

CAPITAL STRUCTURE ANALYSIS OF STATE LEVEL PUBLIC ENTERPRISES IN KERALA

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Abstract

The public sector became a major instrument of planned economic development and was viewed as its prime mover in several countries including India. Public sector is a very comprehensive term encompassing a vast array of activities undertaken through public funding from resources raised mainly through fiscal efforts. In India public enterprises consists of central public enterprises and state level public enterprises. The major sources of financing of public enterprises are equity and debt financing. Generally, financing decisions are often referred as capital structure decisions. The objective of the study is first, to analyse capital structure of selected state level public enterprises with the help of selected ratios, second analyses the influence of capital structure on the over all operating result of the state level public enterprises and compare the impact of new economic policy in the financial health of the Modern Manufacturing Public Enterprises (MMPEs) of Kerala. The analysis reveals that the financial health of the modern manufacturing state level public enterprises in Kerala has improved after the implementation of the new economic policy.

***Index Terms* - Public enterprises, capital structure, ratio analysis, new economic policy.**

Introduction

The public sector became a major instrument of planned economic development and was viewed as its prime mover in several countries. The ideological, strategic, economic and social considerations provided the genesis, growth and development of the public sector in several countries like India. Active involvement of the state in the processes of development became an economic necessity for many countries, especially the developing countries. Public sector is initiated in the country either by way of nationalization or by starting new production units with fresh investments. The growth of the public sector had been a global phenomenon since the 1950s and India was no exception. The state intervention was considered necessary also to regulate the use of scarce resources depleted by war efforts and to prevent the distortions arising from undiluted profit motive of private entrepreneurs.

The term public sector encompasses all economic activities of a government. It has been used to mean 'public enterprise', 'government controlled enterprise', 'state-owned enterprise', 'public undertaking' or 'public sector undertaking' or simply 'state enterprise'. Public sector in the Indian context includes, all activities funded out of the government budget. It includes not only the government companies but also various central or state government departments, and other departmental undertakings. It may be central public enterprises or state

level public enterprises. The enterprises formed by the Central Government and the State Governments to undertake economic activities are known as Central Public Enterprises (CPEs) and State Level Public Enterprises (SLPEs) respectively.

The investment in Central Public Enterprises has increased from Rs 19,201 crores in 1980-81 to Rs 4,52,319 crores in 2007-08 indicating an average percentage increase of 10.48%. The total investment comprises of equity share capital of Rs.1, 31,232 crores and debt capital of Rs.3, 21,087 crores during 2007-08. Net profit ratio of CPEs shows an increasing trend during the post reform period. The average net profit ratio has improved from 1.97% to 5.16% during this period. Kerala is one of the states which received very little attention in the heavy industrialization strategy pursued, its share in central public sector investment remained low and infact declined over time. The Central Public Sector Investment in Kerala has decreased from 2.44% in 2007 to 2.41% in 2008 placing in the 19th position among the States.

The State Level Public Enterprises had a total investment of Rs. 3,33,441 crores in 2006-07 indicating an annual growth of 5.81 % during the 1990s. The total investment comprises of equity for Rs1,15,658 crores and debt for Rs.2,17,783 crores as on 31.3.2007. Both the equity and debt element shows an increasing trend throughout the period and the difference in annual growth rate of investment and net worth shows erosion of wealth of the concern during these periods. The dismal feature is that the amount of accumulated losses is increasing i.e. the loss persists in SLPEs in India. The accumulated losses of SLPEs increased from Rs10,999 crores in 1991-92 to Rs 60,517 crores in 2004-05. The grants and subsidies given to SLPEs to tide over the financial difficulties during 2006-07 was Rs. 31458 crores. The average rate of return on the public sector investments for the states taken together is only 1.64% as against interest rates on their past debt ranging on average between 11-13%.

