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Financial Analysis of Cable and Wire Industry 2001-2010 (Case of Pakistan)

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Abstract - The purpose of this study is to analyse the financial data of cable and wire industry over the decade. In this analysis we see that the performance of cable and wire industry with the help of financial data of cable and wire industry from 2001 to 2010. It will do this by the dependent and independent variables like paid-up-capital, sales, profit after tax, assets, equity and number of shares. With the help of graphical representation which will make it easy for us to analyse when the industry was flourishing the most.

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I. Introduction

Pakistan is manufacturing good quality and reliable electronic items which meet international quality. The electronic goods manufacturing companies in Pakistan also exports the best quality electronic goods in various countries around the world. It is one of a good profit earning sector in Pakistan. Now a day there is great competition in this industry. Different companies are offering different kinds of goods which are increasing competition in this sector. There are so many kinds of electronic goods that are making a man's life easier day by day.There is also one drawback of electronic items like big machineries that it is creating unemployment all over the world because so many works are done by the machinery and the men are being unemployed. To operate the machinery we also need different kinds of wires which are also manufactured by the industry at a big scale. Different kinds of raw materials are required to make these wire sum of which are imported from different countries. The main raw materials rubber, copper, silver, aluminum etc. some different kinds of wires are stated below:

1. Cold Heading and Forging Wires.
2. Mild Steel Wire.
3. Wire Cloth and Welded Wire mesh.
4. Barbed Wire.
5. Heavily Galvanized Cable Armoring Wire.
6. Stitching Wire.
7. Wire for Industrial Purposes.
8. Fencing.
9. Aluminum Conductor Steel Reinforced.
10. Cycle Spoke Wire.
11. Galvanized Core Wire and Strands for ACSR Conductors.
12. Wire and Wire Products for Reinforcement of Elastomers.
13. Galvanized wire.
14. Prestressed Concrete Wire and Strand.
15. Stainless Steel Wires.
16. Mechanical Spring Steel Wire.

Different wires are required for different machines. Heavy machines are operated with wires with high power wire and small machines are operated with a low power wire. Machineries are also big source of pollution. Environment is getting polluted due the use of different kinds of crude oils. Many organizations are working on it to come over the pollution created by the use of machines.

II. Literature Review

The industrial segment of the electrical industry has carved out some time-tested methods of distribution. Butthe flood of new products and the intensified price competition in many lines is threatening established marketing channels. The author discusses the challenge to the middlemen engaged in the distribution of these products. It is less than the span of two lifetimes since Michael Faraday demonstrated the principle of the electric motor. The evolution of Faraday's crude device into the 450,000 KW turbine generators being designed today typifies the growth of the electrical industry. In the United States alone the annual production of electrical goods and equipment of all types is in ex-cess of $20 billion. The greatest growth has occurred during the last twenty years. Generating capacity in the United States is now four times as great as it was in the mid-thirties, and kilowatt-hour consumption is six times larger.EDWIN H. LEWIS(Cambridge: The Technology Press, Massachusetts Institute of Technology, and New York, John Wiley & Sons, Inc., 1957) [3].

Forthe purposes of this paper I will consider "distribution" to mean the wholesale or distributing function which is being efficiently, effectively and economically performed today by hundreds of

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organizations in all phases of industry. Inasmuch as my thirty years in business have been devoted to the distribution of electrical equipment I must, therefore, narrow my talk to cover the distribution of electrical supplies and appliances. Basically, however, our business doesn't differ materially from that of other distributors. As a matter of fact, I think it can be said that it typifies better than any other our American system of distribution just as the electrical industry by and large representsa cross-section of all American industry. It is interesting in this connection to note that there is no electrical section of the War Production Board. There is a steel section, a copper section, and so on. The reason there is no electrical section is that in the electrical industry there are represented over fifty other industries from steel to lumber.(HERBERT METZ1944)[4]

The development of cable television has been subjected to a comprehensive and complex array of federal, state, and local regulations; and many new proposals for regulation are being discussed. This paper attempts a critique of the emerging pattern of regulation. The author analyzes the major policy choices and concludes that only limited regulation can be justified. He proposes a new federal statute that would carefully delimit the respective roles of federal, state, and municipal regulators of cable television. The government has not left development of cable television to the free market. Extensive regulation of rates, programs, ownership, and other facets of cable television service has been proposed and, in large measure, already implemented. A critique of the emerging pat- tern of regulation would seem to be timely.(Richard A. Posner 1972)[5]

