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12-1-1995

# Profitability of South Dakota's Commercial Banks

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## Recommended Citation

Lamberton, C., "Profitability of South Dakota's Commercial Banks" (1995). *Economics Staff Paper Series*. 127.  
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PROFITABILITY OF SOUTH DAKOTA'S

COMMERCIAL BANKS

1988 - 1994

by

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Economics Staff Paper 95-6

December 1995

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Profitability of South Dakota's  
Commercial Banks  
1988 - 1994

Over the recent seven year business cycle of 1988-94, South Dakota banks have seen their profitability improve significantly. This has contributed to a strengthening of the banks in the state and in their ability to meet the financial needs of their customers and communities. The data in this report show that while bank earnings have been strong, the gains have not been distributed evenly across banks of all sizes. The data also demonstrate the related differences in loan portfolios among the banks of varying size.

This report describes the improved profitability, the sources of the improved profits, and the distribution of the improvement across various sizes of banks during these years. The report is intended to describe the banking system in the entire state. However, it omits data on a few of the largest banks. In some cases the omitted bank is a specialized bank not representative of the services available to South Dakota and in all cases the large size of these banks distorts the aggregate bank performance indicators. Therefore, to present a more meaningful description of the set of banks in the state, data for these large banks are omitted. Data omitted are those for Citibank South Dakota, First Bank South Dakota, First City Bank, Norwest Bank South Dakota, and Retailers National Bank.

The data are presented for all banks with average assets no greater than \$375 million in each year. As shown in Table 1, the total number of such banks ranges from 115 in 1992 to 128 in 1988. Data are also broken down for banks of various sizes as measured by their average assets each year. The asset size ranges were selected arbitrarily with the only criterion being to have approximately an equal number of banks in each size category with the exception of fewer banks in the largest size category. Table 1 shows the number of banks included in each size category.

**TABLE 1**

**Number of Banks**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	28	31	30	26	9	124
1989	28	30	25	25	13	121
1990	25	32	20	25	16	118
1991	25	32	20	25	16	118
1992	20	28	19	30	18	115
1993	18	29	19	30	20	116
1994	17	31	15	32	21	116

The table also demonstrates the general growth of the size of the state's banks. The number of banks in the smallest size category, less than \$15 million in assets, has declined from 28 to only 17. The number in the largest size group has increased from only 9 to 21. There has been a general shifting of banks across the size categories as they have grown over the period.

Table 2 shows that the profitability of South Dakota banks, as measured by their Return on Assets (Net Income/Average Assets), has improved steadily from 0.95% in 1988 to 2.00% in 1993 and 1994. This doubling of the Return on Assets is attributable almost entirely to the largest banks, those with average assets in excess of \$100 million.

**TABLE 2**

**Return on Assets**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0093	0.0060	0.0095	0.0112	0.0090	0.0095
1989	0.0092	0.0117	0.0111	0.0118	0.0096	0.0107
1990	0.0092	0.0102	0.0097	0.0107	0.0126	0.0113
1991	0.0100	0.0115	0.0102	0.0123	0.0189	0.0148
1992	0.0099	0.0125	0.0114	0.0138	0.0225	0.0177
1993	0.0105	0.0125	0.0127	0.0136	0.0263	0.0201
1994	0.0098	0.0108	0.0114	0.0137	0.0249	0.0196

Another measure of bank profitability is their Return on Equity (Net Income/Average Equity) as shown in Table 3. Over the 1988-94 period South Dakota banks ROE also improved dramatically from less than 11% in 1988 to 18-19% in 1992-94. Looking across the various size categories, however, it is apparent that virtually all of the improvement in the system's ROE has occurred at the largest banks. In particular, there was a significant one time increase in the large banks' ROE in 1991.