Scope of the Study

The state government, committed as it is to planned economic development, has assigned a key role to the public sector owing to its importance in creating more employment opportunities for the literate and skilled labour force, removing the income disparities of the people belonging to different regions of the state and generating surpluses for the government for financing economic development activities. It is a record that the Kerala state stands in the forefront in the number of the state level public enterprises in the country. The total capital invested in 105 state level public enterprises as on 31st March 2009 was Rs. 18,179 crores. The public enterprises owned by the Government of Kerala suffer from various limitations like optimum utilization of resources, poor financial management and marketing management, poor industrial relations, etc. As on 31st March, 2009, out of 105 units only 51 units have reported profits and the remaining enterprises have incurred losses. Public enterprises are facing serious problems in various functional areas like financial, personnel, marketing etc. Researchers (Sharma R.P, 1987, Uma Devi, 1992, Shastri Mehta,1987 , Gangadharan Pillai ,1980, Sahoo P.K, Ed, 2000, Krishnmachary, 1990, Rajaiiah. B, 1989) was have pointed out various problems of public enterprises. like under utilisation of plant capacity, lack of professionalism, political interference, lack of commercial focus , absence of planning, lack of accountability, and high operating cost. In the present age of globalization, their survival is in question. As a result of the Industrial Policy of 1991, considerable changes are observed in the attitude of both central and state governments in making investments in the public enterprises in Kerala also. Since the financial health of the state level public enterprises is very week and decrease in capital support as part of the new economic policy, will adversely affect the existence of the state

level public enterprises. Thus, a study on the impact of new economic policy on the capital structure of the public enterprises was found necessary to throw more light on the pros and cons of such a move in this crucial sector of Kerala. So far, no organised study has been conducted in this aspect, hence the present study.

Classification of State Level Public Enterprises (SLPES) in Kerala

Kerala has the highest number (113 out of 1071) of State owned enterprises spread over sectors including electrical, electronics, engineering, chemical, pharmaceuticals, public utility services, and social welfare. The network of SLPES has played a crucial role in the manufacturing and service sector of the State. It is one of the largest employment providers in the organized sector. SLPES have provided a strong foundation for the development of small, medium and large scale industries. The state level public enterprises are grouped into 14 sectors on the basis of the type of activity. The classification of SLPES is given below.

Table 1.1
Sector wise Classification of SLPES in Kerala as on 31st March 2009

Sl. No.	Sector	No. of Units
1	Development and Infrastructural Agencies	18
2	Ceramics and Refractories	3
3	Chemical Industries	11
4	Electrical Equipment	5
5	Electronics	9
6	Engineering	11
7	Plantation and Agro-Based Units	14
8	Textiles	4
9	Wood-Based Industries	3
10	Traditional Industries	7
11	Trading Units	3
12	Welfare Agencies	9
13	Public Utilities	6
14	Others (including units under liquidation)	2
	Total	105

Source: A Review of Public Enterprises in Kerala 2008-09.

Out of the 105 SLPES, only 92 units were working as on 31st March, 2008. Among the working 92 enterprises, 59 enterprises are fully owned by the state government, 8 units are organised as statutory bodies, 9 enterprises are jointly owned by the state and central government. Another 8 enterprises are jointly owned by the state government and the public. The remaining units have other forms of ownership.

Modern Manufacturing Public Enterprises (MMPEs).

The Bureau of Public Enterprises has classified state level public enterprises into 14 sectors. Out of these, seven sectors viz., ceramics and refractories, chemical industry, electrical equipments industry, electronics industry,

engineering industry, textile industry and wood based industry are referred to as Modern Manufacturing Public Enterprises (MMPEs). The period of study is classified into two i.e. Pre Reform (1984-85 to 1994-95) and Post Reform (1995-96 to 2008-09) Period. Among the 46 MMPEs, 17 units were selected as sample units. The classification of MMPEs in Kerala is given below:

Table 1.2
Classifications of MMPEs in Kerala

Sl. No.	Sector	Total No. of Units	No. of Working Units	No. of Sample Units	Percentage
1	Ceramics and Refractories	3	2	2	100
2	Chemical Industries	11	8	3	37.5
3	Electrical Equipment	5	4	3	60.75
4	Electronics	9	6	3	50
5	Engineering	11	8	3	37.5
6	Textiles	4	3	2	66.67
7	Wood-Based Industries	3	1	1	100
	Total Units	46	32	17	53.13

Source:-A Review of Bureau of Public Enterprises 2007-08

Capital Structure Analysis

Capital structure is defined as the amount of long-term debt, preferred stock and common stock used to finance a firm. According to Van Horne, capital structure is debt versus equity financing. In the words of Datta “capital structure of a firm refers to the structural combination of the different types of sources of finance (securities and otherwise) which are tapped for raising funds for a business”. Others are on the opinion that, capital structure means, “the amount of long term debt, preferred stock and common stock used to finance a firm”. According to Gerstenberg, “capital structure refers to the make up of a firm’s capitalization”. In other words, it represents the mix of different sources of long-term funds (such as equity shares, preference shares, long term loans, retained earnings etc in the total capitalization of the company).