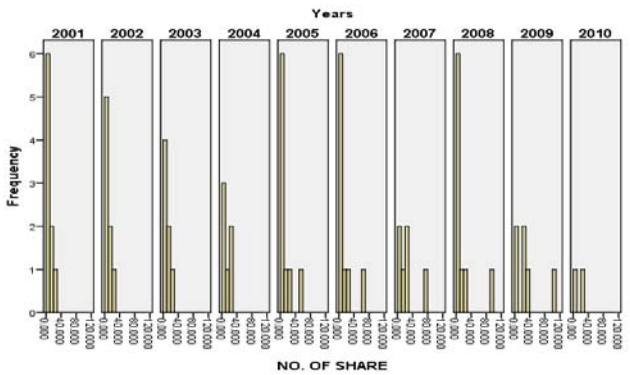
Transitional corporations (TNCs) are producing an ever greater share of the world's output of electrical goods. They also account for a very large share of the international trade in such goods, much of which is on an inter-firm basis. A study prepared at the request of the UNCTAD Secretariat by, Richard S Newfarmer examines how the behavior of TNCs in the electrical industry affects the development and trade of developing countries. ("The International Market Power of Transnational Corporations: A Case Study of the Electrical Industry" by Richard S Newfarmer; UNCTAD/ ST/MD/13.) Excerpts from the summary and conclusions of the study are reproduced below. The general objective of this study has been to show how electrical trans-national conglomerates mobilize and use economic power in international and foreign markets and to understand its effects upon developing countries. In particular, it has focused attention on formal and informal interdependent behavior whereby concerted market tactics and uneasy oligopolistic equilibriums replace vigorous price com-petition in many markets. (Economic and Political Weekly)[6]

III. Methodology

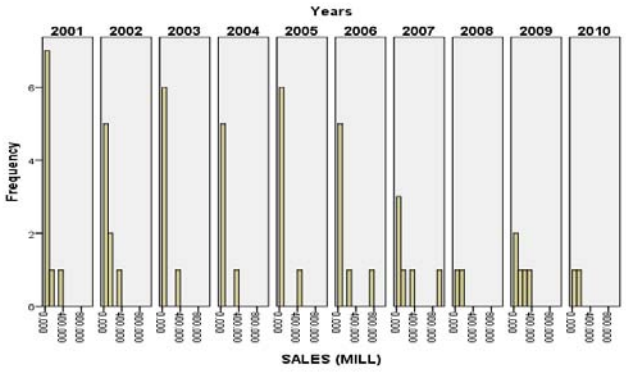
First of all we collected financial data from kse site and applied different tests on it. In this study ANOVA is used for comparing the means of different variable from year 2001 to 2009.Different types of tests. Through anova test we compared the variables of different years from 2001 to 2010. Least significance difference test is applied to compare means of different years. We also applied multiple regression test to predict the dependent and independent variables.

a) Empirical Results

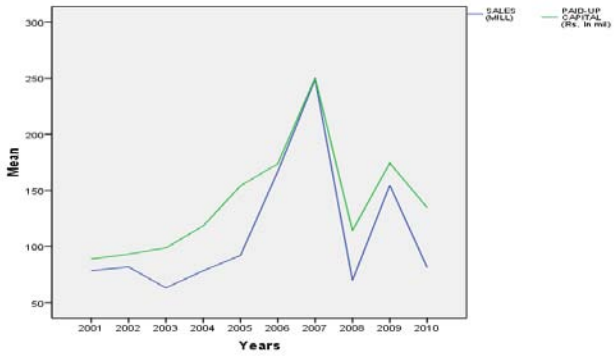
To analyse the no. of share we use histogram. Histogram is one of the basic tools to show the graphical analysis.



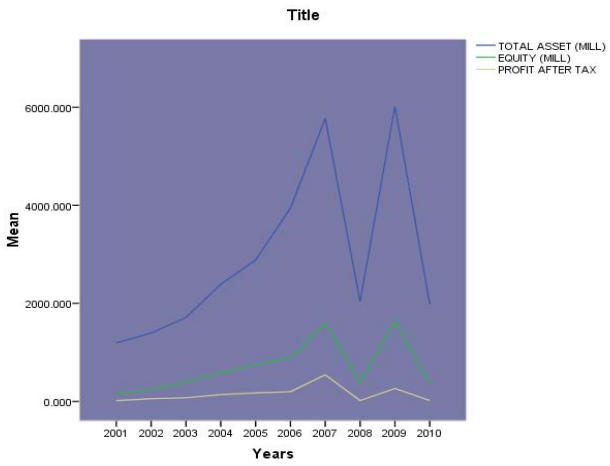
This graph show us that no. of share has a major down fall. From year 2009 cable and wire industry faced crises.



