the war years brought some relief to state employees but very little relative to other states was done to construct new state facilities. The exception to the rule was highway construction.

Isolationism - Peace and Patriotism:

The war brought prosperity to North Dakota which it had not seen since the early days of growth. North Dakota politicians and farm organizations were opposed to our nation's entry into World War II as they had been against our entry into World War I. North Dakota is now known as the Peace Garden State and owns a "Peace Garden" located at the Canadian border. Before World Wars I and II, the emphasis was not just on peace but on isolationism.

Isolationism was not based on a desire to eliminate international trade or the flow of immigrants. Wheat is an international farm product and the State has a high percent of immigrants, especially from Northern Europe. To the immigrants, the governments of Europe were controlled by the wealthy and not the common people from which they came. Therefore, any ties between governments were likely to restrict trade and end in wars which would benefit the wealthy of Europe and the eastern industrialist of the United States.

NPL leaders were arrested for sedition and the politicians of the state were the target of criticism by national newspapers[63] during the pre-World War I period. In fact, eastern newspapers during World War I questioned the loyalty of North Dakota because of its large German speaking population and after the war because of its socialistic policies.[64] The national media and national political parties in pre-World War II condemned the Senator and Representatives from North Dakota for their anti-war position. The North Dakota political leaders were outspoken right up to the end. In fact, the politicians from North Dakota were opposed to the creation of the League of Nations and the United Nations. And in the late 1940's and 1950's, they opposed the Marshall Plan and the practice of the national government making loans to foreign governments.[65]

The anti-war isolationist attitude did not extend to the war period. Once war was declared, North Dakotans stood behind their nation. Enlistments from North Dakota in both wars were above average for the nation on a per capita basis. Also, despite the debt position of the people of the state at the start of the war, they bought more war bonds than was set as their goal. The demands of the nation for increased wheat production during both wars caused farmers to work even harder and to continue to seek higher yields. This was true during World War I, even though prices were set low relative to prices of other goods which farms had to purchase. Thus, the war time behavior of North Dakota, despite the pre-war attitudes and criticism by others, can only be classified as patriotic.[66]

However, the patriotic spirit of North Dakotans has been best expressed in the post-war period. North Dakotans have demonstrated their gratitude to those from the state who served their country in military service in a tangible way. In 1919, the NPL government passed many laws to benefit farmers but they also provided a bonus for World War I veterans.[67] The bonus was not large enough to require debt financing but it was more than most states did. In 1949, after more than 10 years of declining the debt outstanding, a World War II Veterans Bonus Bond issue of $27,000,000 was sold. The state's bond rating was raised in 1949 by Moody's to Aa but this was for the $13,000,000 Real Estate Credit Bonds outstanding for which the State had a sinking fund of $14,000,000. The new veteran's bonus issue was only rated A by Moody's. This lower bond rating is not to be interpreted as eastern financial market opposition to North Dakota and its 1920's socialism. Moody's gave lower ratings to veteran bonus bonds of several states. Eastern financial interests apparently did not approve of the use of financial markets to provide benefit programs to veterans or any other group of individuals of a state. The veteran's benefit program did end up costing more than planned so that in 1956 undivided profits of the Bank of North Dakota and the state owned Mill and Elevator Association were appropriated to pay the last of the benefits.[68]

Although North Dakota's pre-war stance to the Korean and Viet Nam conflicts cannot be said to be as noticeable in national politics, many in the state did express opposition.[69] The opposition, generally, emphasized peace instead of isolationism. The war and post-war ("conflict") patriotism was just as great as for the world wars. In 1958, the legislature authorized the $9,000,000 Korean Conflict Veteran's Bonus Bond issue. The State still had $9,000,000 worth of bonds outstanding from the World War II veteran's bonus issue but the sinking fund was already sufficient to pay off the outstanding bonds. In 1971, the State issued bonds for a Viet Nam conflict veteran's bonus plan. Again, the plan cost more than the acquired funds from the bond issue. This time additional bonds were issued in 1973.[70]

Facility Construction:

Highways:

The greatest need for public construction in North Dakota was for highways. The state had a greater than average amount of roads on a per capita basis but that was due to the nature of the land, proportion of land which was rural, and the size of farms. The problem was not road beds but paved highways. Tremendous change in the style and manufacture of the automobile in the 1930's made paved roads a necessity. Trucks began to be an important means of transporting goods in the country and also made paved roads a necessity.[71] As noted above, the state of North Dakota made an effort near the end of World War II to debt finance a major road building plan. Highway Revenue Anticipation Certificates (HRAC) were issued and the Bank of North Dakota purchased them.

All cash collected from state taxes was deposited with The Bank of North Dakota and checks were written against the account. As checks were written for highway construction, the State Treasurer would issue HRACs to The Bank of North Dakota and the bank would credit the State's account. As cash was collected from highway user taxes, primarily the gasoline tax, the cash was put in a separate highway "sinking fund." This fund was then used to pay the interest and principal on certificates as they came due. If the fund was not sufficient to pay the interest and principal, new certificates were issued to the bank for the amount of the principal and interest of maturing certificates (i.e., the debt was refunded).[72] These certificates were short-term debt and the handling of them was similar to what had been done in the 1930's with Real Estate Tax Anticipation Certificates. The only difference is that the funds from the certificate issue could only be used for highway purposes.

In 1956, a $54,000,000 highway construction program was put to the voters of the state in the form of a bond referendum.[73] This would have made it possible to build all of the paved roads the state needed at one time and pay over a thirty year period. The voters rejected the bond issue so the certificates method of financing with the assistance of The Bank of North Dakota had to continue into the early 1970's. The complete paved road system had to be delayed and only high priority roads got paved. Also, the Interstate system of roads once started had priority since 90 percent of the cost was paid by the national government and only 10 percent by the state. This granting of priority to the interstate system caused further delays in road paving of some state roads. In any case, the per capita cost of roads in a sparsely populated state are naturally high. With need for paved roads to get crops to market - to elevators from farms that average over 500 acres each - the cost per capita was even higher than other sparsely populated states because more roads were necessary. The delay in construction due to the method of financing probably added more cost because of inflation but since the HRACs only paid about 2 percent interest when bonds may have required four percent or more in 1956, the effect of inflation was not too great during the first ten years. It was the highway construction of the late 1960's and early 1970's that was high cost due to inflation and which might have been completed at an earlier time if long-term financing had been used.

Public Schools:

The second greatest need for public facilities coming into the war prosperity period was the public school system. In 1920, nearly 50 percent of the public school teachers did not have a high school diploma. By 1952, the situation had improved but not relative to the rest of the nation. Over 50 percent of the public sc ol teachers had one ye or less of college eduction. School teacher salaries also well below national averages: In 1939, North Dakota salaries were about 50 percent of the national average. Formal education was not of as high a priority in farm areas as in urban places. The school year was shorter to allow children to work. Many did not complete elementary school: 36 percent of those starting elementary school completed it eight years later and only 57 percent of those starting high school finished 4 years later. Only 66 percent of those enrolled in school attended on a daily basis.[74]

The real problem, however, was not easily cured. In the 1930's North Dakotans did pay more per dollar of personal income for public school education than any other state. In per capita terms, they ranked eighth highest in 1937. In other words, North Dakota spent money on education but started with a system of nearly 5,000 one room school houses spread throughout the state. Many had less than 10 students. The cost per student was extremely high even though teachers were low paid. Combining schools meant students had to travel significant distances and, with the cold weather conditions of the school year, transportation difficulties and dangers did exist. As the population declined during the 1930's, some of the one room school houses were closed. However, this did not help very much. The size of farms was increasing so the combined schools had no more students than the two one room schools before and the cost of transportation had to be added. The state did increase the share of public school expense paid through state taxes. This equalization program simply spread the high cost of rural education to the residents of the urban areas.[75]

The prosperity of the 40's, 50's, 60's, and 70's, caused even further declines in rural population. In fact, prosperity brought more mechanization on the farm which in turn reduced farm labor per acre of farm land. The result was a movement of population from rural and villages to urban. Since the total population did not increase significantly, it did not cause as large or rapid growth in demand for urban school facilities as in some other states. The state legislature began passing laws encouraging the reorganization of schools (consolidation) as early as 1947. Every few years new legislation which further encouraged consolidation was passed but the laws only required closing of schools under very extreme circumstances. The state increased the shar of public school expenditures paid from state collected taxes but this tended to work against consolidation, as the highest percent of state support went to the smallest schools. The state has not offered to pay the cost of building new facilities in the urban areas. The local urban school districts and urban counties had to issue bonds and/or raise local taxes to cover the building cost.

With laws and words, consolidation of schools was encouraged by the state. With equalization financing programs and a refusal to use the state's credit for school construction, consolidation was discouraged. The economics of population change and the contributory changes in farming caused a slow but sure process of consolidation of schools. The school system in 1979 was still more costly on a per capita basis than most states but public education was much better than it had been. Teachers salaries were near the national average and by 1970, 80 percent of the students starting to school finished high school twelve years later. This change was without the use of state credit for public education.[76]

Higher Education:

The existence of a sparsely populated state was the major problem for the public school system. It was and is the major problem for higher education institutions in North Dakota. The original institutions authorized when the territory was created in 1889, were all in the most populated area of North Dakota: The Red River Valley. As growth occurred across the state new institutions were created in other parts of the state. Valley City State College attempted to use bonded debt in 1905 to construct buildings but the State Treasurer objected and the Supreme Court ruled the bonds would be state debt and would put the State over its constitutional debt limit.[77] However, with the poor level of public school education, the proportion of persons aged 18 who had completed high school was low relative to most states. Therefore, the potential pool of persons eligible to attend higher education institutions in North Dakota per 1000 population was less than other states and the state of North Dakota had a smaller population per square mile than most states. The result was that in 1920, 6,000 students were distributed among seven institutions.[78] The problem of cost per student is obvious. Since the institutions were specialized some costs of a full university could be avoided but obviously many of the costs of programs are fixed costs. Therefore, a certain level of student enrollment is necessary to operate institutions of higher education: economics of scale exist in higher education. In the 1920's with nine institutions and only 6,000 students, there is no way the state could have efficient institutions of higher education. The cost of making institutions available in all parts of the state was high. However, whatever the cost, these institutions served the state well in these early years. Many of the state's leading political statesmen were graduates and/or faculty of these institutions.