Researchers (Mishra and others, 1985, Sharma B.S, 1974) are of the opinion that public enterprises have no uniform capital structure. Some others (Sahay, 1984, Anitha Mathew, 1992) revealed that public enterprises have unbalanced capital structure. High debt in the capital structure adversely affects the capital structure of public enterprises (Geevarghese. C, 2002, Viswanadhan, 1986). The volume of equity has been declining in capital structure of public enterprises (Srinivasan, 1985). Corporate plan is very much essential for the growth and development of a commercial enterprise. But our public enterprises are very much lagged behind in this matter (Arvind Gupta, 1984, Shankaraiah A., 1983). So there is an immediate need to improve the financial structure of the public enterprises (Sandeep Goel, 2001).

Table 1.3
Capital Structure Ratios of MMPEs in Kerala
(1984-85 to 1994-95 and 1995-96 to 2008-09)

Ratio	Period	Capital Structure Ratios of MMPEs in Kerala						
		Ceramics	Chemical	Electrical Equipment	Electronics	Engineering	Textiles	Wood Based
Average Debt Equity Ratio	Pre Reform	1.46	2.21	2.33	1.79	2.25	1.24	0.81
	Post Reform	0.37	0.2	0.96	2.97	1.1	1.4	3.4
Average Proprietary Ratio	Pre Reform	-0.24	-0.04	-0.13	0.12	-0.14	-0.11	0.03
	Post Reform	-0.2	0.56	-0.04	-0.16	-0.19	-0.31	0.08
Average Fixed Assets to Networth Ratio	Pre Reform	-0.57	-1.38	-4.03	3	4.92	-1.11	0.08
	Post Reform	-0.08	0.46	-0.34	0.86	-2.74	-0.85	0.4
Average Fixed Assets Ratio	Pre Reform	0.13	0.46	0.31	0.49	0.43	0.32	0.15
	Post Reform	0.06	0.37	0.14	0.21	0.09	0.19	0.09
Average Capital Gearing Ratio	Pre Reform	1.46	2.21	2.33	1.79	2.25	1.24	0.81
	Post Reform	0.37	0.2	0.96	2.97	1.1	1.4	3.4
Average Debt to Capital Employed Ratio	Pre Reform	3.68	1.14	2.52	0.81	0.72	1.39	0.59
	Post Reform	0.86	0.19	1.52	1.35	0.63	2.65	0.76

Source: Compiled from data collected

1.1 DEBT EQUITY RATIO

The mix of debt and equity capital has many implications. The debt equity ratio of chemical industry showed substantial reduction after the implementation of new economic policy. But in case of electronics sector the ratio showed an inconsistent picture during both the pre reform and post reform periods. In the engineering sector the average debt equity ratio has reduced. The average debt equity ratio of textile sector shows an increasing tendency. On the contrary in case of wood based sector the debt equity ratio has increased significantly after the implementation of new economic policy. The analysis of the debt equity ratio reveals that out of the seven sectors, four sectors show a decreasing trend i.e. ceramics and refractories, chemical electrical equipment and engineering sectors and three sectors i.e. wood based, electronics and textiles sectors show an increasing trend. The volume of increase is less than the volume of decrease, so the average volume of debt shows a decreasing trend after the implementation of new economic policy. Thus, the debt equity ratio of MMPEs shows a decreasing trend after the implementation of new economic policy. In the case of MMPEs covered under the study, debt equity ratio points to the fact that there exist different patterns of capital structure in various sectors. The analysis pointed out the fact that the intensity of borrowed funds in the capital structure of the SLEPs in Kerala (Prasad and Rao K.V.,1989, Sandeep Goel, 2001, Ramachandra Rao 1984, Wilson ,1981, R.B.I Bulletin, 1985, Venkitachalam,1988, Mishra,2001,Mathew,1993, Chalam, 1985, Usha Devi. M, 1995), the use of heavy debt capital constrained the financial health of the enterprises (Usha Devi. M. 1995), negative net worth was a common feature of many SLEPs in Kerala (Anil Prasad V, 2004) and accumulated losses were more than the paid up capital of SLPEs in Kerala (Geevarghese. C, 2002, Nataraja Iyer, 1995)