**TABLE 3**

Return on Equity

<u>Year</u>	<u>Assets (mill)</u>					
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	<u>All Banks</u>
1988	0.0882	0.0625	0.0965	0.1342	0.1153	0.1084
1989	0.0875	0.1130	0.1133	0.1343	0.1232	0.1211
1990	0.0845	0.0974	0.0957	0.1290	0.1453	0.1245
1991	0.0916	0.1085	0.0988	0.1402	0.2080	0.1576
1992	0.0841	0.1156	0.1140	0.1470	0.2260	0.1779
1993	0.0833	0.1126	0.1270	0.1382	0.2408	0.1895
1994	0.0764	0.0955	0.1154	0.1342	0.2300	0.1827

The causes of these changes in profitability and their distribution among banks of various sizes is explained using the data in the following tables. An underlying cause of the differences between the banks in the categories with less than \$100 million in assets and the larger banks appears to be the role of credit card lending in the larger banks. This difference is discussed below but its importance is reflected within virtually all of the following tables.

## Bank Borrowing, Lending, and Investing

The primary source of bank earnings is the difference between the price paid to bank creditors - the interest paid for deposits and other borrowings - and the interest earned on bank loans and investments. Table 4 shows that South Dakota banks' Net Interest Margin has grown from 4.66% in 1988 to 5.92% in 1994. As with the profitability measures in Tables 2 & 3, the improvement in Net Interest Margin occurred almost entirely at the larger banks.

**TABLE 4**

### Net Interest Margin

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0453	0.0460	0.0465	0.0488	0.0441	0.0466
1989	0.0484	0.0469	0.0458	0.0485	0.0497	0.0483
1990	0.0478	0.0463	0.0448	0.0492	0.0522	0.0495
1991	0.0471	0.0476	0.0430	0.0499	0.0606	0.0534
1992	0.0454	0.0510	0.0460	0.0496	0.0643	0.0565
1993	0.0451	0.0479	0.0477	0.0463	0.0647	0.0563
1994	0.0462	0.0474	0.0502	0.0473	0.0681	0.0592

Banks' liabilities to their depositors and other creditors tend to be short term. Therefore, changes in the interest expense incurred by banks tends to follow closely the interest rates determined in the short term credit markets. For South Dakota banks this is shown in Table 5, Interest Expense to Average Earning Assets. The data reflect the general increase in short term interest rates from 1988 to 1989-90 which preceded the slowing of the economy in 1990-91. The table also shows the general decline in short term rates in the 1991-93 period and the one year runup in those rates in 1994 is reflected in the leveling of bank interest expense between 1993 and 1994.

**TABLE 5**

**Interest Expense to Average Earning Assets**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0463	0.0469	0.0481	0.0507	0.0479	0.0487
1989	0.0575	0.0559	0.0582	0.0629	0.0624	0.0609
1990	0.0572	0.0573	0.0591	0.0605	0.0645	0.0615
1991	0.0529	0.0522	0.0528	0.0540	0.0546	0.0539
1992	0.0407	0.0409	0.0409	0.0418	0.0412	0.0413
1993	0.0319	0.0316	0.0332	0.0330	0.0321	0.0324
1994	0.0302	0.0301	0.0310	0.0319	0.0335	0.0325

Table 5 also shows that the interest rate paid for funds at large banks tends to be higher and more sensitive to rates in the credit markets than that for smaller banks. The data show, however, that this differential has narrowed substantially. This narrowing is due to several factors. Changes in information and technology have provided access for depositors to the broader set of deposit alternatives. The local small town bank no longer has monopsony power allowing it to pay a lower local rate for deposits. Customers are increasingly able to reach out to a



growing set of local bank competitors such money market mutual funds, investment brokerage sweep accounts, U.S. Treasury securities markets, and other outlets for relatively safe short term investing.

The data in Table 5 also reflect the general growth in the size of South Dakota banks. In the recent years more of the banks are still located in smaller communities with access to lower cost local deposits. Because they have grown however, on the table they have shifted into the larger size category causing the average interest expense for that category to decline over the period.