The hard times of the 1930's caused the state to cut back on higher education expenditures even though some of the governors of the time were graduates of the institutions of the state. Enrollments did not decrease but the funds available were cut. The result was the loss of many of the best faculty.The effect on quality of education cannot be measured but in terms of traditional measures of quality based on the cost of inputs and educational qualifications of faculty, quality declined significantly during the 1930's. The State chose to provide regional higher education in the state rather than quality. This policy has continued.[79]

World War II brought prosperity to the state but it reduced enrollments in institutions of higher education. The higher level of patriotism referred to above meant that even fewer persons were available to attend institutions of higher education. Those of age and educational level to qualify for higher education were enlisted in the military service or were so much needed on the farm they could not go to service or to college. The result was total enrollment in the state dropped from 7,000, to 1,900. The fact that prosperity existed may have softened the tremendously high cost per student during World War II.

However, in order to keep the costs per student down, state expenditures were not increased in proportion to the increased state revenue. At the end of World War II, returning veterans in addition to current high school graduates turned to institutions of higher education. The result was a tremendous increase in enrollment. Enrollment was back to 7,000 by 1950, 14,000 in 1960, and 27,000 in 1970.[80]

The increased enrollment, as in other states, created a need for additional facilities at each of the institutions. A reduction in the number of institutions would relocate the cost of construction but only slight savings could have been achieved because none of the institutions had adequate facilities to handle this kind of an increase in enrollment. The legislature authorized the State to issue revenue bonds to meet some of these needs. The bonds were not to be general obligations of the state. The payment of interest and principal was to be made from the revenues of the facilities built with the funds from the sale of bonds.

The first sale of bonds was in 1949, for the University of North Dakota. The facility constructed with the funds was a Student Union. Other bonds were sold to construct dormitories, dining halls, and sports facilities. In 1952, North Dakota State University of Agriculture and Applied Science issued bonds to construct a Student Union and dormitories. By 1958, Dickinson State College and Minot State College had bonds issued to construct revenue producing facilities on their campuses and by 1961 the North Dakota State School of Science and Valley City State College were added to the list. The State did not use debt funds to construct classroom buildings. The financial markets were only used to acquire funds for constructing revenue producing facilities. All other construction and improvement in facilities, as well as higher operating costs including more faculty and faculty with better credentials, were financed on a pay-as-you-go basis. However, other than the Korean and Viet Nam veterans bonus bonds which were general obligations of the State and the Highway Revenue Anticipation Certificates which were purchased by the Bank of North Dakota, these higher education institution revenue bonds were the only debt issued during the period 1949-1977.[81]

Credit Aid to Political Subdivision:

From the beginning of the present system of municipal bond ratings in 1919, with Moody's Municipals, North Dakota did not fair well. Wall Street did not approve of North Dakota's plan to solve the problems of their farmers. Especially, the ownership of a bank, mill, elevator, and savings and loan were considered to be inappropriate functions of a State government in the free enterprise, capitalistic economy of the United States. North Dakota and New Mexico were the only states whose general obligation bonds were rated less then Aaa in 1931.

In fact, in 1919 and 1920, when North Dakota attempted to acquire funds from the financial markets to start the bank and acquire mill and elevator properties, the investment bankers would not purchase or even handle the sale of bonds for these purposes. Over the years, after the removal of the governor who was associated with the state ownership of such organizations, North Dakota's bond rating did go up. However, even these increases were not granted by Moody's until they were meaningless. The Real Estate Credit Bonds which were outstanding were raised to an Aa rating in 1950, after the State's sinking fund to retire the bonds at maturity was equal to the face value of the bonds outstanding. The Viet Nam Conflict Veteran Bonus Bonds were raised to an Aaa rating two years after the legislature appropriated an amount for a bond sinking fund which was greater than the amount of the debt outstanding. Not many of the higher education revenue bonds were ever rated by Moody's but of those that were, the ratings were from A down to Baa.

The political subdivisions of the state also had difficulty selling their bonds and obtaining good bond ratings. The Bank of North Dakota in the 1919-1921 period had purchased its own bonds and some of the North Dakota Mill and Elevator Bonds so that these State Agencies could get started. The Bank, throughout its history, had assisted some of the political subdivisions of the state when they could not sell their bonds at acceptable interest rates. Therefore, in 1975, a North Dakota Municipal Bond Bank was created as a sub-unit of the Bank of North Dakota. Its purpose was to issue bonds in its own name and use the proceeds to purchase bonds issued by political subdivisions of the State of North Dakota. These bonds were not general obligations of the State. The municipal bonds they held were security for the bonds they issued.[82]

62. Moody's Municipals 1919 - 1980.

63. Gaston,

64. Robins, p. 365.

65. Wilkens and Wilkens, pp. 172-175.

66. Ibid, p. 177.

67. Crawford, p. 433.

68. Moody's Municipals

69. Wilkens and Wilkens, p. 176.

70. Moody's Municipals

71. Tweton and Jelliff, pp. 152-154.

72. Moody's Municipals, 1944-1947.

73. Moody's Municipals 1957.

74. Robinson, pp. 476-480.

75. Ibid, pp. 480-483.

76. Tweton and Jelliff, pp. 205-207.

77. Fish and Black, p. 178.

78. Tweton and Jelliff, p. 207.

79. Robinson, pp. 495-498.

80. Tweton and Jelliff, pp. 207-209.

81. Moody's Municipals, 1947 - 1980.

82. Moody's Municipals, 1919 - 1980.

STATISTICAL ANALYSIS

There are an infinite number of ways one could apply statistical analysis to a wide range of issues related to state government debt. The analysis presented here is limited to two types: 1) Schiffe's test of significance and 2) multiple correlation. The issues to be considered are the existence of regionalization of the amount of state government debt outstanding and of Moody's bond ratings of state government general obligation debt in the United States, North Central region, and the determinants of the amount of state government debt outstanding in the North Central region of states and North Dakota. The data used throughout the section is for the period 1930-1931, 1937-1982, and the sources are the Commerce Department's Financial Statistics of the States, which was later retitled Compendium of State Government Financing, and State Personal Income 1929-1982. For a few states the data for 1942 are not available because the same date was reported for both 1941 and 1942, and there is no state government data for 1932-1936, because it was not collected by the Commerce Department during these years of the depression.

Regionalization of Bond Ratings and Debt Outstanding:

In 1984 and 1985, two articles appeared in the Western Tax Review which show that there is and has been a definite geographical regionalization of state government general obligation bond ratings by Moody's and Standard and Poor's . The second of the two articles covers the period 1930-1978.[83] It shows that the regionalization of Moody's bond ratings took place during three years of the "Great Depression." The authors claim that the particular regionalization which developed was the result of the process used by Moody's. Southern states were reevaluated and ratings reduced in 1932, the Western and North Central states in 1933, and finally the Northeastern states in 1934. As each new group of states were reevaluated, some of the group previously reevaluated had their bond ratings reduced a second and, in some cases, a third time. The result was that in 1935, the Southern states had the lowest ratings and the Northeastern states had the highest ratings. In years after this reevaluation process ended, very few changes in bond ratings were made but in a few particular years related to economic events of the nation such as the end of World War II or in periods of higher inflation rates, Moody's again made a significant number of changes. These changes did not bring an end to the geographical regionalization of bond ratings. It only changed the ranking of the regions.

The first of the articles concentrated on the 1978-1983 period.[84] It demonstrated that bond rating regionalization existed in the period. The Southern states by the end of the period had the highest ratings and the Northeastern states had the lowest rating. During the period both the Northeastern and North Central states had bond rating reductions. It was suggested that the inflation of the 1970's and the recession of the early 1980's were related to the bond rating changes. It should be noted that due to the process of periodically making a large number of changes in one year, there is no year in which the Southern and Northeastern states had the same level of ratings.

Another study reported in 1984 in the Quarterly Review of Economics and Business showed that city bond ratings were regionally distributed.[85] Cities in the North Central states had the highest ratings and cities in the Northeastern states had the second highest ratings. Since the data used was for the mid-1970 period of time this regional ranking is not greatly different from that which existed for state government general obligation bonds.

Explanation of Scheffe's Test

The regionalization of the amount of debt outstanding is presented below. The Scheffe's test [86] of significance was applied to the mean amount of debt outstanding for each of four regions. Map 1 shows the regions and the means of the region. No statistical test was really necessary since the similarities and differences are obvious: The Southern, Western, and North Central regions are similar and the Northeastern region is different. The same test was made for significant differences in the means of Moody's Bond Ratings. Below are the results of both Scheffe's test.

Table 1

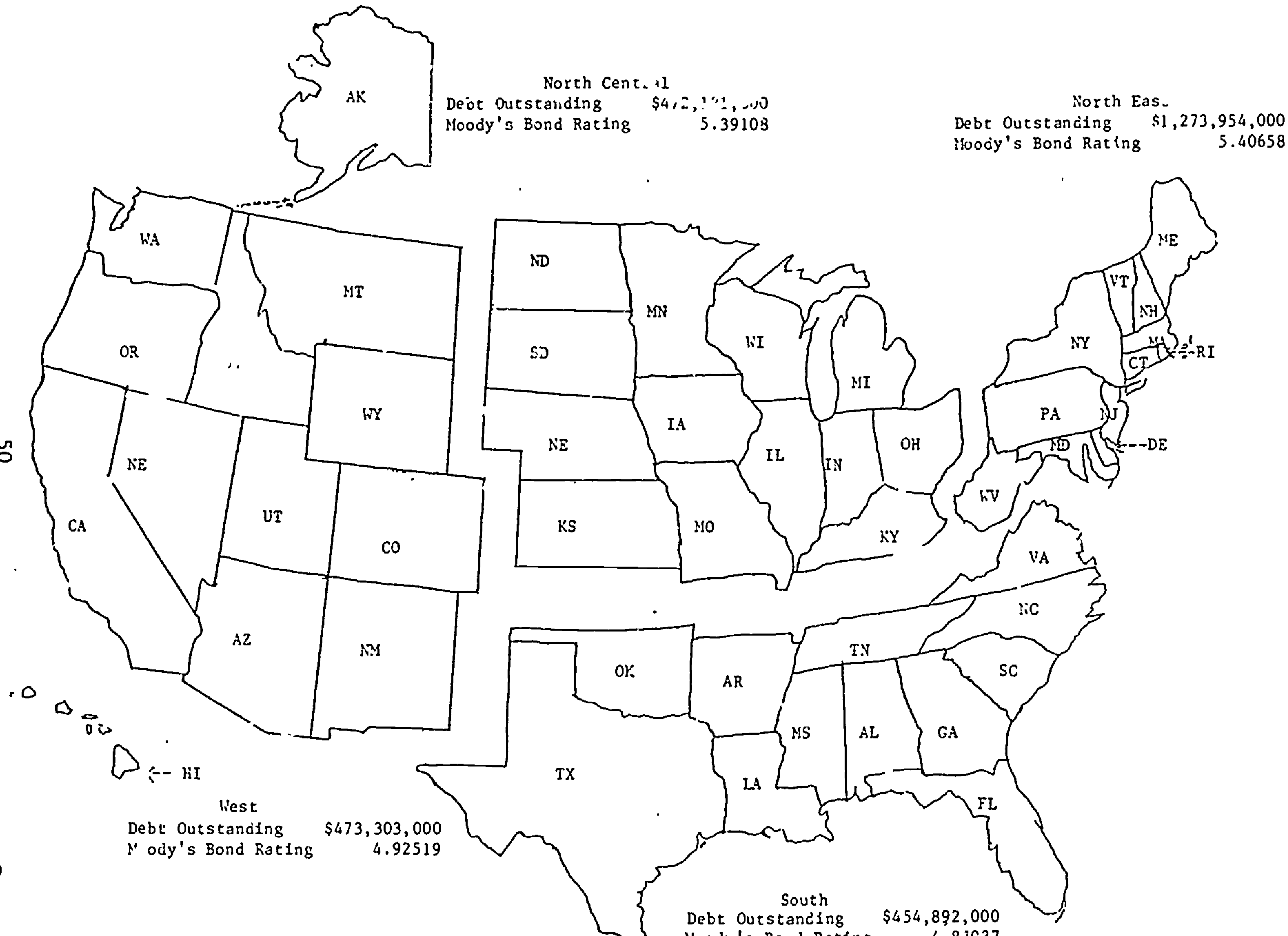
Scheffe's Test of Significant Difference in Means

