JETIR.ORG

ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)

An International Scholarly Open Access, Peer-reviewed, Refereed Journal

FINANCIAL PERFORMANCE OF NATIONAL INSURANCE COMPANY LIMITED

Mr.K.Vijay,

MBA, Sreenivasa Institute of Technology and Management Studies, Chittoor, A.P., India

Dr.K.Sudarsan

Associate Professor, Sreenivasa Institute of Technology and Management Studies, Chittoor, A.P., India

Abstract

The insurance sector in India has completed all the facets of competition - frombeing an open competitive market to being nationalized and then getting back to the form of a liberalized market once again. The objective of the study is to find overall financial position of National Insurance Company Limited during 2011-12 to 2020-21 through ratio analysis. The company's financial position was fluctuating throughout study. It is better to invest on different stocks to get maximum returns rather than investing on fixed assets. The entry of private sector insurance companies into the Indian insurance sectortriggered off a series of changes in the industry. It is better to introduce new policies to increase revenue to different sectors in the present scenario.

Introduction

The insurance sector in India has completed all the facets of competition - frombeing an open competitive market to being nationalized and then getting back to the form of a liberalized market once again. The history of the insurance sector in India reveals that it has witnessed complete dynamism for the past two centuries approximately. With the establishment of the Oriental Life Insurance Company in Kolkata, the business of Indian life insurance started in the year 1818.

India Insurance Policies at a Glance

Indian insurance companies offer a comprehensive range of insurance plans, a range that is growing as the economy matures and the wealth of the middle classes increases. The most common types include: term life policies, endowment policies, joint life policies, whole life policies, loan cover term assurance policies, unit-linked insurance plans, group insurance policies, pension plans, and annuities. General insurance plans are also available to cover motor insurance, home insurance, travel insurance and health insurance.

Due to the growing demand for insurance, more and more insurance companies are now emerging in the Indian insurance sector. With the opening up of the economy, several international leaders in the insurance sector are trying to venture into the Indianinsurance industry.

Insurance Business

Insurance business is divided into four classes:

- 1. Life Insurance
- 2. Fire Insurance
- 3. Marine Insurance and
- 4. Miscellaneous Insurance.

Origin of National Insurance Company Limited (NICL)

National Insurance Company Limited (NICL) is India's Oldest General Insurance Company (GIC). It was incorporated in Kolkata, West Bengal on 5th December, 1906 to fulfill the nationalist aspiration for Swaraj. 66 years later, after passing of General Insurance Business Nationalization Act in 1972, it was merged along with 21 foreign and 11 Indian companies to form National Insurance Company Limited, one of the four subsidiaries of the General Insurance Corporation of India, fully owned by Govt. of India. Under the provisions of this Act, the shares of existing Indian general insurance companies and undertaking of other insurers were transferred to GIC for the regulation and control of insurance business.

On 7th Aug., 2002, National Insurance was delinked from its holding Company that is GIC and was formed as an independent insurance company. National Insurance has offices all over India and a foreign office in Nepal. The Company has strong presence with around 1730 offices and more than 13000 skilled employees and over 50000 Agents spread all over the nation.

4 major types of insurance

There are four types of insurance that most financial experts recommend that life, health, auto, and long-term disability.

Key features of insurance

- ➤ Sharing of Risk. Insurance is a device to share the financial losses which mightbefall an individual or his family on the happening of a specified event.
- ➤ Co-operative Device.
- ➤ Value of Risk.
- Payment at Contingency.
- Payment of Fortuitous Losses.
- > Amount of Payment.
- ➤ A large number of Insured Persons.

Review of Literature

Robert O.Edmister (1972) had conducted **an** Empirical test of Financial Ratio analysis for small business failure. Thus, study developed and empirically tested a number of methods for analysing financial ratios to predict the failure of small business.

Amalendu Bhunia (2010) analysed the pharmaceutical company financial performance to understand how the management of financial playing a crucial role in the growth. For a period of twelve years the study has undertaken from 1997-98 to 2008-09.

Sheela Christina (2011) reported on financial position of wheels India Ltd Secondary data collection method is used for the analytical type of research design. Before conducting the study, validity and reliability is checked for the past five years where the research used for the purpose of study.