From year 2006 sales of industry has decline. But in year 2005 sales at his highest point.



This area chart shows us the Paid-up-capital is slightly increase from 2001 to 2003 and significant increase come in 2003 to 2006 after that there is huge increase come at year 2007. But in that period Paid-up-capital at very low from year 2007-2008 and in 2009 it have increased and in current situation its declining. Compare to that behaviour of sales is little bit different in few years. From year 2001-2005 sales at its decline point.



This line chart show us three variables. This graph show us that profit after tax has zero or less than zero mean by decline all of the years. Equity has slightly more than zero mean and total assets are low from the very beginning but suddenly decrease in year 2007 and rise in period 2008-2009.

PAID-UP CAPITAL (Rs. In million)

Years	Standard Deviation	Mean	Coefficient of Variation
2001	67.167	88.870	75.579
2002	70.471	93.167	75.639
2003	75.432	98.621	76.487
2004	86.813	118.342	73.358
2005	163.575	124.487	131.399
2006	201.274	173.845	115.777
2007	261.700	250.322	104.545
2008	350.456	254.949	137.461
2009	376.527	323.199	116.500
2010	113.224	134.562	84.143
TOTAL	176.664	166.036	106.4006503

Paid Up Capital was consistent in 2004. Coefficient of Variation is applied for checking the consistency level.

NO. OF SHARE

Years	Standard Deviation	Mean	Coefficient of Variation
2001	6.717	8.887	75.579
2002	7.047	9.317	75.639
2003	7.543	9.862	76.487
2004	8.681	11.834	73.358
2005	16.357	12.449	131.399
2006	19.042	13.521	140.830
2007	26.170	25.032	104.545
2008	30.498	16.997	179.435
2009	37.653	32.320	116.500
2010	11.322	13.456	84.143
TOTAL	17.10307231	15.367	111.2938713

No. of share is consistent in 2004 just as Paid –up-capital.

EQUITY (MILL)

Years	Standard Deviation	Mean	Coefficient of Variation
2001	521.074	150.395	346.469
2002	650.548	233.843	278.199
2003	684.637	399.364	171.432
2004	816.125	579.997	140.712
2005	1120.131	746.723	150.006
2006	1256.104	885.362	141.875
2007	2197.657	1608.891	136.595
2008	374.694	386.015	97.067
2009	2966.143	1631.642	181.789
2010	507.196	360.172	140.821
TOTAL	1109.430947	698.2404763	158.8895208

Equity is consistent in year 2008.

TOTAL ASSETS(MILL)

Years	Standard Deviation	Mean	Coefficient of Variation
2001	1554.664	1191.636	130.465
2002	1742.658	1395.243	124.900
2003	2177.074	1712.484	127.130
2004	2758.343	2389.045	115.458
2005	3497.809	2882.721	121.337
2006	4972.652	3943.708	126.091
2007	7131.222	5773.443	123.518
2008	1845.745	2040.762	90.444
2009	10256.642	6011.196	170.626
2010	2339.898	1986.392	117.796
TOTAL	3827.670659	2932.662895	130.5186036

Total assets are consistent in year 2008 same as equity.

SALES (Million)

Years	Standard Deviation	Mean	Coefficient of Variation
2001	1424.215	1028.920	138.418
2002	1634.998	1263.856	129.366
2003	2094.101	1671.006	125.320
2004	2860.852	2467.958	115.920
2005	4854.023	3442.194	141.015
2006	7288.295	4983.312	146.254
2007	8557.154	6752.809	126.720
2008	2527.801	2007.524	125.916
2009	15598.602	8352.036	186.764
2010	2596.260	1963.014	132.259
TOTAL	4943.630082	3393.262941	145.6895669

Sales are consistent in year 2004.

PROFIT Before TAX

Years	Standard Deviation	Mean	Coefficient of Variation
2001	156.433	36.532	428.214
2002	194.044	76.188	254.690
2003	226.938	125.832	180.350
2004	294.858	196.711	149.894
2005	451.578	273.439	165.147
2006	554.596	333.992	166.050
2007	1351.775	757.335	178.491
2008	279.885	133.088	210.300
2009	864.412	459.536	188.106
2010	41.741	22.791	183.145
TOTAL	441.6260054	241.5444775	182.8342382

Profit before tax is consistent in year 2004.

PROFIT After TAX

Years	Standard Deviation	Mean	Coefficient of Variation
2001	114.224	16.924	674.921
2002	156.482	54.761	285.753
2003	134.157	73.476	182.587
2004	166.759	138.117	120.738
2005	298.528	172.765	172.795
2006	287.412	197.426	145.580
2007	970.588	541.963	179.087
2008	200.301	99.558	201.191
2009	557.506	290.062	192.202
2010	37.861	18.734	202.100
TOTAL	292.3820596	160.3785665	182.3074405

Profit after tax is consistent in year 2004.