	Debt Outstanding	Moody's Bond Rating
M4-M3	18,411,273	.054816
S Value	339,991.065	.177741
M4-M2	1,182,002	-.46588*
S Value	333,373.060	.186031
M4-M1	-800,650.605*	-.48139*
S Value	339,991.065	.169977
M3-M2	- 17,229.272	-.52070*
S Value	333,221.875	.180214
M3-M1	-819,061.878*	-.53621*
S Value	339,547.180	.163589
M2-M1	-801,822.606*	-.01550
S Value	333,221.875	.172561

Key:

Western Region	4
Southern Region	3
North Central Region	2
North Eastern Region	1

* Significant at .01 level.


North Cent al
Debt Outstanding
Moody's Bond Rating 5.39108
North Eas
Debt Outstanding $1,273,954,000
Moody's Bond Rating 5.40658
West
Debt Outstanding $473,303,000
ody's Bond Rating 4.92519
South
Debt Outstanding $454,892,000
Moody's Bond Rating 4,87C37
AK
WA
OR
MT
WY
CA
NE
UT
CO
AZ
NM
HI
ND
SD
NE
KS
MN
IA
MO
WI
IL
MI
IN
OH
KY
OK
TX
AR
LA
TN
MS
AL
GA
SC
NC
VA
WV
FL
PA
NY
VT
NH
ME
MA
RI
CT
NJ
MD
DE

Moody's bond ratings are significantly different for four of the six paired means of regions. The North East and North Central regions have significantly higher bond ratings than both the Western and Southern regions. As far as the amount of debt outstanding is concerned, the only differences that exist are between the Northeastern region and the rest of the United States. These results, however, are based on the average amount of debt outstanding and average bond ratings over the 47 year period used so that other differences might exist if shorter time periods were used. The industrial Northeast has had and continues to have more debt outstanding than the other regions of the United States while states of the other regions have tended to increase at different rates at different times. These differences among the Southern, Western, and North Central states average out to practically zero over the 47 year period.

Differences and Similarities Among Economic Variables Within the North Central Region: (See Appendix for all tables of data discussed in this section)

The North Central region is probably more diverse in many ways than any of the other regions of the United States. All of the states in the region started their history as predominately agricultural and all of the states still have a strong agricultural sector within the states. However, it is clear that some of the states have their economy dominated by the industrial sector while others are dominated by the agricultural sector. The same is also true of the political processes of the states, although the lists of states dominated by industrial and agricultural sectors are not the same in the two cases (economic and political). Also it is clear that over the period 1930-1982, the relative importance of industrial and agricultural sectors to the economies of the states has changed for most states in a relatively steady and predictable way while the political importance of the two sectors has changed back and forth during this period for most states. Given the above differences and unique features reported about the history of state government debt in North Dakota in earlier sections of this paper, one might expect to find many significant differences within the North Central region.

For this study, the Scheffe's test of significance was applied to the data for each of the 13 states which make up the North Central region. The difference between the mean of each state and every other state was tested for each of the following variables:

1. the amount of state government debt outstanding
2. the amount of interest expense paid by state government
3. the amount of debt outstanding per person in the state
4. the amount of interest expense per person in the state
5. the average rate of interest paid by state government on its debt outstanding
6. the amount of general revenue received by state government
7. the amount of general revenue received per person in the state
8. the amount of total personal income generated by persons in the state
9. the amount of population in the state
10. the times interest received ratio of the state government
11. the proportion of general revenue spent on interest
12. the ratio of debt outstanding to general revenue
13. the ratio of debt outstanding to total personal income

The greatest number of significant differences exist with the variable population. In fact, the states' populations are so different it is easier to understand the results of the analysis in terms of the combination of states which are not significantly different.

Illinois and Ohio are not significantly different from one another but are from all other states. The three states Indiana, Missouri, and Wisconsin are not significantly different om one another. The three states Kentucky, Minnesota, and Iowa are not significantly different from one another. There is a link between the two sets of states because Wisconsin and Kentucky are not significantly different from one another but Kentucky is significantly different from the other two states which are not significantly different from Wisconsin and Wisconsin is significantly different from the other two states that are not significantly different from Kentucky. A third group of states are not significantly different from one another (Nebraska, South Dakota, and North Dakota). Kansas lies between this group of three and the Kentucky, Minnesota, and Iowa group. Kansas is significantly different from Kentucky, Minnesota, South Dakota and North Dako ι, but is not significantly different from Iowa and Nebraska. Thus Kansas is not in either group but is a link between groups. There are 65 differences in means which are significant and only 13 which are not.

With the variable total personal income there are 25 differences in means which are significant. Illinois" total personal income is significantly greater than every state except Ohio and Michigan (10). Ohio's total personal income is significantly greater than all states except Illinois, Indiana, Michigan, and Missouri (8). Michigan's total personal income is significantly greater than all states except Illinois, Indiana, Minnesota, Missouri, and Ohio (7). In other words, all of the significant differences exist because three states, Illinois, Ohio, and Michigan have large total personal income relative to other states in the North Central region. Clearly, the reason lies in the dominance of the industrial sector in the economics of these states and the coexistence of high populations. The importance to state government debt is that total personal income of the state is the economic base from which taxes can be collected and used to repay debt and pay the interest cost of debt.

The difference between means of 15 states was significant for the variable amount of debt outstanding. Illinois accounts for 9 of these significant differences (all states except Kentucky, Michigan and Ohio). Ohio is responsible for the other 6 significant differences (all states except Illinois, Indiana, Kentucky, Michigan, Minnesota, and Wisconsin). Thus the two states with the greatest population and greatest total personal income account for all of the significant differences in debt outstanding. Both were not significantly different from the state with the third largest total personal income and Kentucky and Ohio were not significantly different from Indiana, Minnesota, and Wisconsin.

The debt to total personal income ratio is of interest because one state accounts for all of the significant differences in means. South Dakota, with a relatively low total personal income and relatively high amount of debt outstanding has a debt to total personal income ratio which is significantly greater than every state in the region. This suggests that South Dakota will have the greatest difficulty in the region meeting their debt obligations. Logically, taxes would have to take a greater part of the income generated in the state in order to repay their debt unless total personal income increases in the future before the debt is due.

General revenue is primarily tax collections and intergovernmental revenue. General revenue is generally closely related to total personal income of the state. Personal income is the primary source from which the state can collect taxes. Tourist oriented states of course attempt to obtain a higher percentage of their taxes from external sources but this is not a major factor in the North Central region. The result is that the pattern of significant differences for general revenue and total personal income are very similar. It is important to note that there are less significant differences with general revenue. This would result from lower income states taxing at a heavier rate, especially those just below the top personal income states which have significant building programs and high debt outstanding. In fact, there are only 9 significantly different means. Illinois accounts for 4, Michigan 4, and Ohio 1. Illinois' general revenue is significantly greater than Kansas, North Dakota, Nebraska, and South Dakota. Michigan's general revenue is significantly greater than the same states and Ohio's general revenue is significantly greater than South Dakota. The fact that general revenue is the direct source of states repaying their debt makes this variable very important. The small number of significant differences among the states in the region suggests that the state governments do compensate for differences in total personal income to be more like the other states of the region. Federal programs may also reduce differences among states since intergovernmental revenue is a component of general revenue.

Debt as a proportion of general revenue has eight state means which are significantly different. Three of these involve Iowa being significantly less than other states (Illinois, Kentucky, and South Dakota). Three involve Nebraska being significantly less than these same three states. The other two are Wisconsin being less than South Dakota and Illinois. Again considering that there are 78 paired means, the important fact is that there are only 8 paired means which are significant. Iowa and Nebraska are low debt relative to general revenue while South Dakota and Illinois are high in the region.

Illinois' high level of debt shows up even more in terms of the interest paid by the state government. There are only 6 paired means which are significantly different and every one of these involve Illinois being high relative to other states (Iowa, Kansas, Missouri, North Dakota, Nebraska, and South Dakota). Although there are clearly differences in interest expense among the states in the region, those differences are not significant at the .01 level.

Interest expense as a proportion of general revenue is a measure of the proportion of annual budget of a state government which has to be appropriated for the interest cost of the debt outstanding. There are only 5 means which are significantly different. Three of these involve Nebraska. Nebraska is significantly lower than Illinois, Kentucky, and South Dakota. South Dakota is significantly greater than Iowa and Wisconsin.

The amount of debt outstanding per person in the state (debt per capita) has only two means which are significantly different. Kentucky's means is significantly greater than both Missouri and Nebraska. The similarity of the states in the region is remarkable. Differences exist but when the debt data is adjusted for the population of the state, the remaining differences are not significant. The states in the region appear to have self imposed limits to their issuing of debt which make the debt per capita fit some regional norms.