The other half of the Net Interest Margin calculation shown in Table 4 is the interest earned by banks on their loans and investments. Table 6 presents the banks' ratio of Tax Equivalent Interest Revenue to Average Earning Assets. (For many banks, some investments are in tax exempt municipal securities. To place all interest earnings and expenses on the same basis, the earnings on tax exempt securities are adjusted to a taxable earnings basis using the bank's tax rate.)

**TABLE 6**

**Tax Equivalent Interest Revenue to Average Earning Ass**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0955	0.0968	0.0984	0.1034	0.0980	0.0997
1989	0.1059	0.1029	0.1040	0.1114	0.1121	0.1092
1990	0.1050	0.1036	0.1039	0.1097	0.1167	0.1111
1991	0.1000	0.0998	0.0959	0.1039	0.1152	0.1073
1992	0.0861	0.0919	0.0870	0.0915	0.1054	0.0978
1993	0.0770	0.0795	0.0809	0.0792	0.0968	0.0887
1994	0.0763	0.0760	0.0813	0.0792	0.1015	0.0918

The table shows that for all banks combined, interest earned per dollar of earning assets has remained relatively constant over the 1988-94 period. This has not been true for banks in the four smaller size categories. For banks with assets less than \$100 million, the stability of their Net Interest Margin (Table 4) incorporates the relatively close tracking of the interest earned (Table 6) and paid (Table 5) per dollar of earning assets.

The larger banks have been able to maintain their interest income per dollar of earning assets (Table 6) because higher earning credit card lending has become an increasingly important part of their assets. At the same time, they have enjoyed a significant decrease in their cost of funds (Table 5) along with the general decline in interest rates, resulting in the improved Net Interest Margin shown in Table 4.

The other significant expense involved with the banks' borrowing and lending is their loan loss expense. For each year banks estimate how much of their outstanding loan portfolio will fail to be repaid and write off as an expense an amount to reflect this estimate. Table 7, Loan Loss Expense to Average Earning Assets, shows that this expense decreased significantly in 1993 and 1994 in response to the generally improved state of the economy.

**TABLE 7**

**Loan Loss Expense to Avg Earning Assets**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
<b>1988</b>	0.0031	0.0058	0.0058	0.0070	0.0030	0.0053
<b>1989</b>	0.0039	0.0023	0.0033	0.0079	0.0078	0.0063
<b>1990</b>	0.0029	0.0037	0.0023	0.0063	0.0097	0.0068
<b>1991</b>	0.0025	0.0016	0.0020	0.0042	0.0110	0.0066
<b>1992</b>	0.0022	0.0021	0.0033	0.0031	0.0130	0.0080
<b>1993</b>	0.0019	0.0012	0.0031	0.0021	0.0071	0.0048
<b>1994</b>	0.0023	0.0014	0.0035	0.0015	0.0081	0.0054

The data in Table 7 also demonstrate the difference of the larger banks with a significantly larger loan loss expense related to their higher risk credit card business. For banks in the next largest size category, \$40-100 million in assets, the steady decline in loan loss expense is also attributable largely to the credit card phenomenon. During the period, a number of banks in this size category entered the credit card business. These banks grew significantly and in the later years they appear in the largest size category. As they outgrew the \$40-100 million size, the average loan loss expense for the size category has declined.

## Other Income and Expenses

Banks charge fees for the various services provided for bank customers. These sources of income are shown in Table 8, Total Noninterest Income to Average Assets. For the state's banks collectively, noninterest income per dollar of assets has grown dramatically from 0.91% in 1988 to 2.44% in 1994. The most significant growth has been at the larger banks.

**TABLE 8**

### Total Noninterest Income to Average Assets

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0060	0.0053	0.0060	0.0091	0.0138	0.0091
1989	0.0104	0.0073	0.0062	0.0132	0.0173	0.0128
1990	0.0105	0.0063	0.0056	0.0089	0.0254	0.0156
1991	0.0109	0.0083	0.0062	0.0086	0.0321	0.0190
1992	0.0058	0.0097	0.0091	0.0088	0.0363	0.0227
1993	0.0059	0.0059	0.0157	0.0063	0.0375	0.0239
1994	0.0064	0.0098	0.0143	0.0062	0.0367	0.0244

Table 9 shows Total Noninterest Expense to Average Assets. While this ratio has remained quite constant for the smaller banks, it has increased for the larger banks. This is probably due to the greater noninterest cost of servicing credit card loans.