Edward I.Altman (1968) used financial ratios discriminate analysis and the production of corporate bankruptcy. The study used to analyse the performance of the business enterprise by using ratio analysis as the analytical technique.

R.J.Taffler (2013) Forecasted company failure in the UK using discriminate analysis and financial ratio data. This paper reported on the discriminate model of operational for the purpose of identification of the British companies which was under the risk of failure and discussed the results from their application since from their development.

Prasanta Paul (2014) reported on financial position Evaluation- Some of the selected NBFCs are taken for the comparative study. In the study, five of the listed NBFCs are considered for the analyzation of comparative financial position.

James A.Largay et al (2015) analysed cash flows and ratio analysis and the W.T. grant company bankruptcy. The W.T Grant company problems such as bankruptcy, liquidation was not raised at overnight. The traditional analysis which is the ratio analysis only cannot reveal the company problems whereas cash flow analysis of the company.

Query-Jen Yeh (1996) conducted a study on the application of Data Envelopment analysis in conjunction with financial ratios. This paper demonstrated the application of DEA in respect to the conjunction with financial ratios to help the financial operations.

Statement of the Problem

Based on the review of literature I have taken to study the financial performance of National Insurance Company Limited during 2011-12 to 2020-21. Analyzing financial performance is the process of evaluating the common parts of financial statements to obtain a better understanding of firm's position and performance. Financial performance analysis enables the investors and creditors evaluate past and current performance and financial position, and to offer suggestions. Financial statement is used to judge the profitability and financial soundness of a firm.

Objectives of the Study

The following are the objectives of the present study.

- 1. To study the overall financial position of National Insurance Company Limited during 2011-12 to 2020-21.
- 2. To know the liquidity position of National Insurance Company Limited during the study period.
- 3. To know the profitability of the National Insurance Company Limited during the study period.
- 4. To know the solvency position of National Insurance Company Limited during the study period.
- 5. To find the relationship between the variables of National Insurance CompanyLimited during the study period.

Research Methodology

Sources of Secondary Data

The present study depends on secondary data. The secondary data was collected from the various annual reports of NICL.,

Period of the Study

The period of the study is ten years i.e. 2011-12 to 2020-21.

Tools used for Analysis: Ratios

Need for the Study

It is a dire need to study the financial position of the National InsuranceCompany Limited. This is useful to various parties.

- The study has great significance and provides benefits to various parties whom directly or indirectly interact with the company.
- It is beneficial to the management of the company by providing crystal clear picture regarding important aspects like liquidity, leverage, activity and profitability.
- The study is also beneficial to employees and offers motivation by showing howactively they are contributing for company's growth.

Scope of the Study

The study mainly attempts to analyze the financial performance of the company selected for the study. The financial authorities can use this for evaluating their performance in future, which will help to analyze financial statements and help to apply the resources of the company properly for the development of the company to bring overall growth. The present study attempts to develop a ratio analysis model for financial statement. In the end, the study helps to know where the company is financially stable or weak. The study had covered the financial statement for a ten-yearperiod from 2011-12 to 2020-21.

Limitation of the Study

The study has the following limitations.

- Limited time (2011-12 to 2020-21) span is a major limitation of this study.
- ❖ The present study cannot used for inter firm comparison.
- ❖ The result does not reflect the day-to-day transactions.

DATA ANALYSIS

Current Ratio

The following table presents the Current Ratio of National Insurance CompanyLimited during 2011-12 to 2020-21.

Current Ratio = Current Assets / Current Liabilities

Table No. 1

Current Ratio of National Insurance Company Limited during 2011-12 to 2020-21

(Rs. '000)

Year	Current Assets	Current Liabilities	Ratio
2011-12	22805959	71358345	0.32
2012-13	41506988	101064507	0.41
2013-14	474397 <mark>47</mark>	110012766	0.43
2014-15	53369414	120494980	0.44
2015-16	63929196	138460592	0.46
2016-17	726104 <mark>30</mark>	161794685	0.45
2017-18	90831823	224486120	0.40
2018-19	83285294	236506117	0.35
2019-20	84295440	287319407	0.29
2020-21	80068175	276898120	0.29
Average	64014246.6	172839563.9	0.39
Rxy		0.8988	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the company did not meet the standard of the current ratio (2:1) during 2011-12 to 2020-21. The standard current ratio of the company must be 2:1. The current ratio of the company was below of the standards ratio during the study period. There was a high positive relationship between the current assets and currentliabilities during the study period.

