

## TREND ANALYSIS ON VALUE ADDED INTELLECTUAL COEFFICIENT (VAIC) OF THE COMPANIES IN PAKISTAN

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### ABSTRACT

It is usually pointed out by the business managers that efficiency of human resources is declining in Pakistan over the last decade. To confirm this premise, this study firstly calculates the human resources (human capital) efficiency of Karachi Stock Exchange (KSE) companies using Value Added Intellectual Coefficient (VAIC<sup>TM</sup>). This declining tendency has been identified through trend analysis over the last years.

Finally research concludes that the human resources efficiency can be improved by introducing strategic human resource management techniques.

**KEYWORDS:** Human Capital Efficiency, Strategic Human Resource Management, Value Added Intellectual Coefficient

### INTRODUCTION

Most organizations spend more of their revenues for human resources than any other resource. Yet very little information is available to corporate leaders to optimally manage these resources. Traditional financial reporting system make no mention of human resource costs, investments and return on human resources cost (Balance Sheet, Profit & Loss Account and Cash Flow Statement). Human resources are supposed to achieve and contribute to organizational success rather than on the activities that are performed.

Purpose of strategic human resource management is to assist an organization to achieve the possible return on its investments in human resources.

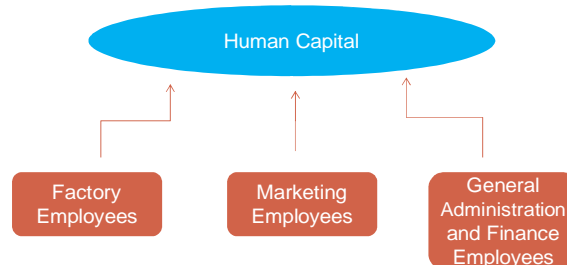
### An Important Question

What is strategic human resource management supposed to accomplish or contribute to the success of an organization? Organizations exist to the extent they successfully meet the needs of their various stakeholders. In our economy success of each organization is measured in profits. Profits result from thoughtful optimum investments of the two primary resources physical capital and human capital.

There are two ways to bring maximum from human resources. First minimizing labor cost, labor disputes, reducing turnover and minimizing absenteeism. While second approach focuses on maximizing output side of the equation generating more profits. Human resources usually underutilized because they are harder to measure and need different administrative approaches to handle them.

### Defining Human Capital (Hc)

Pulic (1998) has been considered throughout the research, viewing HC as all groups of people working in the factory as direct and indirect labor, marketing people, administrative people and finance people including top level management like chief executive and directors.



**Figure 1**

### Human Capital Investment

Human capital investment refers to commitment made when positions are created within organizations and people are hired. So it includes their salaries, benefits and employee taxes and other employee costs. All these expenses spent in a year are generally treated as human capital investment. Most companies determine major elements of human capital investment through accounting for payroll, benefits and employee taxes. It also includes other cost such as turnover, hiring, training are also included in it.

According to an Upjohn study, the total career invest in an individual is estimated to be 160 times the initial starting salary. In this way, an individual starting at \$25,000 per annum this is a \$4,000,000 commitment over the 30 year career of the employee.

### RESEARCH QUESTION

Whether efficiency of human resources in Pakistani industry is being deteriorated with the passage of time?

### LITERATURE REVIEW

Previous research throughout the world shows that human capital efficiency is declining in many countries. The reason for declining efficiency is the reduction in quality of education around the world. A research paper published in a Pakistani journal "Management Accountant" in Mar-Apr, 2006 by A.M.Taha explaining that number of branches and number of employees are decreasing in Pakistani banks but at the same time their total salaries and other benefits are jumping from the period 1997-2004.