The trend analysis of average debt equity ratio of MMPEs shows a decreasing trend from 1980 onwards. The trend line exhibits a downward movement curve from left to right (Fig. 1.1). The reduction of debt element in the capital structure helps the MMPEs of Kerala to improve their financial health and long term solvency. The results of the chow test reveal the fact that there is significant change in the debt equity ratio of ceramics and refractories, chemical, electrical equipment and wood based sectors of MMPEs after the implementation of new economic policy. This fact is also supported by debt equity ratio results of the MMPEs of Kerala.

1.2 PROPRIETARY RATIO

The average proprietary ratio shows improvement after the introduction of new economic policy in ceramics, chemical, electrical equipment and wood based sector, but it shows a decimal picture in electronics, engineering and textile sectors, during post reform period. Besides, the presence of heavy accumulated losses is also depicted by the ratio (Mishra R.K. (Ed), 2004). The result of the proprietary ratio points out the need to reduce the volume of accumulated losses to improve the long run financial health of SLPEs. Rate of return is the important element, which influences the prospect and growth of a firm (Arvind Gupta, 1984, Arvind Pandey, 1999). The proprietary ratios also describes the fact that borrowed funds have played a very important role in financing the fixed assets or the extent to which the assets were financed by share holders' funds was very low. Heavy interest burden is the important reason for the loss incurred by the public enterprises (Gouthama Rao, 1987, Prasad. G and Rao K.V., 1989, Kerala State Planning Board, 1989, Pandey K.M. 1987).

The average proprietary ratio exhibits an increasing trend (Fig. 1.2). However, the average rate is below zero throughout the period of study. This means that a major portion of the owners' contribution in the MMPEs of Kerala has eroded, as indicated by the amount of accumulated losses. The chow test describes the fact that there is significant change in the proprietary ratio of ceramics and refractories, chemical, electrical equipment, electronics and engineering sectors MMPEs of Kerala after the implementation of the new economic policy. This fact is also supported by proprietary ratio results of the MMPEs of Kerala.

1.3 FIXED ASSETS TO NETWORTH RATIO

The ratio of fixed assets to networth helps to understand the long term solvency position of the industrial units. The average fixed assets to networth ratio of the five sectors shows that ceramics and refractories, chemical, electrical equipments, textiles and wood based has improved and electronics and engineering has declined after the implementation of the new economic policy. Negative net worth was a common feature of the public sector undertakings in Kerala (Anil Prasad V, 2004). In many public sector units in Kerala, accumulated losses were more than the paid up capital (Geevarghese. C, 2002, Nataraja Iyer, 1995).

The trend analysis of average fixed assets to networth ratio of MMPEs of Kerala shows a negative trend (Fig 1.3). It clearly points out the fact that the presence of accumulated losses in the capital structure. Thus, the trend analysis of average fixed assets to networth ratio explains poor performance of MMPEs in Kerala. The volume of accumulated losses shows a decreasing trend after the implementation of the new economic policy. The chow test discloses the fact that there is significant change in the fixed assets to networth ratio of ceramics and refractories, electrical equipment and wood based sectors of modern manufacturing public enterprises of Kerala after the implementation of the new economic policy. This fact is also supported by fixed assets to networth ratio results of MMPEs of Kerala.

1.4 Fixed Assets Ratio

The average fixed assets ratio of state level MMPEs of Kerala shows the percentage of long term finance invested in fixed assets. The proportion of long term funds invested in the fixed assets shows a declining trend in the post reform period in ceramics and refractories, chemical, electrical equipments, textiles, wood based, electronics and engineering sectors. Internal sources of public sector undertakings are not enough to finance the capital requirements of the public enterprises. Public enterprises in Kerala failed to generate internal resources and heavily depended on the Government and financial institutions for funds (Anil Prasad V, 2004). Public enterprises are not in a position to mobilize sufficient internal resource for its smooth functioning, (Hemalatha Rao, 1988, Batra, 1995, Rao and Prasad, 1989). Negative net worth during the post reform period throws light to the fact that a considerable amount of funds raised from long term sources are eroded. This is due to the huge amount of accumulated losses in different sectors. All the sectors in the manufacturing field except chemical sector are facing shortage of working capital after 1995. The decreasing fixed assets ratio during the post reform period resulted into an increasing trend in the working capital ratio during the same period. A comparison of the fixed assets ratio and working capital ratio brings out the fact that financial planning is very poor in the MMPEs in Kerala. Here the working capital position of MMPEs also very weak during the post reform period.