The similarities in the region are seen as even more striking when one looks at interest expense per capita and general revenue per capita. There are no significant differences between the 78 paired means of the states in the region. To be significant at the .01 level, the difference between the means of interest expense per capita would have to be greater than $9.30 per person. The highest difference between state means is $8.79 per person. For general revenue per capita, the significant difference occurs at $366.70 and the greatest difference for the period is only $151.90.

There are also no significant differences between the means for the times interest-received ratio and the average interest rate paid on the amount of debt outstanding. The times interest-received ratio (general revenue divided by interest expense) is equivalent to the times interest-earned ratio used by financial analysts to evaluate private firm financial ability to pay their interest expense when due. The interest rate is not the current interest rate in the market or the market rate at any point in time. It is the average of the interest rates at which the state government issued the debt which is outstanding at a certain day each year. There are major differences between the 47 year means of these measures for each state in the North Central region but these differences are not significant based on the Scheffe's test at the .01 level.

There are no absolutes which can be interpreted from the foregoing statistical number of significant differences in population among the states in the North Central region. Industrial states have larger populations than the more agricultural economics. These same industrial highly populate states also account for all of the significant differences between the means of general revenue and debt outstanding. When the differences in population are taken into account by expressing general revenue and debt outstanding in per capita terms, the significant differences are virtually eliminated. One measure that brings out some non-economic variation is the debt as a percent of general revenue. Illinois, Kentucky, and South Dakota, stand out as high states. Only Illinois, is an industrial highly populated state. The low states are Nebraska, Iowa, and Wisconsin. In terms of economies, three different types of agriculture are represented by these three states and Wisconsin has a considerable industrial sector relative to the other two.

North Dakota in the North Central Region:

North Dakota's population is significantly less than every state except Nebraska and South Dakota. North Dakota's total personal income is significantly smaller than Illinois, Michigan, and Ohio. With respect to debt outstanding, North Dakota is only significantly lower than two states: Illinois and Ohio. With respect to general revenue, North Dakota is only significantly lower than Illinois and Michigan. Illinois is the only state with interest expense significantly greater than North Dakota. The summary statement about industrially dominated economies and agriculturally dominated economics made above, in terms of all states in the region is also apparent when looking specifically at North Dakota as a part of the region. Only one exception to the industrial-agricultural explanation stands out for differences in means of variables when looking at North Dakota: South Dakota has debt outstanding as a percent of total personal income significantly greater than North Dakota. The similarities even stand out more when looking at North Dakota as a part of the region and this is true despite the unique history of state debt creation reported earlier in this study. North Dakota's 47 year average of 7 economic variables out of the 13 tested showed no significant differences with the means of the other 12 states in the North Central region. In reading the history of North Dakota, it is obvious that her economic circumstances were different than many states in the region and her political response to these circumstances was unique even among states with similar circumstances. Despite these differences, based on statistical analysis, North Dakota does appear to be greatly different from other states in the region. There have been major differences in the political process that generates state government revenue and debt but on a per capita basis there are no significant differences.

Determinants of the Amount of State Debt Outstanding:

In a presentation at the Midwest Economic Association Meeting in March, 1986, Escarraz and Oldfield with simple correlation analysis showed that for most states and for each of four geographical regions the amount of debt outstanding was most closely related to general revenue. For this study multiple correlation[87] was used for the North Central region and North Dakota. The data again is for the period 1930-1932, 1937-1982. The results for the pooled data of the 13 states in the North Central region are presented below:

Table 2

Multiple Correlation - North Central States

Debt Outstanding

Regression Output:

Constant		-228971.		
Std Err of Y Est		313035.2	F Value	1172.766*
R Squared		0.883761	R	0.940086
No. of Observations		662		
Degrees of Freedom		617		
	rev2y*	i/d2y	i/p2y*	p2y*
X Coefficient(s)	0.293548	-138287.	31361.94	54.22102
Std Err of Coef.	0.010453	245556.2	2026.569	5.465860
F Values	788.5629	0.317149	239.4876	98.40523

*Significant at the .01 level

As in the simple correlation analysis, general revenue is the most significant determinant. However, interest expense per capita and population are also significant at the .01 level. The fit of the data is very good (significant at the .01 level) and explains 94 percent of the variation in the amount of debt outstanding. The three significant variables appear to be excellent predictors of the amount of state government debt in the North Central region without reference to any particular state.

The North Dakota data is for the same period of time as the North Central region and, in fact, was a part of that data. However, the same variables as the regional analysis do not yield the best fit for the North Dakota data. The variables which provide the best fit for all of the North Central region yield a coefficient of determination of 0.915751, and an F value of 55.85483, when just the North Dakota data is used. The best fit equation with the North Dakota data follows:

Table 3

Multiple Correlation - North Dakota

Debt Outstanding

Regression Output:

Constant		54585.31		
Std Err of Y Est		10897.78	F Value	333.7574*
R Squared		0.968796	R	0.984274
No. of Observations		48		
Degrees of Freedom		43		
	rev/p2y*	i/d2y	gr/i2y*	i/p2y*
X Coefficient(s)	36.95746	-1073618	-65.9783	9605.464
Std Err of Coef.	7.785193	175807.4	21.15345	682.7112
F Values	22.53541	37.29286	9.728372	197.9532

*Significant at the .01 level

The North Dakota equation is an even better fit than the North Central region equation. The F value is less but because of the smaller number of degrees of freedom is significant at a lower level. Interest per capita which was a significant variable in the regional equation, is the most significant variable in the North Dakota equation. The interest rate which was not significant in the regional equation is the second most significant variable in the North Dakota equation. Even more important, general revenue per capita replaces general revenue in the North Dakota equation because it adds more to R^2. The times interest-received ratio replaces population as a significant variable.

The amount of state government debt outstanding is explained by economic variables, no matter whether one looks at the North Central region equation or the North Dakota equation, but the economic variables involved in the explanation are different. North Dakota is part of the region and economic variables have been found to not be significantly different in terms of the means of the states in the region. But, in terms of the determinants of the amount of debt outstanding, North Dakota has different economic variables than the region as a whole and than most other states in the region.

Summary and Concluding Comments:

The states in the North Central region are very different in history and in their economic and political processes, but in per capita terms the differences in variables effected by the economic process and determined in the political process are not significant. In terms of these variables, it may be that state governments look to the behavior or neighboring states in determining their own behavior. It is not necessary to say that they copy other states in the region. A more reasonable statement would be that the behavior of neighboring (geographical and/or philosophical neighboring) states establish limits for some key variables: general revenue per capita and dept outstanding per capita. This would cause general revenue and debt outstanding and interest expense to be related. The precise relationship may, however, vary from state to state for a number of reasons.

83. Donald R. Escarraz and Kenneth Oldfield, "Regionalization of State General Obligation Bond Ratings," Western Tax Review, Winter, 1984.

84. Kenneth Oldfield and Donald R. Escarraz, "Recent Trends in the General Obligation Bond Market: 1978-1983," Western Tax Review, Spring 1985.

85. Quarterly Review of Economics and Business

86. H. Harrison Clarke and David H. Clarke, Advanced Statistics, Prentice-Hall, Inc., 1972, pp. 9-11, and Joseph F. Hair, Jr., Ralph E. Anderson, Ronald Tathem, and Bernice J. Grablowsky, Multivariate Data Analysis, Macmillan Publishing Co., 1984, pp. 131-

87. Jae-on Kim and Frank J. Kohout, "Multiple Regression Analysis: Subprogram Regression" in SPSS: Statistical Package for Social Sciences, 2nd Edition, McGraw-Hill Book Co., 1975, pp. 320-342 and William L. Hays, Statistics: For the Social Sciences, Holt, Rinehart and Winston, Inc., 1973, pp. 411-433.

APPENDIX

Population North Central States

		s Value	
m2-m1	7032.7708	919.9942	*
m3-m1	1792.1042	919.9942	*
m4-m1	-600.1458	919.9942	
m5-m1	386.3125	919.9942	
m6-m1	4702.2500	919.9942	*
m7-m1	639.9375	919.9942	
m8-m1	1587.3568	924.9806	*
m9-m1	-2060.0000	919.9942	*
m10-m1	-1275.9375	919.9942	*
m11-m1	6460.9313	924.9806	*
m12-m1	-2023.7708	919.9942	*
m13-m1	1162.7083	919.9942	*
m3-m2	-5240.66[illegible]7	91[illegible].9942	*
m4-m2	-7632.9167	919.9942	*
m5-m2	-6646.4583	919.9942	*
m6-m2	-2330.5208	919.9942	*
m7-m2	-6392.9333	919.9942	*
m8-m2	-5445.4140	924.9806	*
m9-m2	-9092.7708	919.9942	*
m10-m2	-8308.7083	919.9942	*
m11-m2	-571.8395	924.9806	*
m12-m2	-9056.5417	919.9942	*
m13-m2	-5870.0625	919.994[illegible]	*
m4-m3	-2392.2500	919.9942	*
m5-m3	-1405.7917	919.9942	*
m6-m3	2910.1458	919.9942	*
m7-m3	-1152.1667	919.9942	*
m8-m3	-204.7473	924.9806	
m9-m3	-3852.1042	919.9942	*
m10-m3	-3068.0417	919.9942	*
m11-m3	4668.8271	924.9806	*
m12-m3	-3815.8750	919.9942	*
m13-m3	-629.3958	919.9942	
m5-m4	986.4583	919.9942	*
m6-m4	5302.3958	919.9942	*
m7-m4	1240.0833	919.9942	*
m8-m4	2187.5027	924.9806	*
m9-m4	-1459.8542	919.9942	*
m10-m4	-675.7917	919.9942	
m11-m4	7061.0771	924.9806	*
m[illegible] m4	-1423.6250	919.9942	*
m13-m4	1762.8542	919.9942	*
m6-m5	4315.9375	919.9942	*
m7-m5	253.6250	919.9942	
m8-m5	1201.0443	924.9806	*
m9-m5	-2446.3125	919.9942	*
m10-m5	-1662.2500	919.9942	*
m11-m5	6074.6188	924.9806	*
m12-m5	-2410.0833	919.9942	*
m13-m5	776.3958	919.9942	
m7-m6	-4062.3125	919.9942	*
m8-m6	-3114.8932	924.9806	*
m9-m6	-6762.2500	919.9942	*
m10-m6	-5978.1875	919.9942	*
m11-m6	1758.6813	924.9806	*
m12-m6	-6726.0208	919.9942	*
m13-m6	-3539.5417	919.9942	*
m8-m7	947.4193	924.9806	*
m9-m7	-2699.9375	919.9942	*
m10-m7	-1915.8750	919.9942	*
m11-m7	5820.9936	924.9806	*
m12-m7	-2663.7083	919.9942	*
m13-m7	522.7708	919.9942	
m9-m8	-3647.3568	924.9806	*
m10-m8	-2863.2943	924.9806	*
m11-m8	4873.5[illegible]5	[illegible]9.9403	*
m12-m8	-3611.1[illegible]7	9[illegible]4.9806	*
m13-m8	-424.6485	9[illegible]4.9806	
m[illegible]-m9	784.0625	9[illegible]9.9942	
m11-m9	8520.9313	924.9806	*
m12-m9	36.2292	919.9942	
m13-m9	3222.7083	919.9942	*
m11-m10	7736.8688	924.9806	*
m12-m10	-747.8333	919.9942	
m13-m10	2438.6458	919.9942	*
m12-m11	-8484.7021	924.9806	*
m13-m11	-[illegible]98.2230	924.9806	*
m13-m12	3186.4792	919.9942	*