**TABLE 9**

**Total Noninterest Expense to Average Assets**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0318	0.0305	0.0282	0.0304	0.0363	0.0317
1989	0.0386	0.0298	0.0274	0.0318	0.0400	0.0343
1990	0.0391	0.0301	0.0293	0.0316	0.0423	0.0363
1991	0.0387	0.0329	0.0283	0.0319	0.0475	0.0390
1992	0.0318	0.0362	0.0326	0.0312	0.0493	0.0409
1993	0.0321	0.0314	0.0387	0.0275	0.0503	0.0413
1994	0.0333	0.0358	0.0400	0.0276	0.0523	0.0433

The data in Tables 8 & 9 show the usual situation of banks' noninterest expenses per dollar of assets consistently exceeding their noninterest income. The net loss per dollar of assets has decreased over the period, however, as the growth in the large banks' noninterest income has outrun the growth in their noninterest expenses.

Bank Loan Portfolios

Table 10 shows how the role of credit card lending has grown among South Dakota banks. The data indicate that some banks of all sizes in the 1988-90 period entered that business and grew rapidly. The effect of that growth filters down and to the right on the table so that by 1994, 27.3% of the larger banks total loans were credit card loans.

**TABLE 10**

Credit Card Loans to Total Loans

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0294	0.0073	0.0755	0.2174	0.0034	0.0979
1989	0.0301	0.0000	0.0224	0.2110	0.1785	0.1421
1990	0.0130	0.0005	0.0276	0.1507	0.1856	0.1338
1991	0.0003	0.0420	0.0023	0.0568	0.2188	0.1317
1992	0.0000	0.0011	0.0433	0.0500	0.2028	0.1269
1993	0.0003	0.0013	0.0495	0.0044	0.2280	0.1372
1994	0.0012	0.0037	0.0596	0.0047	0.2728	0.1722

The effect of credit card lending is also apparent in the data shown on Table 11, Nonperforming Loans to Total Loans. (Nonperforming loans are those which are either past due at least 90 days or which are regarded as nonaccrual assets.) The data indicate a general improvement in the quality of loans at banks under the \$100 million asset size. These banks show a steady reduction in the share of total loans which are nonperforming loans. At the larger banks the share of nonperforming loans decreased until 1992 and then increased again in 1993 and 1994 but the level was still significantly below that of 1988-89.

**TABLE 11**

**Nonperforming Loans to Total Loans**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0263	0.0271	0.0227	0.0221	0.0148	0.0208
1989	0.0261	0.0206	0.0182	0.0206	0.0152	0.0183
1990	0.0167	0.0174	0.0170	0.0213	0.0133	0.0163
1991	0.0127	0.0169	0.0118	0.0201	0.0139	0.0155
1992	0.0133	0.0140	0.0102	0.0150	0.0103	0.0119
1993	0.0184	0.0122	0.0128	0.0100	0.0154	0.0137
1994	0.0087	0.0117	0.0100	0.0096	0.0171	0.0143

To see how banks' noncredit card lending has changed over the period, the data in Tables 12 - 15 are presented. Table 12 shows that real estate lending, including farmland loans, has tended to become a more important part of noncredit card lending. Real estate loans make up a greater share of loans at the larger banks.