Quick Ratio

The following table presents the Quick Ratio of National InsuranceCompany Limited during 2011-12 to 2020-21.

Quick ratio = Cash + Accounts Receivables / Current Liabilities

Table No. 2

Quick Ratio of National Insurance Company Limited during 2011-12 to 2020-21

Year	Cash + Accounts Receivables	Current Liabilities	Ratio
2011-12	11487385	71358345	0.16
2012-13	14053587	101064507	0.14
2013-14	14890011	110012766	0.14
2014-15	13164549	120494980	0.11
2015-16	13805689	138460592	0.10
2016-17	15875366	161794685	0.10
2017-18	9306508	224486120	0.04
2018-19	13083277	236506117	0.06
2019-20	6984621	287319407	0.02
2020-21	6329249	276898120	0.02
Average	11898024.2	172839563.9	0.09
Rxy		-0.7280	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the Quick ratio was 1:1 considered to be satisfactory. But the above the table observed that the quick ratio of company was below the standard ratio during the study period 2011-12 to 2020-21. There was a high negative relationship between the quick assets and current liabilities during the study period from 2011-12 to 2020-21.

Proprietary Ratio

The following table presents the Proprietary Ratio of National InsuranceCompany Limited during 2011-12 to 2020-21.

Proprietary Ratio = Share Holders Fund / Total Assets X 100

Table No. 3

Proprietary Ratio of National Insurance Company Limited during 2011-12 to 2020-21

(Rs. '000)

Year	Shareholders Fund	Total Assets	Ratio
2011-12	19830000	91451449	21.68
2012-13	25180603	95783551	26.29
2013-14	31484173	109373462	28.79
2014-15	38912532	126298863	30.81
2015-16	52064544	91692011	56.78
2016-17	52139051	106920992	48.76
2017-18	26442897	66090578	40.01
2018-19	1955008	36771913	5.32
2019-20	25146569	17524404	143.49
2020-21	57313570	83742956	68.44
Average	33046894.7	82565017.9	47.04
Rxy		0.5205	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the Proprietary ratio generally in between the percentage of 60% to 70% was acceptable. The above table observed that in the year between 2020-21 they were able to maintain the standards. The remaining years they were unable to maintain the standards of Proprietary ratio. There was high positive relationship between the shareholders fund and Total Assets during the study period 2011-12 to 2020-21.

Working Capital Turnover Ratio

The following table presents the Working Capital Turnover Ratio of NationalInsurance Company Limited during 2011-12 to 2020-21.

WCTR = Revenue from Operation / Working Capital

Working Capital = Current Assets - Current Liabilities

Table No. 4 Working Capital Turnover Ratio of National Insurance Company Limitedduring 2011-12 to 2020-21

(Rs. '000)

i540

Year	Revenue from Operation	Working Capital	Ratio
2011-12	6978468	-48552386	-0.14
2012-13	8228873	-59557519	-0.14
2013-14	9701084	-62573019	-0.16
2014-15	1492290	-67125566	-0.02
2015-16	1210387	-74531396	-0.02
2016-17	631781	-89184255	-0.01
2017-18	-21707660	-133654297	0.16
2018-19	-16961224	-153220823	0.11
2019-20	-41083359	-203023967	0.20
2020-21	-5618573	-196829945	0.03
2011-12	-5712793.3	-108825317.3	0.00
Rxy		0.8267	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the revenue of the company was decreasing year by year along with the fluctuation of the current assets, hence the current liabilities are increasing in between the 2011-12 to 2020-21.

The working capital turnover ratio was in positive figure from 2017-18 to 2020-21 like 0.16, 0.11, 0.20, 0.03 respectively. There was a high positive relationship between the Revenue and Total Assets the during study period.

Fixed Asset Turnover Ratio

The following table presents the Fixed Asset Turnover Ratio of National Insurance Company Limited during 2011-12 to 2020-21.