KEY

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* Significant at .01

Total Personal Income North Central States

		s Value	
m2-m1	29663620	19184310	*
m3-m1	6603782	19184310	
m4-m1	-1580914	19184310	
m5-m1	-484673	19184310	
m6-m1	19265987	19184310	*
m7-m1	2829037	19184310	
m8-m1	5141533	19288290	
m9-m1	-3744451	19184310	
m10-m1	-4091371	19184310	
m11-m1	24086315	19288290	*
m12-m1	-8323196	19184310	
m13-m1	-7156944	19184310	
m3-m2	-23060038	19184310	*
m4-m2	-31244734	19184310	*
m5-m2	-30148493	19184310	*
m6-m2	-10397833	19184310	
m7-m2	-26834784	19184310	*
m8-m2	-24522287	19288290	*
m9-m2	-36408271	19184310	*
m10-m2	-33755191	19184310	*
m11-m2	-5577505	19288290	
m12-m2	-37987016	19184310	*
m13-m2	-36820765	19184310	*
m4-m3	-8184696	19184310	
m5-m3	-7088455	19184310	
m6-m3	12662205	19184310	
m7-m3	-3774745	19184310	
m8-m3	-1462249	19288290	
m9-m3	-13348233	19184310	
m10-m3	-10[illegible]5153	19184310	
m11-m3	17482533	19288290	
m12-m3	-14926978	19184310	
m13-m3	-13760726	19184310	
m5-m4	1096241	19184310	
m6-m4	20846901	19184310	*
m7-m4	4409951	19184310	
m8-m4	6722447	19288290	
m9-m4	-5163537	19184310	
m10-m4	-2510457	19184310	
m11-m4	25667229	19288290	*
m12-m4	-6742282	19184310	
m13-m4	-5576030	19184310	
m6-m5	19750661	19184310	*
m7-m5	3313710	19184310	
m8-m5	5626206	19288290	
m9-m5	-6259778	19184310	
m10-m5	-3606698	19184310	
m11-m5	24[illegible]70989	19288290	*
m12-m5	-7838523	19184310	
m13-m5	-6672271	19184310	
m7-m6	-16436951	19184310	
m8-m6	-14124455	19288290	
m9-m6	-26010438	19184310	*
m10-m6	-23357358	19184310	*
m11-m6	4820328	19288290	
m12-m6	-27589183	19184310	*
m13-m6	-26422932	19184310	*
m8-m7	2312496	19288290	
m9-m7	-9573488	19184310	
m10-m7	-6920407	19184310	
m11-m7	21257279	19288290	*
m12-m7	-11152232	19184310	
m13-m7	-9985981	19184310	
m9-m8	-11885984	19288290	
m10-m8	-9232904	19288290	
m11-m8	18944783	19391714	
m12-m8	-13464728	19288290	
m13-m8	-12298477	19288290	
m10-m9	2653080	19184310	
m11-m9	30830766	19288290	*
m12-m9	-1578745	19184310	
m13-m9	-412493	19184310	
m11-m10	28177686	19288290	*
m12-m10	-4231825	19184310	
m13-m10	-3065574	19184310	
m12-m11	-32409511	19288290	*
m13-m11	-31243260	19288290	*
m13-m12	1156251	19184310	

KEY

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Il.	2
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* Significant at .01

Debt Outstanding North Central States

		s Value	
m2-m1	1362863.8	931768.4	*
m3-m1	247496.7	931768.4	
m4-m1	79852.7	931768.4	
m5-m1	666089.6	931768.4	
m6-m1	798614.0	931768.4	
m7-m1	380742.1	931768.4	
m8-m1	132828.6	936818.6	
m9-m1	-33603.0	931768.4	
m10-m1	-42925.4	931768.4	
m11-m1	1096553.1	936818.6	*
m12-m1	11418.0	931768.4	
m13-m1	386566.6	931768.4	
m3-m2	-1115367.1	931768.4	*
m4-m2	-1283011.1	931768.4	*
m5-m2	-696774.2	931768.4	
m6-m2	-564249.8	931768.4	
m7-m2	-982121.8	931768.4	*
m8-m2	-1230035.2	936818.6	*
m9-m2	-1396466.8	931768.4	*
m10-m2	-1405789.3	931768.4	*
m11-m2	-266310.7	936818.6	
m12-m2	-1351445.8	931768.4	*
m13-m2	-976297.3	931768.4	*
m4-m3	-167644.0	931768.4	
m5-m3	418593.0	931768.4	
m6-m3	551117.4	931768.4	
m7-m3	133245.4	931768.4	
m8-m3	-114669.0	936818.6	
m9-m3	-281099.7	931768.4	
m10-m3	-290422.1	931768.4	
m11-m3	849056.5	936818.6	
m12-m3	-236078.7	931768.4	
m13-m3	139069.9	931768.4	
m5-m4	586236.9	931768.4	
m6-m4	718761.3	931768.4	
m7-m4	300889.4	931768.4	
m8-m4	52975.9	936818.6	
m9-m4	-113455.7	931768.4	
m10-m4	-122778.1	931768.4	
m11-m4	1016700.4	936818.6	*
m12-m4	-68434.7	931768.4	
m13-m4	306713.9	931768.4	
m6-m5	132524.4	931768.4	
m7-m5	-285347.6	931768.4	
m8-m5	-533261.0	936818.6	
m9-m5	-699692.7	931768.4	
m10-m5	-709015.1	931768.4	
m11-m5	430463.5	936818.6	
m12-m5	-654671.7	931768.4	
m13-m5	-279523.1	931768.4	
m7-m6	-417872.0	931768.4	
m8-m6	-665785.4	936818.6	
m9-m6	-832217.0	931768.4	
m10-m6	-841539.5	931768.4	
m11-m6	297939.1	936818.6	
m12-m6	-787196.0	931768.4	
m13-m6	-412047.5	931768.4	
m8-m7	-247913.4	936818.6	
m9-m7	-414345.1	931768.4	
m10-m7	-423667.5	931768.4	
m11-m7	715811.1	936818.6	
m12-m7	-369324.1	931768.4	
m13-m7	5824.5	931768.4	
m9-m8	-166431.7	936818.6	
m10-m8	-175754.1	936818.6	
m11-m8	963724.5	941841.8	*
m12-m8	-121410.7	936818.6	
m13-m8	253737.9	936818.6	
m10-m9	-9322.4	931768.4	
m11-m9	1130156.2	936818.6	*
m12-m9	45021.0	931768.4	
m13-m9	420169.6	931768.4	
m11-m10	1139478.6	936818.6	*
m12-m10	54343.4	931768.4	
m13-m10	429492.0	931768.4	
m12-m11	-1085135.2	936818.6	*
m13-m11	-709986.6	936818.6	
m13-m12	375148.6	931768.4	

KEY

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* Significant at .01

Debt as a % of Total Personal Income

North Central States

		s Value	
m2-m1	0.022955	0.278737	
m3-m1	0.011723	0.278737	
m4-m1	0.016061	0.278737	
m5-m1	0.050213	0.278737	
m6-m1	0.021560	0.278737	
m7-m1	0.029212	0.278737	
m8-m1	0.010417	0.280248	
m9-m1	0.035688	0.278737	
m10-m1	-0.001967	0.278737	
m11-m1	0.018067	0.280248	
m12-m1	0.366093	0.278737	*
m13-m1	0.271454	0.278737	
m3-m2	-0.011231	0.278737	
m4-m2	-0.006894	0.278737	
m5-m2	0.027258	0.278737	
m6-m2	-0.001395	0.278737	
m7-m2	0.006257	0.278737	
m8-m2	-0.012538	0.280248	
m9-m2	0.012733	0.278737	
m10-m2	-0.024922	0.278737	
m11-m2	-0.004888	0.280248	
m12-m2	0.343138	0.278737	*
m13-m2	0.248499	0.278737	
m4-m3	0.004337	0.278737	
m5-m3	0.038490	0.278737	
m6-m3	0.009837	0.278737	
m7-m3	0.017489	0.278737	
m8-m3	-0.001306	0.280248	
m9-m3	0.023965	0.278737	
m10-m3	-0.013691	0.278737	
m11-m3	0.006344	0.280248	
m12-m3	0.354370	0.278737	*
m13-m3	0.259730	0.278737	
m5-m4	0.034152	0.278737	
m6-m4	0.005499	0.278737	
m7-m4	0.013151	0.278737	
m8-m4	-0.005644	0.280248	
m9-m4	0.019627	0.278737	
m10-m4	-0.018028	0.278737	
m11-m4	0.002006	0.280248	
m12-m4	0.350032	0.278737	*
m13-m4	0.255393	0.278737	
m6-m5	-0.028653	0.278737	
m7-m5	-0.021001	0.278737	
m8-m5	-0.039796	0.280248	
m9-m5	-0.014525	0.278737	
m10-m5	-0.052180	0.278737	
m11-m5	-0.032146	0.280248	
m12-m5	0.315880	0.278737	*
m13-m5	0.221241	0.278737	
m7-m6	0.007652	0.278737	
m8-m6	-0.011143	0.280248	
m9-m6	0.014128	0.278737	
m10-m6	-0.023527	0.278737	
m11-m6	-0.003493	0.280248	
m12-m6	0.344533	0.278737	*
m13-m6	0.249894	0.278737	
m8-m7	-0.018795	0.280248	
m9-m7	0.006476	0.278737	
m10-m7	-0.031179	0.278737	
m11-m7	-0.011145	0.280248	
m12-m7	0.336881	0.278737	*
m13-m7	0.242242	0.278737	
m9-m8	0.025271	0.280248	
m10-m8	-0.012384	0.280248	
m11-m8	0.007650	0.281751	
m12-m8	0.355676	0.280248	*
m13-m8	0.261037	0.280248	
m10-m9	-0.037655	0.278737	
m11-m9	-0.017621	0.280248	
m12-m9	0.330405	0.278737	*
m13-m9	0.235766	0.278737	
m11-m10	0.020034	0.280248	
m12-m10	0.368062	0.278737	*
m13-m10	0.273421	0.278737	
m12-m11	0.348026	0.280248	*
m13-m11	0.253387	0.280248	
m13-m12	-0.094639	0.278737	