Trend analysis of average fixed assets ratio of MMPEs of Kerala shows a declining trend throughout the period of study (Fig.1.4). The decreasing trend clearly discloses the fact that the long term funds are used for working capital requirements. The chow test reveals the fact that there is a significant change in the fixed assets ratio of ceramics and refractories, chemical, electrical equipment, engineering, textiles and wood based sector of modern manufacturing public enterprises of Kerala after the implementation of the new economic policy. This fact is also supported by fixed assets ratio results of the modern MMPEs of Kerala.

1.5 Capital Gearing Ratio

The capital gearing ratio explains the relationship between the funds contributed by the equity share holders and the funds raised by issuing fixed interest bearing securities. The analysis of capital gearing ratio reveals that there is a remarkable improvement in the position after the introduction of the new economic policy. The debt content in the total long term funds available in the MMPEs covered under the category ceramics and refractories, chemical, engineering and electrical equipment has decreased considerably during the post reform period. However, it is noted that in the case of electronics, textiles and wood based sector capital gearing ratio has increased during the post reform period. This means, the new economic policy has helped the majority of the MMPEs to reduce dependence on borrowed funds considerably. The impact of dependency of the borrowed funds adversely affects the operating results i.e. heavy interest burden, of the MMPEs of Kerala, (Usha Devi. M, 1995). Heavy interest burden is the important reason for the poor financial performance of the public enterprises, (Gouthama Rao, 1987, Prasad.G, Rao K.V, 1989, Kerala State Planning Board, 1989, Pandey K.M, 1987).

Trend analysis of average capital gearing ratio of MMPEs shows a down ward trend (Fig 1.5). The downward trend means the fact that the volume of debt fund is reducing in the capital structure of MMPEs in Kerala during the post reform period. The chow test reveals the fact that there is significant change in the

capital gearing ratio of MMPEs of Kerala i.e. ceramics and refractories, chemical, electrical equipment and wood based sectors after the implementation of the new economic policy. This fact is also supported by capital gearing ratio results of the MMPEs of Kerala.

1.6 DEBT TO CAPITAL EMPLOYED RATIO

Debt to capital employed ratio explains the proportion of borrowed funds in the total amount of capital employed. This is an indicator of long term solvency position of the firm. The proportion of borrowed funds in the capital structure of the public sector undertakings in Kerala is high, (Prasad, Rao K.V. 1989, Sandeep Goel, 2001, Ramachandra Rao, 1984, Wilson, 1981, R.B.I Bulletin 1985, Venkitachalam, 1988, Mishra, 2001, Mathew, 1993, Chalam, 1985, Usha Devi. M, 1995). The analysis of debt to capital employed ratio leads to the conclusion that the new economic policy has helped the industrial units in ceramics and refractories, chemical, electrical equipment and engineering sectors to reduce the volume of borrowed funds. But the industrial units in electronics, textiles and wood based sectors are depend more on outsiders' funds even after the implementation of the new economic policy.

Trend analysis of average debt to capital employed ratio shows a downward movement from left to right (Fig 1.6). The downward movement describes the decrease of borrowed fund in total capital employed of modern manufacturing public enterprises of Kerala. The chow test points out the fact that there is significant change in the debt to capital employed ratio of these sectors after the implementation of the new economic policy. This fact is also supported by debt to capital employed ratio results of the MMPEs of Kerala.