Fixed Asset Turnover Ratio = Net Revenue / Average Fixed Assets Average

Fixed Asset = Total Fixed Asset / 2

Table No.5

Fixed Assets Turnover Ratio of National Insurance Company Limited during 2011-12 to 2020-21

Year	Net Revenue	Average Fixed asset	Ratio
2011-12	6978468	495815	14.07
2012-13	8228873	726254.5	11.33
2013-14	9701084	915075	10.60
2014-15	1492290	1008228.5	1.48
2015-16	1210387	910928.5	1.33
2016-17	631781	1417709.5	0.45
2017-18	-21707660	1564162.5	-13.88
2018-19	-16961224	1871102	-9.06
2019-20	-41083359	1860309.5	-22.08
2020-21	-5618573	2545588.5	-2.21
Average	-5712793.3	1331517.35	-0.80
Rxy		-0.6319	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table observed that the revenue of the company was decreasing and the value of fixed assets was increasing year by year. The value of increasing in fixed assets are causing in the value of depreciation. Hence it affects the revenue of the company for the particular study period. There was a high negative relationship between the revenue and average fixed assets during the study period 2011-12 to 2020-21.

Assets Turnover Ratio

The following table presents the Asset Turnover Ratio of National InsuranceCompany Limited during 2011-12 to 2020-21.

Assets Turnover Ratio = Revenue / Total Assets

Table No. 6
Assets Turnover Ratio of National Insurance Company Limited during 2011-12 to 2020-21

(Rs. '000)

Year	Revenue	Total Assets	Ratio
2011-12	6978468	91451449	0.08
2012-13	8228873	95783551	0.09
2013-14	9701084	109373462	0.09
2014-15	1492290	126298863	0.01
2015-16	1210387	91692011	0.01
2016-17	631781	106920992	0.01
2017-18	-21707660	66090578	-0.33
2018-19	-16961224	36771913	-0.46
2019-20	-41083359	17524404	-2.34
2020-21	-5618573	83742956	-0.07
Average	-5712793.3	82565017.9	-0.29
Rxy		0.881411213	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the total assets values are gradually fluctuating, the Asset Turnover Ratio wascalculated by dividing the total revenue with Total Assets. So, the changes in the assets effect the revenue of the company. There was a high positive relationship between the revenue and total assets during the study period 2011-12 to 2020-21.

Debt Equity Ratio

The following table presents the Debt Equity Ratio of National InsuranceCompany Limited during 2011-12 to 2020-21.

Debt Equity Ratio = Total Debts / Shareholders Fund

Total Debts = Share Capital + Short Term Debt + Long Term Debt + OtherOutstanding

Share Holders Fund = Share Capital + Reserves & Surplus + Share Holders

Fund

Table No.7 Debt Equity Ratio of National Insurance Company Limited during 2011-12 to 2020-21

(Rs. '000)

Year	Total Debts	Shareholders Fund	Ratio
2011-12	3511872	19830000	0.18
2012-13	3318463	25180603	0.13
2013-14	3272736	31484173	0.10
2014-15	3187234	38912532	0.08
2015-16	3048477	52064544	0.06
2016-17	11820849	52139051	0.23
2017-18	10369374	26442897	0.39
2018-19	10341396	1955008	5.29
2019-20	34318593	25146569	1.36
2020-21	66047881	57313570	1.15
Average	14923687.5	33046894.7	0.90
Rxy		0.3706	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the debts were increasing year by year hence there were changes in the shareholder's fund. But in the year of 2018-19 the shareholders' value was fall down i.e., the ratio was 5.29. However, the value of shareholders fund was raised from the year 2019-20 to 2020-21. There was a low positive relationship between total debts and shareholders' funds during the study period 2011-12 to 2020-21.

Debt-to-Assets Ratio

The following table presents the Debt-to-Assets Ratio of National InsuranceCompany Limited during 2011-12 to 2020-21.