ANOVA[g]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.581E5	8	94768.711	62.562	.001[a]
	Residual	6059.232	4	1514.808		
	Total	7.642E5	12			
2	Regression	7.581E5	7	108303.187	88.968	.000[b]
	Residual	6086.612	5	1217.322		
	Total	7.642E5	12			
3	Regression	7.580E5	6	126337.515	122.582	.000[c]
	Residual	6183.827	6	1030.638		
	Total	7.642E5	12			
4	Regression	7.579E5	5	151578.725	168.013	.000[d]
	Residual	6315.295	7	902.185		
	Total	7.642E5	12			
5	Regression	7.569E5	4	189237.026	208.502	.000[e]
	Residual	7260.815	8	907.602		
	Total	7.642E5	12			
6	Regression	7.541E5	3	251375.599	224.395	.000[f]
	Residual	10082.123	9	1120.236		
	Total	7.642E5	12			

b) Hypothesis

i. *Sales*

H_0:μ2001= μ2002= μ2003= μ2004= μ2005= μ2006= μ2007= μ2008= μ2009= μ2010

H1: At least one mean is significantly different

ii. *Profit After Tax*

H_o: μ2001= μ2002= μ2003= μ2004= μ2005= μ2006= μ2007= μ2008= μ2009= μ2010

H1: Atleast Two mean is significantly different

Since the p-value is less than 0.05 for sales, it means the null hypothesis will be rejected in the favour of alternative hypothesis in other words we are going to H_0 and reject H1. Similarly Sales, Equity, Total Assets and have the p-values which amount is less than 5%.

Paid-Up-Capital, No. OF SHARE, PROFIR BEFORE TAX and PROFIT AFTER Tax showing no differences in their means since 2001 to 2010.

The least significance difference test (LSD) is applied for checking that which year's mean is significantly different from each other.

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Paid up Capital
LSD

Years (I)	Years(J)	Mean Differences	Sig.
2001	2009	-234.32816666666668	.032
2002	2009	-230.031875	.039
2003	2009	-224.57721428571432	.050
2004	2009	-204.8561666666667	.084
2005	2009	-198.7115	.067

According to LSD test it can be observed that the mean value of year 2001 and 2010 is significantly different. It verifies with p-value which is less than 0.05.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	161.733	11495.735		.014	.989
	NO. OF SHARE	.025	7.040	.001	.003	.997
	EQUITY (MILL)	-.789	.643	-.314	-1.227	.244
	TOTAL ASSET (MILL)	.273	.212	.374	1.289	.222
	(BANK) / FINANCIAL CHARGES	11.795	6.342	.359	1.860	.088
	TAXATION	6.189	3.469	.619	1.784	.100
	PROFIT AFTER TAX	-.541	.847	-.128	-.639	.535
	CASH DIVIDEND	93.416	103.034	.287	.907	.382
	CODES = 5 (FILTER)	-10.194	27.583	-.056	-.370	.718
2	(Constant)	196.430	5521.657		.036	.972
	EQUITY (MILL)	-.790	.519	-.314	-1.521	.152
	TOTAL ASSET (MILL)	.274	.153	.375	1.792	.096
	(BANK) / FINANCIAL CHARGES	11.778	3.711	.358	3.173	.007

	TAXATION	6.198	2.172	.620	2.854	.014
	PROFIT AFTER TAX	-.542	.739	-.129	-.733	.476
	CASH DIVIDEND	93.126	58.265	.286	1.598	.134
	CODES = 5 (FILTER)	-10.182	26.299	-.056	-.387	.705
3	(Constant)	673.052	5216.693		.129	.899
	EQUITY (MILL)	-.903	.416	-.359	-2.171	.048
	TOTAL ASSET (MILL)	.304	.127	.416	2.390	.031
	(BANK) / FINANCIAL CHARGES	11.470	3.513	.349	3.265	.006
	TAXATION	6.135	2.099	.613	2.923	.011
	PROFIT AFTER TAX	-.505	.711	-.120	-.711	.489
	CASH DIVIDEND	83.201	50.709	.256	1.641	.123
4	(Constant)	754.171	5128.770		.147	.885
	EQUITY (MILL)	-.973	.397	-.387	-2.449	.027
	TOTAL ASSET (MILL)	.322	.123	.441	2.623	.019
	(BANK) / FINANCIAL CHARGES	11.412	3.454	.347	3.304	.005
	TAXATION	5.156	1.558	.516	3.310	.005
	CASH DIVIDEND	82.729	49.862	.254	1.659	.118
5	(Constant)	5557.157	4459.606		1.246	.231
	EQUITY (MILL)	-.899	.416	-.358	-2.161	.046
	TOTAL ASSET (MILL)	.253	.122	.346	2.080	.054
	(BANK) / FINANCIAL CHARGES	9.752	3.482	.296	2.800	.013
	TAXATION	7.137	1.054	.714	6.772	.000

a. Dependent Variable: SALES (MILL)