Result of Statistical Analysis: Chow test

Ratios	Debt Equity Ratio		Proprietary Ratio		Fixed Assets to Net Worth Ratio		Fixed Assets Ratio		Capital Gearing Ratio		Debt to Capital Employed Ratio	
	F-statistic	P value	F-statistic	P value	F-statistic	P value	F-statistic	P value	F-statistic	P value	F-statistic	P value
Sectors	(2, 21)		(2, 21)		(2, 21)		(2, 21)		(2, 21)		(2, 21)	
Ceramics and Refractories	12.29	3E-04	14.05	0	4.04	0.0327	32.37	0	12.29	0.0003	1.55	0.2358
Chemical	31.53	0	29.98	0	1.09	0.3515	19.51	0	31.53	0	24.52	0
Electrical Equipment	2.61	0.097	2.63	0.1	2.89	0.0773	4.47	0.0242	2.61	0.0969	2.92	0.0762
Electronics	0.06	0.94	38.59	0	0.22	0.8053	1.03	0.3735	0.06	0.9404	0.14	0.8719
Engineering	1	0.385	154.39	0	0.33	0.7244	5.96	0.0089	1	0.3846	17.61	0
Textiles	0.03	0.972	1.46	0.25	1.19	0.3242	2.88	0.0784	0.03	0.9723	0.5	0.6124
Wood based	5.59	0.011	1.46	0.25	15.66	0.0001	22.49	0	5.59	0.0113	0.04	0.9633

Discussion

This paper explains the capital structure analysis of MMPEs out with the help of the ratios i.e. Debt equity ratio, proprietary ratio, fixed assets to networth ratio, fixed assets ratio, capital gearing ratio and debt to capital employed. The trend of the ratios reveals that the financial health of the modern manufacturing state level public enterprises in Kerala has improved after the implementation of new economic policy. The debt equity ratio discloses the fact that the amount of borrowed funds has increased during the initial periods after the implementation of the new economic policy and then started decreasing. Capital gearing ratios worked out

for different periods also support this fact. The analysis of proprietary ratios clearly explains the heavy dependence on borrowed funds for financing the capital requirements of the MMPEs in Kerala. These ratios also indicate that such borrowed funds are used not only for financing fixed capital requirements, but even for meeting the working capital requirements of the units covered under the study. The proprietary ratio also brings out the fact that a considerable portion of the owners' contribution in the modern manufacturing public enterprises has eroded, as indicated by the amount of accumulated losses. The ratio of fixed assets to net worth describes the fact that long term solvency position of the ceramics and refractories, chemical, electrical equipments, textiles and wood based has improved and electronics and engineering sectors has declined after the implementation of the new economic policy. The analysis of fixed assets ratio discloses the fact that the modern manufacturing public enterprises are not following a prudent financial management practice. Most of the units are found using long term sources for short term capital requirements. It is noted that all the sectors in the manufacturing field except chemical sector are facing the problem of shortage of working capital after the implementation of new economic policy. The amount of borrowed funds has started reducing during the later part of the post reform period, but shortage of working capital is a serious problem faced by these units. Thus, there is a notable change in the capital structure of the MMPEs in Kerala after the implementation of the new economic policy.

Summary and Conclusions

The analysis carried out with the help of the ratios explained above and their trend reveals that the financial health of the MMPEs of Kerala has improved after the implementation of the new economic policy. The analysis discloses the fact that capital structure of MMPEs in Kerala is overburdened with debt capital. Besides, majority of the units are found shortage of working capital requirements. So there is urgent need to implement prudent financial management practices to make them financially viable units. Thus MMPEs can achieve the position of commanding heights of the economy.