KEY

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Il.	2
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* Significant at .01

General Revenue North Central States

		s Value	
m2-m1	2006959	2064985	
m3-m1	421770	2054985	
m4-m1	-199295	2064985	
m5-m1	[illegible]	2054985	
m6-m1	1906639	2064985	
m7-m1	533579	2064985	
m8-m1	226054	2076177	
m9-m1	-536507	2064985	
m10-m1	-420888	2064985	
m11-m1	1494013	2076177	
m12-m1	-585288	2064985	
m13-m1	641768	2064985	
m3-m2	-1585189	2064985	
m4-m2	-2206254	2064985	*
m5-m2	-1866672	2064985	
m6-m2	-98319	2064985	
m7-m2	-1473380	2064985	
m8-m2	-1780905	2076177	
m9-m2	-2543466	2064985	*
m10-m2	-2427846	2064985	*
m11-m2	-512946	2076177	
m12-m2	-2592247	2064985	*
m13-m2	-1365191	2064985	
m4-m3	-621066	2064985	
m5-m3	-281484	2064985	
m6-m3	1486869	2064985	
m7-m3	111809	2064985	
m8-m3	-195716	2076177	
m9-m3	-958277	2064985	
m10-m3	-842658	2064985	
m11-m3	1072242	2076177	
m12-m3	-1007059	2064985	
m13-m3	219997	2064985	
m5-m4	339582	2064985	
m6-m4	2107935	2064985	*
m7-m4	732875	2064985	
m8-m4	425350	2076177	
m9-m4	-337212	2064985	
m10-m4	-221592	2064985	
m11-m4	1693308	2076177	
m12-m4	-385993	2064985	
m13-m4	841063	2064985	
m6-m5	1768353	2064985	
m7-m5	393293	2064985	
m8-m5	85768	2076177	
m9-m5	-676794	2064985	
m10-m5	-561174	2064985	
m11-m5	1353726	2076177	
m12-m5	-725575	2064985	
m13-m5	501481	2064985	
m7-m6	-1375060	2064985	
m8-m6	-1682585	2076177	
m9-m6	-2445147	2064985	*
m10-m6	-2329527	2064985	*
m11-m6	-414627	2076177	
m12-m6	-2493928	2064985	*
m13-m6	-1266872	2064985	
m8-m7	-307525	2076177	
m9-m7	-1070086	2064985	
m10-m7	-954467	2064985	
m11-m7	960433	2076177	
m12-m7	-1118868	2064985	
m13-m7	108188	2064985	
m9-m8	-762561	2076177	
m10-m8	-646942	2076177	
m11-m8	1267958	2087310	
m12-m8	-811343	2076177	
m13-m8	415713	2076177	
m10-m9	115620	2064985	
m11-m9	2030520	2076177	
m12-m9	-48781	2064985	
m13-m9	1178275	2064985	
m11-m10	1914900	2076177	
m12-m10	-[illegible]4401	2064985	
m13-m10	1062655	2064985	
m12-m11	-2079301	2076177	*
m13-m11	-852245	2076177	
m13-m12	1227056	2064985	

KEY

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* Significant at .01

Debt Outstanding as a % of General Revenue North Central States

		s Value	
m2-m1	0.52667	0.40662	*
m3-m1	0.19844	0.40662	
m4-m1	0.23750	0.40662	
m5-m1	0.43890	0.40662	*
m6-m1	0.30524	0.40662	
m7-m1	0.33332	0.40662	
m8-m1	0.25018	0.40882	
m9-m1	0.35905	0.40662	
m10-m1	-0.02434	0.40662	
m11-m1	0.32855	0.40892	
m12-m1	0.54152	0.40662	*
m13-m1	0.05780	0.40662	
m3-m2	-0.32823	0.40662	
m4-m2	-0.28918	0.40662	
m5-m2	-0.08778	0.40662	
m6-m2	-0.22144	0.40662	
m7-m2	-0.19335	0.40662	
m8-m2	-0.27650	0.40882	
m9-m2	-0.16752	0.40662	
m10-m2	-0.55101	0.40662	*
m11-m2	-0.19812	0.40882	
m12-m2	0.01485	0.40662	
m13-m2	-0.46888	0.40662	*
m4-m3	0.03905	0.40662	
m5-m3	0.24045	0.40662	
m6-m3	0.10679	0.40662	
m7-m3	0.13488	0.40662	
m8-m3	0.05173	0.40682	
m9-m3	0.16061	0.40662	
m10-m3	-0.22278	0.40662	
m11-m3	0.13011	0.40882	
m12-m3	0.34308	0.40662	
m13-m3	-0.14065	0.40662	
m5-m4	0.20140	0.40662	
m6-m4	0.06774	0.40662	
m7-m4	0.09582	0.40662	
m8-m4	0.01268	0.40892	
m9-m4	0.12156	0.40662	
m10-m4	-0.26184	0.40662	
m11-m4	0.09105	0.40882	
m12-m4	0.30402	0.40662	
m13-m4	-0.17970	0.40662	
m6-m5	-0.13366	0.40662	
m7-m5	-0.10558	0.[illegible]562	
m8-m5	-0.18872	0.[illegible]882	
m9-m5	-0.07984	0.40662	
m10-m5	-0.46324	0.40662	*
m11-m5	-0.11035	0.40882	
m12-m5	0.10262	0.40662	
m13-m5	-0.38110	0.40662	
m7-m6	0.02909	0.4[illegible]62	
m8-m6	-0.05506	0.40882	
m9-m6	0.05382	0.40662	
m10-m6	-0.32957	0.40662	
m11-m6	0.02331	0.40892	
m12-m6	0.23629	0.40662	
m13-m6	-0.24744	0.40662	
m8-m7	-0.08315	0.40882	
m9-m7	0.02573	0.40662	
m10-m7	-0.35766	0.40662	
m11-m7	-0.00477	0.40882	
m12-m7	0.20820	0.40662	
m13-m7	-0.27552	0.40662	
m9-m8	0.10888	0.40882	
m10-m8	-0.27451	0.40883	
m11-m8	0.07839	0.41102	
m12-m8	0.29135	0.40982	
m13-m8	-0.19238	0.40882	
m10-m9	-0.38339	0.40662	
m11-m9	-0.03050	0.40882	
m12-m9	0.18247	0.40662	
m13-m9	-0.30126	0.40662	
m11-m10	0.35289	0.40882	
m12-m10	0.56596	0.40662	*
m13-m10	0.09214	0.40662	
m12-m11	0.21297	0.40882	
m13-m11	-0.27075	0.40982	
m13-m12	-0.48372	0.40662	*

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Interest Expense North Central States

		s Value	
m2-m1	62809.52	53726.29	*
m3-m1	9244.90	53726.29	
m4-m1	2760.10	53726.29	
m5-m1	30962.71	53726.29	
m6-m1	37000.52	53726.29	
m7-m1	17584.54	53726.29	
m8-m1	6690.05	54017.49	
m9-m1	-1403.52	53726.29	
m10-m1	-1710.19	53726.29	
m11-m1	49268.84	54017.49	
m12-m1	1199.73	53726.29	
m13-m1	18056.44	53726.29	
m3-m2	-53564.63	53726.29	
m4-m2	-60049.42	53726.29	*
m5-m2	-31346.81	53726.29	
m6-m2	-25809.00	53726.29	
m7-m2	-45224.98	53726.29	
m8-m2	-56119.47	54017.49	*
m9-m2	-64213.04	53726.29	*
m10-m2	-64519.71	53726.29	*
m11-m2	-13540.68	54017.49	
m12-m2	-61609.79	53726.29	*
m13-m2	-44753.08	53726.29	
m4-m3	-6484.79	53726.29	
m5-m3	21717.81	53726.29	
m6-m3	27755.63	53726.29	
m7-m3	8339.65	53726.29	
m8-m3	-2554.85	54017.49	
m9-m3	-10648.42	53726.29	
m10-m3	-10955.08	53726.29	
m11-m3	40023.94	54017.49	
m12-m3	-8045.17	53726.29	
m13-m3	8811.54	53726.29	
m5-m4	28202.60	53726.29	
m6-m4	34240.42	53726.29	
m7-m4	14824.44	53726.29	
m8-m4	3923.94	54017.49	
m9-m4	-4163.63	53726.29	
m10-m4	-4470.29	53726.29	
m11-m4	46508.73	54017.49	
m12-m4	-1560.38	53726.29	
m13-m4	15296.33	53726.29	
m6-m5	6037.81	53726.29	
m7-m5	-13378.17	53726.29	
m8-m5	-24272.66	54017.49	
m9-m5	-32366.23	53726.29	
m10-m5	-32672.90	53726.29	
m11-m5	18306.13	54017.49	
m12-m5	-29762.98	53726.29	
m13-m5	-12906.27	53726.29	
m7-m6	-19415.98	53726.29	
m8-m6	-30310.47	54017.49	
m9-m6	-38404.04	53726.29	
m10-m6	-38710.71	53726.29	
m11-m6	12268.32	54017.49	
m12-m6	-35800.79	53726.29	
m13-m6	-18944.08	53726.29	
m8-m7	-10894.49	54017.49	
m9-m7	-18988.06	53726.29	
m10-m7	-19294.73	53726.29	
m11-m7	31684.29	54017.49	
m12-m7	-16384.81	53726.29	
m13-m7	471.90	53726.29	
m9-m8	-8093.57	54017.49	
m10-m8	-8400.24	54017.49	
m11-m8	42578.79	54307 13	
m12-m8	-5490.32	54017.49	
m13-m8	11366.39	54017.49	
m10-m9	-306.67	53726.29	
m11-m9	50672.36	54017.49	
m12-m9	2603.25	53726.29	
m13-m9	19459.96	53726.29	
m11-m10	50979.02	54017.49	
m12-m10	2909.92	53726.29	
m13-m10	19766.63	53726.29	
m12-m11	-48069.11	54017.49	
m13-m11	-31212.40	54017.49	
m13-m12	16856.71	53726.29	