Debt-to-Assets Ratio = Total Debt / Total Assets

Table No.8

Debt-to-Assets Ratio of National Insurance Company Limited during 2011-12 to 2020-21

Year	Total Debts	Total Assets	Ratio
2011-12	3511872	91451449	0.04
2012-13	3318463	95783551	0.03
2013-14	3272736	109373462	0.03
2014-15	3187234	126298863	0.03
2015-16	3048477	91692011	0.03
2016-17	11820849	106920992	0.11
2017-18	10369374	66090578	0.16
2018-19	10341396	36771913	0.28
2019-20	34318593	17524404	1.96
2020-21	66047881	83742956	0.79
Average	14923687.5	82565017.9	0.35
Rxy		-0.3546	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the Debt-to-Asset Ratio was 1.96 in year 2019-20. It indicates that the debt values are very high in the particular year even the total assets were comparatively low. There was a low negative relationship between the total debts and total assets during the study period 2011-12 to 2020-21.

Return on Equity

The following table presents the Return on Equity Ratio of National InsuranceCompany Limited during 2011-12 to 2020-21.

Return on Equity = Revenue / Total Equity

Table No. 9

Return on Equity Ratio of National Insurance Company Limited during 2011-12 to 2020-21

(Rs. '000)

Year	Revenue	Total Equity	Ratio
2011-12	6978468	192603156	0.04
2012-13	8228873	219933462	0.04
2013-14	9701084	250443497	0.04
2014-15	1492290	284362090	0.01
2015-16	1210387	91080856	0.01
2016-17	631781	90569440	0.01
2017-18	-21707660	39938139	-0.54
2018-19	-16961224	3593025	-4.72
2019-20	-41083359	25146569	-1.63
2020-21	-5618573	63570807	-0.09
Average	-5712793.3	126124104.1	-0.68
Rxy		0.7466	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that the Return on Equity Ratio was calculated by dividing the net revenue of company by the shareholders equity. The table indicates that the ratio of return on equity was fall down from the year 2017-18. In between 2011-12 to 2016-17 they were able to maintaining the positive figures. There was a high positive relationship between revenue and total equity during the study period 2011-12 to 2020-21.

Equity Ratio

The following table presents the Equity Ratio of National Insurance CompanyLimited during 2011-12 to 2020-21.

Equity ratio = Total Equity/Total Assets

Table No.10 **Equity Ratio of National Insurance Company Limited during 2011-12 to 2020-21**

(Rs. '000)

Year	Total Equity	Total Assets	Ratio
2011-12	192603156	91451449	2.11
2012-13	219933462	95783551	2.30
2013-14	250443497	109373462	2.29
2014-15	284362090	126298863	2.25
2015-16	91080856	91692011	0.99
2016-17	90569440	106920992	0.85
2017-18	39938139	66090578	0.60
2018-19	3593025	36771913	0.10
2019-20	251465 <mark>69</mark>	17524404	1.43
2020-21	63570807	83742956	0.76
Average	126124104.1	82565017.9	1.37
Rxy		0.7955	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that generally, the standard of Equity Ratio should not be above a level of 2.0. Theabove table indicates that the equity ratio in the year 2012-13 to 2018-19 are 2.30, 2.29, 2.25, 0.99, 0.85, 0.60, 0.10 and it was fluctuating in the year between 2020-2021. i.e., 1.43, 0.79 hence it indicates the company was in the good position.

There was a high positive relationship between Total Equity and Total Assets during the study period 2011-12 to 2020-21.

Current Assets to Fixed Assets Ratio

The following table presents the Current Assets to Fixed Assets Ratio of National Insurance Company Limited during 2011-12 to 2020-21.

CATA = Current Assets / Fixed Assets

Table No.11

Current Assets to Fixed Assets Ratio of National Insurance Company Limitedduring 2011-12 to 2020-21

Year	Current Assets	Fixed Assets	Ratio
2011-12	71358345	991630	71.96
2012-13	101064507	1452509	69.58
2013-14	110012766	1830150	60.11
2014-15	120494980	2016457	59.76
2015-16	138460592	1821857	76.00
2016-17	161794685	2835419	57.06
2017-18	224486120	3128325	71.76
2018-19	236506117	3742204	63.20
2019-20	287319407	3720619	77.22
2020-21	276898120	5091177	54.39
Average	172839563.9	2663034.7	66.10
Rxy		0.9440	

Source: Various Annual Reports of National Insurance Company Limited.