Appendix 1

Trend Analysis of Capital Structure Ratios

Fig.1

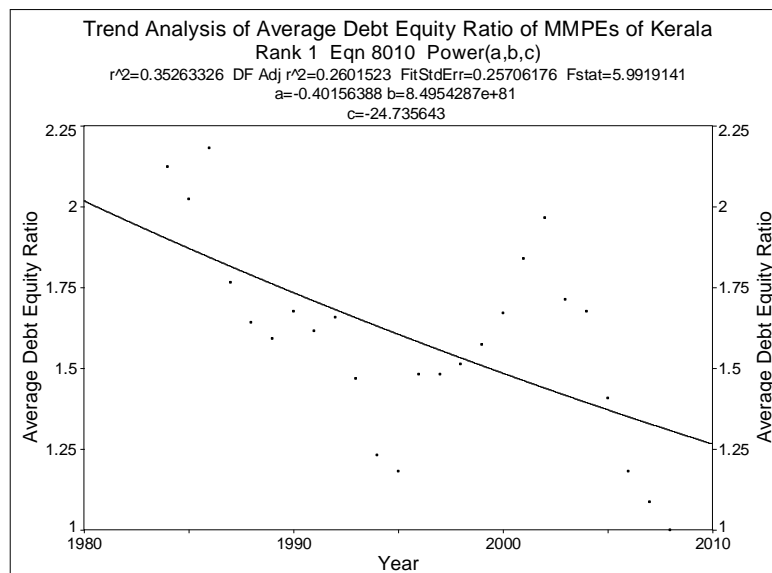


Fig.2

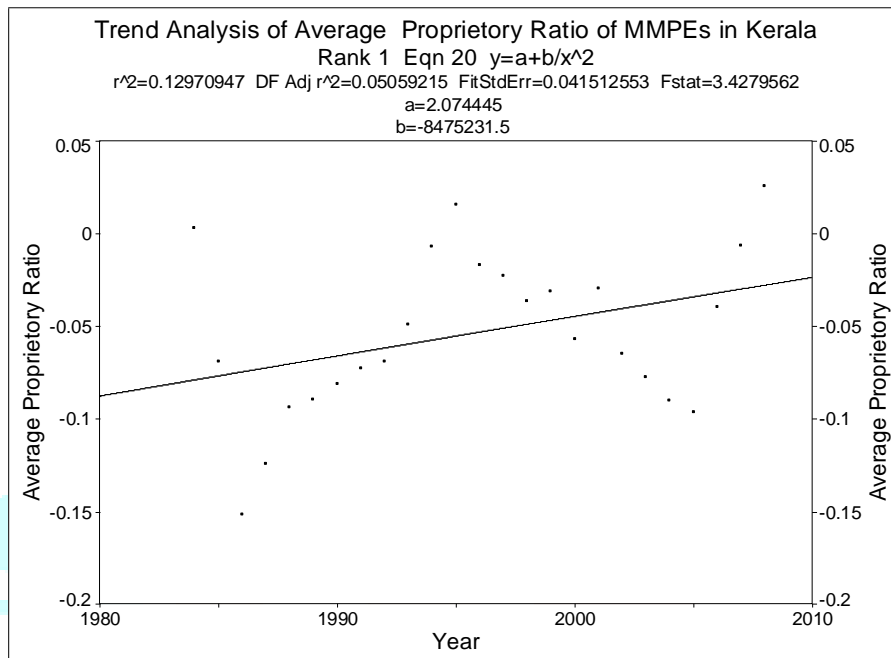


Fig.3

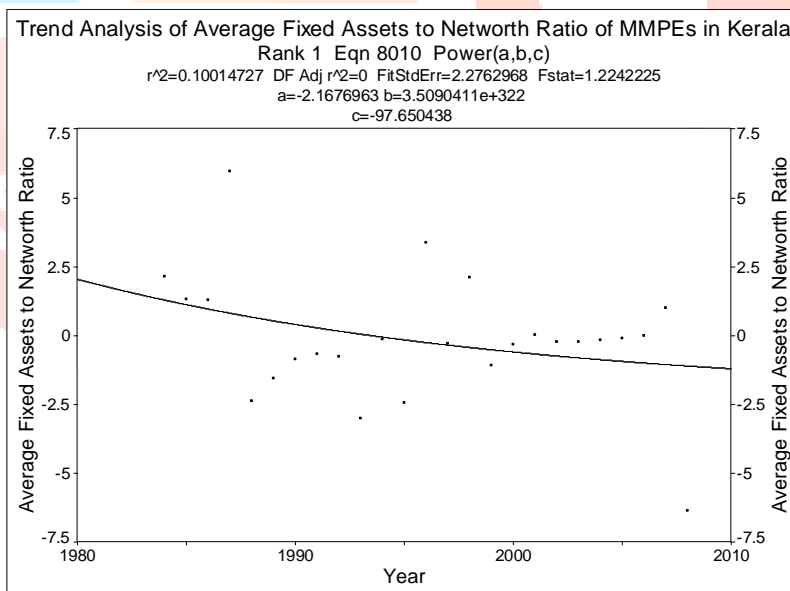