KEY

Ia.	1
Il.	2
In.	3
Ks.	4
Ky.	5
Mi.	6
Mn.	7
Mo.	8
ND.	9
Ne.	10
Oh.	11
SD.	12
Wi.	13

* Significant at .01

Interest Expense as a % of General Revenue North Central States

		s Value	
m2-m1	0.018504	0.019063	
m3-m1	0.006395	0.019063	
m4-m1	0.009099	0.019063	
m5-m1	0.018647	0.019063	
m6-m1	0.010692	0.019063	
m7-m1	0.013041	0.019063	
m8-m1	0.010723	0.019167	
m9-m1	0.015529	0.019063	
m10-m1	-0.000638	0.019063	
m11-m1	0.011540	0.019167	
m12-m1	0.025114	0.019063	*
m13-m1	0.003025	0.019063	
m3-m2	-0.012109	0.019063	
m4-m2	-0.009405	0.019063	
m5-m2	0.000143	0.019063	
m6-m2	-0.007812	0.019063	
m7-m2	-0.005463	0.019063	
m8-m2	-0.007780	0.019167	
m9-m2	-0.002975	0.019063	
m10-m2	-0.019142	0.019063	*
m11-m2	-0.006964	0.019167	
m12-m2	0.006611	0.019063	
m13-m2	-0.015478	0.019063	
m4-m3	0.002704	0.019063	
m5-m3	0.012252	0.019063	
m6-m3	0.004297	0.019063	
m7-m3	0.006646	0.019063	
m8-m3	0.004328	0.019167	
m9-m3	0.009134	0.019063	
m10-m3	-0.007033	0.019063	
m11-m3	0.005145	0.019167	
m12-m3	0.018719	0.019063	
m13-m3	-0.003370	0.019063	
m5-m4	0.009548	0.019063	
m6-m4	0.001593	0.019063	
m7-m4	0.003942	0.019063	
m8-m4	0.001625	0.019167	
m9-m4	0.006430	0.019063	
m10-m4	-0.009737	0.019063	
m11-m4	0.002441	0.019167	
m12-m4	0.016016	0.019063	
m13-m4	-0.006073	0.019063	
m6-m5	-0.007955	0.019063	
m7-m5	-0.005606	0.019063	
m8-m5	-0.007924	0.019167	
m9-m5	-0.003118	0.019063	
m10-m5	-0.019285	0.019063	*
m11-m5	-0.007107	0.019157	
m12-m5	0.006467	0.019063	
m13-m5	-0.015622	0.019063	
m7-m6	0.002349	0.019063	
m8-m6	0.000031	0.019167	
m9-m6	0.004837	0.019063	
m10-m6	-0.011330	0.019063	
m11-m6	0.000848	0.019167	
m12-m6	0.014422	0.019063	
m13-m6	-0.007667	0.019063	
m8-m7	-0.002317	0.019167	
m9-m7	0.002488	0.019063	
m10-m7	-0.013679	0.019063	
m11-m7	-0.001501	0.019167	
m12-m7	0.012074	0.019063	
m13-m7	-0.010015	0.019063	
m9-m8	0.004806	0.019167	
m10-m8	-0.011361	0.019167	
m11-m8	0.000817	0.019271	
m12-m8	0.014391	0.019167	
m13-m8	-0.007698	0.019157	
m10-m9	-0.016167	0.019063	
m11-m9	-0.003989	0.019167	
m12-m9	0.009585	0.019063	
m13-m9	-0.012504	0.019063	
m11-m10	0.012178	0.019167	
m12-m10	0.025752	0.019063	*
m13-m10	0.003665	0.019063	
m12-m11	0.013575	0.019167	
m13-m11	-0.009514	0.019167	
m13-m12	-0.022089	0.019063	*

KEY

Ia.	1
Il.	2
In.	3
Ks.	4
Ky.	5
Mi.	6
Mn.	7
Mo.	8
ND.	9
Ne.	10
Oh.	11
SD.	12
Wi.	13

* Significant at .01

Debt Outstanding per capita

North Central States

		s Value	
m2-m1	103.8403	167.5308	
m3-m1	36.2131	167.5308	
m4-m1	43.2505	167.5308	
m5-m1	188.9525	167.5308	*
m6-m1	74.7565	167.5308	
m7-m1	92.9499	167.5308	
m8-m1	17.5509	168.4388	
m9-m1	46.5265	167.5308	
m10-m1	-3.3953	167.5308	
m11-m1	83.9079	168.4388	
m12-m1	108.0250	167.5308	
m13-m1	73.3870	167.5308	
m3-m2	-67.6272	167.5308	
m4-m2	-60.5898	167.5308	
m5-m2	85.1121	167.5308	
m6-m2	-29.0838	167.5308	
m7-m2	-10.8904	167.5308	
m8-m2	-86.2894	168.4388	
m9-m2	-57.3138	167.5308	
m10-m2	-107.2357	167.5308	
m11-m2	-19.9325	168.4388	
m12-m2	4.1846	167.5308	
m13-m2	-30.4533	167.5308	
m4-m3	7.0374	167.5308	
m5-m3	152.7394	167.5308	
m6-m3	38.5434	167.5308	
m7-m3	56.7368	167.5308	
m8-m3	-18.6622	168.4388	
m9-m3	10.3134	167.5308	
m10-m3	-39.6085	167.5308	
m11-m3	47.6948	168.[illegible]388	
m12-m3	71.8119	167.5308	
m13-m3	37.1739	167.5308	
m5-m4	145.7020	167.5308	
m6-m4	31.5060	167.5308	
m7-m4	49.6994	167.5308	
m8-m4	-25.[illegible]96	168.4388	
m9-m4	3.2760	167.5308	
m10-m4	-46.6458	167.5308	
m11-m4	40.6574	168.4388	
m12-m4	64.7745	167.5308	
m13-m4	30.1365	167.5308	
m6-m5	-114.1959	167.5308	
m7-m5	-96.0026	167.5308	
m8-m5	-171.4015	168.4388	*
m9-m5	-142.4260	167.5308	
m10-m5	-192.3478	167.5308	*
m11-m5	-105.0446	168.4388	
m12-m5	-80.9275	167.5308	
m13-m5	-115.5654	167.5308	
m7-m6	18.1934	167.5308	
m8-m6	-57.2056	168.4388	
m9-m6	-28.2300	167.5308	
m10-m6	-78.1519	167.5308	
m11-m6	9.1513	168.4388	
m12-m6	33.2685	167.5308	
m13-m6	-1.3695	167.5308	
m8-m7	-75.3990	168.4388	
m9-m7	-46.4234	167.5308	
m10-m7	-96.3452	167.5308	
m11-m7	-9.0420	168.4388	
m12-m7	15.0751	167.5308	
m13-m7	-19.5629	167.5308	
m9-m8	28.5756	168.4388	
m10-m8	-20.9463	168.4388	
m11-m8	66.3570	169.3421	
m12-m8	90.4741	168.4388	
m13-m8	55.8361	168.4388	
m10-m9	-49.9218	167.5308	
m11-m9	37.3814	168.[illegible]89	
m12-m9	61.4985	167.5308	
m13-m9	26.8605	167.5308	
m11-m10	87.3032	168.4388	
m12-m10	111.[illegible]	167.5308	
m13-m10	76.7[illegible]24	167.5308	
m12-m11	24.1171	168.4388	
m13-m11	-10.5209	168.4388	
m13-m12	-34.6390	167.5308	

KEY

Ia.	1
Il.	2
In.	3
Ks.	4
Ky.	5
Mi.	6
Mn.	7
Mo.	8
ND.	9
Ne.	10
Oh.	11
SD.	12
Wi.	13

* Significant at .01

General Revenue per capita North Central Stat

		s Value
m2-m1	-19.7947	366.6369
m3-m1	-40.5484	366.6369
m4-m1	-18.5947	366.6369
m5-m1	-5.3088	366.6369
m6-m1	36.1951	366.6369
m7-m1	69.0435	366.6369
m8-m1	-58.8180	368.6241
m9-m1	98.3661	366.6369
m10-m1	-39.3620	366.6369
m11-m1	-53.5290	368.6241
m12-m1	5.5180	366.6369
m13-m1	46.5341	366.6369
m3-m2	-20.7538	366.6369
m4-m2	1.2000	366.6369
m5-m2	14.4859	366.6369
m6-m2	55.9898	366.6369
m7-m2	88.8382	366.6369
m8-m2	-39.0234	368.6241
m9-m2	118.1608	366.6369
m10-m2	-19.5674	366.6369
m11-m2	-33.7343	368.6241
m12-m2	25.3127	366.6369
m13-m2	66.3288	366.6369
m4-m3	21.9537	366.6369
m5-m3	35.2397	366.6369
m6-m3	76.7435	366.6369
m7-m3	109.5920	366.6369
m8-m3	-18.2696	368.6241
m9-m3	138.9146	366.6369
m10-m3	1.1864	366.6369
m11-m3	-12.9806	368.6241
m12-m3	46.0664	366.6369
m13-m3	87.0825	366.6369
m5-m4	13.2859	366.6369
m6-m4	54.7898	366.6369
m7-m4	87.6382	366.6369
m8-m4	-40.2234	368.6241
m9-m4	116.9608	366.6369
m10-m4	-20.7673	366.6369
m11-m4	-34.9343	368.6241
m12-m4	24.1127	366.6369
m13-m4	65.1288	366.6369
m6-m5	41.5039	366.6369
m7-m5	74.3523	366.6369
m8-m5	-53.5093	368.6241
m9-m5	103.6749	366.6369
m10-m5	-34.0533	366.6369
m11-m5	-48.2202	368.6241
m12-m5	10.8267	366.6369
m13-m5	51.8429	366.6369
m7-m6	32.8484	366.6369
m8-m6	-95.0131	368.6241
m9-m6	62.1710	366.6369
m10-m6	-75.5571	366.6369
m11-m6	-89.7241	368.6241
m12-m6	-30.6771	366.6369
m13-m6	10.3390	366.6369
m8-m7	-127.8616	368.6241
m9-m7	29.3226	366.6369
m10-m7	-108.4056	366.6369
m11-m7	-122.5725	368.6241
m12-m7	-63.5256	366.6369
m13-m7	-22.5094	366.6369
m9-m8	157.1842	368.6241
m10-m8	19.4560	368.6241
m11-m8	5.2890	370.6007
m12-m8	64.3360	368.6241
m13-m8	105.3521	368.6241
m10-m9	-137.7282	366.6369
m11-m9	-151.8951	368.6241
m12-m9	-92.8482	366.6369
m13-m9	-51.8320	366.6369
m11-m10	-14.1670	368.6241
m12-m10	44.8800	366.6369
m13-m10	85.8961	366.6369
m12-m11	59.0470	368.6241
m13-m11	100.0631	368.6241
m13-m12	41.0161	366.6369