**TABLE 12**

**Real Estate Loans to Total Loans (Excl Credit Cards)**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.2076	0.1724	0.2353	0.2802	0.3435	0.2757
1989	0.2514	0.1664	0.2384	0.2490	0.3426	0.2778
1990	0.2446	0.1944	0.2411	0.2458	0.3028	0.2656
1991	0.2682	0.2017	0.2483	0.2516	0.2923	0.2657
1992	0.2182	0.2464	0.2444	0.2385	0.3270	0.2829
1993	0.1968	0.2433	0.3000	0.2637	0.3569	0.3116
1994	0.2142	0.2483	0.2834	0.2671	0.3613	0.3158



Included in the real estate loans are those loans made for the purchase of farmland. Table 13 shows that across all banks collectively the share of farmland loans has been relatively constant. As expected, farmland loans are relatively more important for smaller banks. For banks under \$100 million in assets, the share of loans in farmland loans has also been increasing during this period. For these banks this represents a increasing concentration in this type of lending, especially considering that these smaller banks also do not generally have the diversification provided by credit card operations.

**TABLE 13**

**Farmland Loans to Total Loans (Excl Credit Cards)**

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.0746	0.0510	0.0814	0.0566	0.0339	0.0548
1989	0.0800	0.0622	0.0832	0.0691	0.0325	0.0561
1990	0.0741	0.0764	0.0915	0.0584	0.0360	0.0548
1991	0.0953	0.0726	0.0846	0.0649	0.0382	0.0570
1992	0.0963	0.0821	0.0882	0.0768	0.0430	0.0623
1993	0.1113	0.0935	0.0967	0.0869	0.0454	0.0677
1994	0.1322	0.0870	0.0894	0.0903	0.0486	0.0686

The data in Table 14 show the share of agricultural production loans in banks' total loans. Again the concentration of lending to agriculture shows up in the data for the smaller, rural banks, however, even the larger banks have 20% of their noncredit card loans in the form of farm operating loans.

**TABLE 14**

**Agric Prod'n Loans to Total Loan (Excl Credit Cards)**

<u>Year</u>	<u>Assets (mill)</u>					
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	<u>All Banks</u>
1988	0.5698	0.5284	0.3954	0.3207	0.2207	0.3403
1989	0.5261	0.5549	0.4167	0.3851	0.2024	0.3405
1990	0.5380	0.5331	0.4205	0.3986	0.2285	0.3451
1991	0.5388	0.5452	0.4424	0.3926	0.2271	0.3447
1992	0.6146	0.5084	0.4394	0.4357	0.2216	0.3432
1993	0.6178	0.5228	0.4315	0.4134	0.2065	0.3236
1994	0.6054	0.5126	0.4384	0.4184	0.2065	0.3196

For the smaller banks, the combination of farmland and agricultural production lending is as great as 74% of total loans. This level of concentration in an industry and within a restricted geographical market creates a level of risk to the bank which can be offset by reducing the share of total assets committed to lending.

TABLE 15

Comm/Ind Loans to Total Loans (Excl Credit Cards)

<u>Year</u>	<u>Assets (mill)</u>					<u>All Banks</u>
	<u>&lt; 15</u>	<u>15 - 25</u>	<u>25 - 40</u>	<u>40 - 100</u>	<u>100 - 375</u>	
1988	0.1121	0.1602	0.1585	0.2487	0.2676	0.2195
1989	0.1168	0.1431	0.1940	0.2127	0.2727	0.2216
1990	0.1214	0.1430	0.1904	0.2150	0.2681	0.2236
1991	0.1086	0.1332	0.1840	0.2134	0.2455	0.2111
1992	0.0871	0.1263	0.2111	0.1964	0.2299	0.2039
1993	0.1018	0.1264	0.1726	0.1888	0.2262	0.1986
1994	0.0954	0.1270	0.1738	0.1852	0.2322	0.2018

Table 15 shows that the share of noncredit card bank lending committed to commercial and industrial loans has remained steady between 20% and 22% during this period. What is perhaps somewhat surprising is the relative importance of this lending for the smaller banks. For most of the period, banks under \$100 million in assets have retained a relatively constant share of commercial and industrial lending even though many of these banks are located in relatively small communities. The larger banks have seen the share of commercial and industrial lending decrease in the 1990's.