Now the model can be written as:

Sales = b_0+ b_1(Bank) / Financial Charges +b_2 Profit After Tax + b_3 Equity +b_4 No. of Shares

Backward method is used in multi linear regression for this model.

Model is showing that total asset, bank charges and profit after tax are best describing the sale.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
PAID-UP CAPITAL (Rs. In mil)	Between Groups	3.949E5	9	43873.390	1.079	.393
	Within Groups	2.278E6	56	40678.726		
	Total	2.673E6	65			

FACE VALUE	Between Groups	.000	9	.000	.	.
	Within Groups	.000	61	.000		
	Total	.000	70			
NO. OF SHARE	Between Groups	3.360E3	9	373.329	.928	.508
	Within Groups	2.455E4	61	402.461		
	Total	2.791E4	70			
EQUITY (MILL)	Between Groups	1.514E7	9	1681870.816	.936	.503
	Within Groups	8.801E7	49	1796130.304		
	Total	1.031E8	58			
TOTAL ASSET (MILL)	Between Groups	1.644E8	9	1.827E7	.884	.546
	Within Groups	1.013E9	49	2.067E7		
	Total	1.177E9	58			
(BANK) / FINANCIAL CHARGES	Between Groups	3.284E8	9	3.648E7	.934	.505
	Within Groups	1.915E9	49	3.908E7		
	Total	2.243E9	58			
SALES (MILL)	Between Groups	1.921E5	9	21343.694	.613	.780
	Within Groups	1.707E6	49	34826.766		
	Total	1.899E6	58			
PROFIT BEFORE TAX	Between Groups	2.806E6	9	311732.220	.946	.494
	Within Groups	1.746E7	53	329427.419		
	Total	2.027E7	62			
TAXATION	Between Groups	4.165E5	9	46282.402	1.342	.235
	Within Groups	2.103E6	61	34483.570		
	Total	2.520E6	70			
PROFIT AFTER TAX	Between Groups	1.374E6	9	152677.756	1.014	.441
	Within Groups	7.979E6	53	150553.873		
	Total	9.353E6	62			
CASH DIVIDEND	Between Groups	1.511E5	9	16785.526	.394	.933
	Within Groups	2.301E6	54	42607.561		
	Total	2.452E6	63			
STOCK DIVIDEND	Between Groups	2.226E3	9	247.340	1.227	.299
	Within Groups	1.068E4	53	201.541		
	Total	1.291E4	62			

TOTAL DIVIDENT	Between Groups	1.068E5	5	21367.130	.372	.864
	Within Groups	2.009E6	35	57409.083		
	Total	2.116E6	40			
No. of SHARE HOLDER	Between Groups	1.025E5	2	51263.095	.107	.900
	Within Groups	5.277E6	11	479718.788		
	Total	5.379E6	13			

Sales is considered as a dependent variable while Equity, Total Asset, Paid-Up Capital and No. of Share, Profit After Tax are independent/explanatory variables.

In results, Sales (dependent) and Bank / Financial Charges, Equity, Profit After Tax, Total Asset, Paid-Up Capital and No. of Share are independent variables, with the help of backward method sales is best described by (Bank) / Financial Charges, No. of Shares, Equity, Profit After Tax. And these have positive effect on Sales.

IV. Conclusion

Using the analysis the cable and wire industry we came up with the different conclusion and results. Research study shows us the cable and wire industry has decrease. Many of the company which is working from a long time become default because of few companies in Pakistan industry making huge profits taking the opportunity of monopoly. Using the data of decade we find out cable and wire industry profit before tax and after tax has increased. Graphical representation show us how can we make more good decisions in future production.

There are few safety protocol involve with the wire industry which are needed to be over looked. Because of few companies in Pakistan industry there is not much of a perfect computation in current market. So that why government has to focus on wire industry because of major elercity company like WAPDA needed huge quantity of wire since the WAPDA in nationalize so wire cost them for chant. If government focused on wire and cable industry it makes them cheap wire in high quality. Than cable and wire industry will grow.

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