From the above table it is observed that Current Assets are increasing year by year, but the fixed assets are fluctuating from 2011-12 to 2020-21. The increment in Current Assets and Fixed Assets resulted an increase in the ratio compared with previous years. There was a high positive relationship between the Current Assets and Fixed Assets during the study period 2011-12 to 2020-21.

FINDINGS

- The current ratio of the company was below the standard norm of 2:1 throughout the study period 2011-12 to 2020-2021.
- The quick ratio of company was below the standard ratio during the study period 2011-12 to 2020-21.
- There is a high negative relationship between the quick assets and current liabilities during the study period.
- The company was able to maintain the standards of proprietary ratio in the year 2020-21. The remaining years, the company is unable to maintain the standards of proprietary ratio.
- There was a high positive relationship between the shareholders fund and total assets during the study period 2011-12 to 2020-21.
- The working capital turnover ratio was in positive figure from 2017-18 to 2020-21like 0.16, 0.11, 0.20, 0.03.
- ➤ There was a high positive relationship between the revenue and total assets of the company during the study period 2011-12 to 2020-21.
- The total assets values are gradually fluctuating, the asset turnover ratio was in negative figures. So, the changes in the assets affect the revenue of the company.
- There was a low positive relationship between total debts and shareholders' funds during the study period.
- In the year of 2019-20 the debt-to-assets ratio was 1.96. it indicates that the debt values are very high in the particular year even the total assets are comparatively low.

- The ratio of return on equity was down from the year 2017-18. In between 2011-12 to 2016-17 they were able to maintaining the positive figures.
- ➤ The equity ratio is fluctuating during 2019-20 to 2020-21. i.e., 1.43, 0.79 hence it indicates the company was in the good position.
- ➤ Current assets are increasing year by year, but the fixed assets are fluctuating from 2011-12 to 2020-21. The increment in current assets and fixed assets resulted an increase in the ratio compared with previous years.

SUGGESTIONS

- The company should try to increase the current assets to maintain standardcurrent ratio and quick ratio.
- > The company should try to increase the proprietary fund to meet the standard proprietary ratio.
- ➤ The company should try to increase the revenue by selling number of policies.
- ➤ It is advised to invest in different platforms on different stocks to get maximum returns.

CONCLUSION

The company's financial position was fluctuating throughout study. It is better to invest on different stocks to get maximum returns rather than investing on fixed assets. The entry of private sector insurance companies into the Indian insurance sectortriggered off a series of changes in the industry. It is better to introduce new policies to increase revenue to different sectors in the present scenario.

References

- 1. Robert O. Edmister (1972), An Empirical Test of Financial Ratio Analysis for Small Business Failure Prediction, Journal of Financial and Quantitative Analysis, 1972, vol. 7, issue 2, 1477-1493
- 2. S.Saigeetha and Dr.S.T.Surulivel (2010), A Study On Financial Performance Using Ratio Analysis Of Bhel, Trichy, International Journal of Innovative Research in Management Studies (IJIRMS), Volume 2, Issue 3, April 2017. pp.31-39.
- 3. Sheela, S. Christina (2011) "A Study on Financial Performance of Wheels India Limited-Chennai", Feb., 2011, Vol. 2 Issue 10, p231.
- 4. Edward I.Altman (1968), Financial Ratios, Discriminant Analysis And The Prediction Of Corporate Bankruptcy, The Journal of Finance, Vol. XXXIII, No.4, p.589-609.
- 5. R.J.Taffler (1982) "Forecasting Company Failure in the UK Using Discriminant Analysis and Financial Ratio Data" Journal of the Royal Statistical Society Series A (General) 145(3):342-358 · January 1982.
- 6. Prasanta Paul (2011) "Financial Performance Evaluation A Comparative Study of Some Selected NBFCs" Volume 5, Issue 5, May 2011.
- 7. James A.Largay et al (1980) "Cash flows, Ratio analysis and the W.T. grant company bankruptcy" Financial Analysts Journal (July-August 1980), p.51.
 - 8. Query-Jen Yeh (1996) "The application of Data Envelopment analysis in conjunction with financial ratios for bank performance evaluation" JORS 47(8): 980-988.