Fig.4

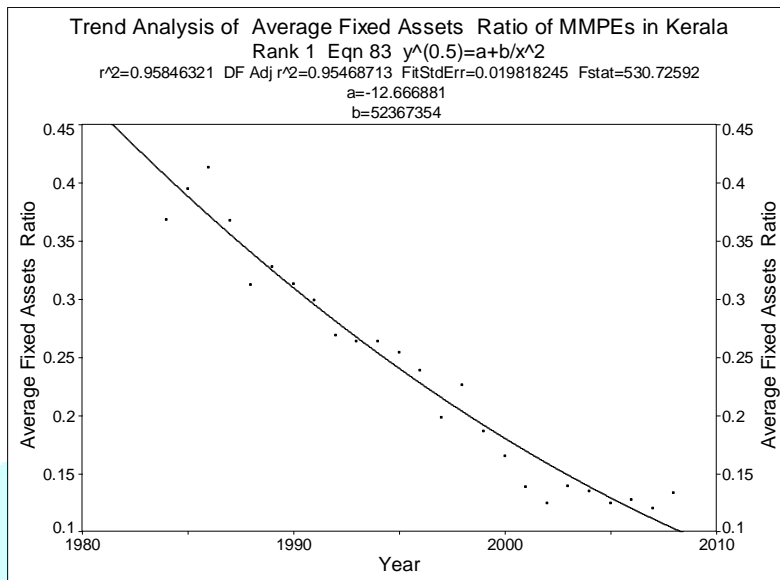


Fig.5

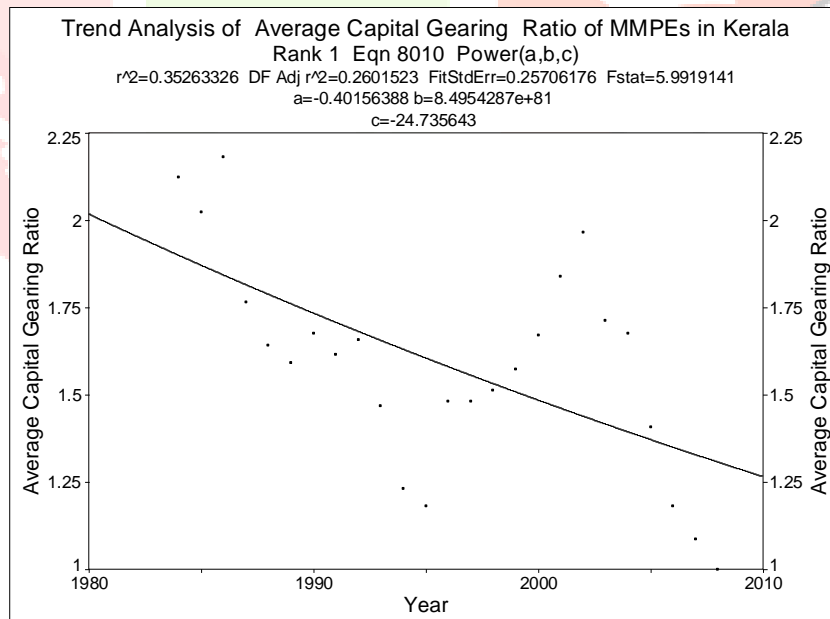
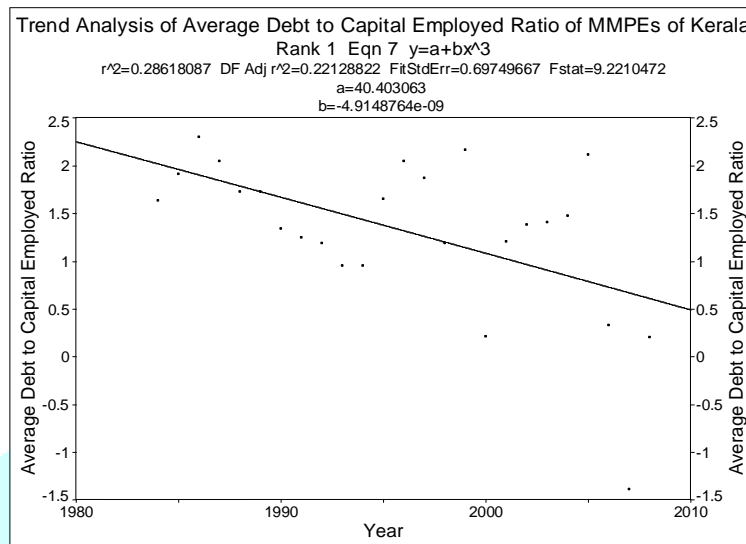


Fig.6



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