KEY

Ia.	1
Il.	2
In.	3
Ks.	4
Ky.	5
Mi.	6
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Oh.	11
SD.	12
Wi.	13

Interest Expense per capita — North Central States

		S Value
m2-m1	4.785815	9.344044
m3-m1	1.269562	9.344044
m4-m1	1.545921	9.344044
m5-m1	8.709045	9.344044
m6-m1	3.426165	9.344044
m7-m1	4.224107	9.344044
m8-m1	0.958983	9.394689
m9-m1	1.945666	9.344044
m10-m1	-0.084334	9.344044
m11-m1	3.782158	9.394689
m12-m1	5.573969	9.344044
m13-m1	3.460832	9.344044
m3-m2	-3.516253	9.344044
m4-m2	-3.239894	9.344044
m5-m2	3.923230	9.344044
m6-m2	-1.359649	9.344044
m7-m2	-0.561707	9.344044
m8-m2	-3.826831	9.394689
m9-m2	-2.840149	9.344044
m10-m2	-4.870148	9.344044
m11-m2	-1.003657	9.394689
m12-m2	0.788155	9.344044
m13-m2	-1.324983	9.344044
m4-m3	0.276359	9.344044
m5-m3	7.439483	9.344044
m6-m3	2.156604	9.344044
m7-m3	2.954546	9.344044
m8-m3	-0.310578	9.394689
m9-m3	0.676104	9.344044
m10-m3	-1.353895	9.344044
m11-m3	2.512596	9.394689
m12-m3	4.304408	9.344044
m13-m3	2.191270	9.344044
m5-m4	7.163124	9.344044
m6-m4	1.880245	9.344044
m7-m4	2.678187	9.344044
m8-m4	-0.586937	9.394689
m9-m4	0.399745	9.344044
m10-m4	-1.630255	9.344044
m11-m4	2.236237	9.394689
m12-m4	4.028049	9.344044
m13-m4	1.914911	9.344044
m6-m5	-5.282879	9.344044
m7-m5	-4.484937	9.344044
m8-m5	-7.750061	9.394689
m9-m5	-6.763379	9.344044
m10-m5	-8.793379	9.344044
m11-m5	-4.926887	9.394689
m12-m5	-3.135075	9.344044
m13-m5	-5.248213	9.344044
m7-m6	0.797942	9.344044
m8-m6	-2.467182	9.394689
m9-m6	-1.480499	9.344044
m10-m6	-3.510499	9.344044
m11-m6	0.355992	9.394689
m12-m6	2.147804	9.344044
m13-m6	0.034667	9.344044
m8-m7	-3.265124	9.394689
m9-m7	-2.278442	9.344044
m10-m7	-4.308441	9.344044
m11-m7	-0.441950	9.394689
m12-m7	1.349862	9.344044
m13-m7	-0.763276	9.344044
m9-m8	0.986683	9.394689
m10-m8	-1.043317	9.394689
m11-m8	2.823174	9.445064
m12-m8	4.614986	9.394689
m13-m8	2.501849	9.394689
m10-m9	-2.030000	9.344044
m11-m9	1.836492	9.394689
m12-m9	3.628303	9.344044
m13-m9	1.515166	9.344044
m11-m10	3.866491	9.394689
m12-m10	5.658303	9.344044
m13-m10	3.545166	9.344044
m12-m11	1.791812	9.394689
m13-m11	-0.321326	9.394689
m13-m12	-2.113137	9.344044

KEY

Ia.	1
Il.	2
In.	3
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Mi.	6
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* Significant at .01

General Revenue-Interest Expense Ratio

North Central States

		s Value
m2-m1	-838.431	1071.432
m3-m1	-569.778	1071.432
m4-m1	-695.517	1071.432
m5-m1	-716.150	1071.432
m6-m1	-789.406	1071.432
m7-m1	-795.212	1071.432
m8-m1	-657.944	1077.239
m9-m1	-733.203	1071.432
m10-m1	155.647	1071.432
m11-m1	-676.320	1077.239
m12-m1	-253.120	1071.432
m13-m1	-39.932	1071.432
m3-m2	268.653	1071.432
m4-m2	142.914	1071.432
m5-m2	122.281	1071.432
m6-m2	49.025	1071.432
m7-m2	43.219	1071.432
m8-m2	180.487	1077.239
m9-m2	105.228	1071.432
m10-m2	994.078	1071.432
m11-m2	162.111	1077.239
m12-m2	585.311	1071.432
m13-m2	798.499	1071.432
m4-m3	-125.739	1071.432
m5-m3	-146.372	1071.432
m6-m3	-219.628	1071.432
m7-m3	-225.434	1071.432
m8-m3	-88.166	1077.239
m9-m3	-163.425	1071.432
m10-m3	725.425	1071.432
m11-m3	-106.542	1077.239
m12-m3	316.658	1071.432
m13-m3	529.846	1071.432
m5-m4	-20.633	1071.432
m6-m4	-93.889	1071.432
m7-m4	-99.695	1071.432
m8-m4	37.573	1077.239
m9-m4	-37.686	1071.432
m10-m4	851.164	1071.432
m11-m4	19.197	1077.239
m12-m4	442.397	1071.432
m13-m4	655.585	1071.432
m6-m5	-73.255	1071.432
m7-m5	-79.062	1071.432
m8-m5	58.206	1077.239
m9-m5	-17.053	1071.432
m10-m5	871.797	1071.432
m11-m5	39.830	1077.239
m12-m5	463.030	1071.432
m13-m5	676.218	1071.432
m7-m6	-5.806	1071.432
m8-m6	131.462	1077.239
m9-m6	56.203	1071.432
m10-m6	945.053	1071.432
m11-m6	113.086	1077.239
m12-m6	536.286	1071.432
m13-m6	749.474	1071.432
m8-m7	137.268	1077.239
m9-m7	62.009	1071.432
m10-m7	950.859	1071.432
m11-m7	118.892	1077.239
m12-m7	542.092	1071.432
m13-m7	755.280	1071.432
m9-m8	-75.259	1077.239
m10-m8	813.591	1077.239
m11-m8	-18.376	1083.015
m12-m8	404.824	1077.239
m13-m8	618.012	1077.239
m10-m9	888.850	1071.432
m11-m9	56.883	1077.239
m12-m9	480.083	1071.432
m13-m9	693.271	1071.432
m11-m10	-831.967	1077.239
m12-m10	-408.767	1071.432
m13-m10	-195.579	1071.432
m12-m11	423.200	1077.239
m13-m11	636.388	1077.239
m13-m12	213.188	1071.432

KEY

Ia.	1
Il.	2
In.	3
Ks.	4
Ky.	5
Mi.	6
Mn.	7
Mo.	8
ND.	9
Ne.	10
Oh.	11
SD.	12
Wi.	13

* Significant at .01

Interest	Rate	North Central	Stat	
m2-m1	0.003013	0.059528		
m3-m1	0.001088	0.059528		
m4-m1	0.006334	0.059528		
m5-m1	0.010870	0.059528		
m6-m1	0.005433	0.059528		
m7-m1	0.006307	0.059528		
m8-m1	0.005127	0.059851		
m9-m1	0.004428	0.059528		
m10-m1	0.006705	0.059528		
m11-m1	0.005106	0.059851		
m12-m1	0.025332	0.059528		
m13-m1	0.005336	0.059528		
m3-m2	-0.00192	0.059528		
m4-m2	0.003320	0.059528		
m5-m2	0.007857	0.059528		
m6-m2	0.002419	0.059528		
m7-m2	0.003294	0.059528		
m8-m2	0.002113	0.059851		
m9-m2	0.001414	0.059528		
m10-m2	0.003691	0.059528		
m11-m2	0.002092	0.059851		
m12-m2	0.022318	0.059528		
m13-m2	0.002322	0.059528		
m4-m3	0.005246	0.059528		
m5-m3	0.009782	0.059528		
m6-m3	0.004345	0.059528		
m7-m3	0.005219	0.059528		
m8-m3	0.004039	0.059851		
m9-m3	0.003340	0.059528		
m10-m3	0.005617	0.059528		
m11-m3	0.004017	0.059851		
m12-m3	0.024244	0.059528	Ia.	1
m13-m3	0.004247	0.059528	Il.	2
m5-m4	0.004536	0.059528	In.	3
m6-m4	-0.00090	0.059528	Ks.	4
m7-m4	-0.00002	0.059528	Ky.	5
m8-m4	-0.00120	0.059851	Mi.	6
m9-m4	-0.00190	0.059528	Mn.	7
m10-m4	0.000371	0.059528	Mo.	8
m11-m4	-0.00122	0.059851	ND.	9
m12-m4	0.018998	0.059528	Ne.	10
m13-m4	-0.00099	0.059528	Oh.	11
m6-m5	-0.00543	0.059528	SD.	12
m7-m5	-0.00456	0.059528	Wi.	13
m8-m5	-0.00574	0.059851		
m9-m5	-0.00644	0.059528		
m10-m5	-0.00416	0.059528		
m11-m5	-0.00576	0.059851		
m12-m5	0.014461	0.059528		
m13-m5	-0.00553	0.059528		
m7-m6	0.000874	0.059528		
m8-m6	-0.00030	0.059851		
m9-m6	-0.00100	0.059528		
m10-m6	0.001271	0.059528		
m11-m6	-0.00032	0.059851		
m12-m6	0.019899	0.059528		
m13-m6	-0.00009	0.059528		
m8-m7	-0.00118	0.059851		
m9-m7	-0.00187	0.059528		
m10-m7	0.000397	0.059528		
m11-m7	-0.00120	0.059851		
m12-m7	0.019024	0.059528		
m13-m7	-0.00097	0.059528		
m9-m8	-0.00069	0.059851		
m10-m8	0.001577	0.059851		
m11-m8	-0.00002	0.060172		
m12-m8	0.020205	0.059851		
m13-m8	0.000208	0.059851		
m10-m9	0.002276	0.059528		
m11-m9	0.000677	0.059851		
m12-m9	0.020904	0.059528		
m13-m9	0.000907	0.059528		
m11-m10	-0.00159	0.059851		
m12-m10	0.018627	0.059528		
m13-m10	-0.00136	0.059528		
m12-m11	0.020226	0.059851		
m13-m11	0.000229	0.059851		
m13-m12	-0.01999	0.059528		