Later study, conducted by Yalama & Coskun (2007) on intellectual capital performance of banking sector, reveal strong association of VAIC with profitability

### THE VAIC METHODOLOGY

VAIC is based on the following calculations:

The model considers company's ability to add value through:

$$VA = OUT - IN$$

Where, VA is the value addition from current year resources,

Out = Total Sales (revenue from sale of goods and services)

In = Cost of bought in materials, components and services/inputs

Alternatively, the value added can be calculated as

$$VA = OP + EC + D + A$$

$$VAHU = VA/HC$$

HC = Total salaries and wages (Direct labor + Indirect labor + Admin., Marketing and Selling salaries)

### Data Collection

The population of the study is all KSE listed companies. So out of all KSE listed companies 154 companies are selected randomly. These companies are from 26 different sectors and further detail of the sample is given in the table 1. The study uses three years data ranging from 2007-2009. The data used in the study is extracted from publically available annual reports of the companies. These annual reports are collected from companies' websites, KSE and through personally contacting the head offices of the companies. There is no problem of the validity of the data because data used in this study is extracted from annual reports which are audited by the certified chartered accountants. The data regarding Stock prices were collected from various issues of the daily Business Recorder; a leading business newspaper, to calculate the market value of the company's ordinary shares

**Table: 1. Kse Sample-Sector Wise**

No.	Sector	Firms
1	Automobiles and Parts	5
2	Banks	7
3	Beverages	1
4	Chemical/Fertilizer	10
5	Construct. Mat.(Cement)	9
6	Electricity	2
7	Electronic and Electric	1
8	Financial Services	10
9	Fixed Line Telecom	2
10	Food Producers	17
11	Forestry and Paper	1
12	Gas Water and Utilities	1
13	General Industries	2
14	Household Goods	4
15	Indust. Metals & Mining	1
16	Industrial Engineering	3
17	Leisure Goods	1
18	Life Insurance	1
19	Non Life Insurance	9
20	Oil and Gas	6
21	Personal Goods: Text/Weav/Spinn/Jute	55
22	Pharma and Bio Tech	2
23	Real Estate Investment	1
24	Software and Comp Serv.	1
25	Tobacco	1

26	Travel & Leisure: Airline	1
<b>Total</b>		<b>154</b>

**DATA ANALYSIS**

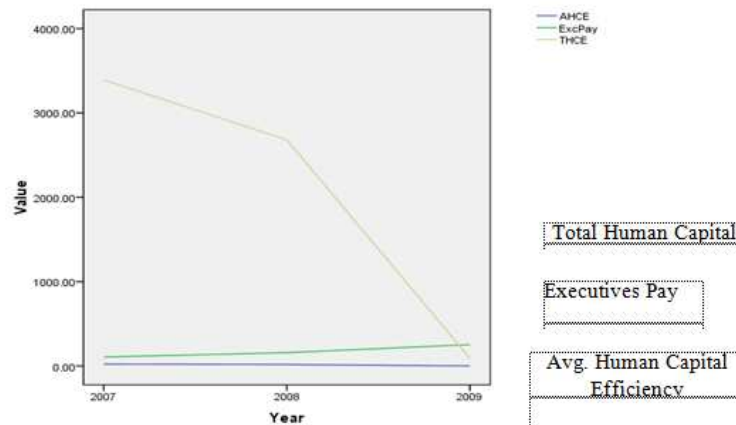
**Average and Total Human Capital Efficiency with Average Executives' Pay**

**Table 2**

	2009	2008	2007
Avg. HCE	0.606116	17.41384	22.02146
Avg. Exc Pay	253605796	158311547	105559549
<b>Total HCE</b>	<b>93.34189</b>	<b>2681.732</b>	<b>3391.304</b>

It is obvious from the above table that average human capital efficiency as well as total human capital efficiency is sharply declining in Pakistani industrial sector over the last three year period which is needed to be improved, as Pakistan is opening its markets for quota free imports and exports in the WTO regime. If this situation is not rectified, it would be really difficult for Pakistan to compete in the world. While at the same time average salaries and benefits of executives is rising up over the last three years period. This situation is also alarming from the corporate governance point of view. As it is the job of managers and directors to get the things done through employees. If they cannot do their job well, definitely the efficiency of workers as well the company would be reduced. And the country would not be in a position to compete in the international quota free market economy.

Below mentioned diagram shows three lines. One is for executives pay and other two are average human capital efficiency and total human capital efficiency. Executives pay is clearly showing an increasing trend consistently while rest of two lines showing consistently decreasing trend over the last three years period. This is an alarming situation for human capitalists to rectify the efficiency level.



**Figure 2**

**Proposed Measures to Improve Human Capital Efficiency**

- Better HR planning recruitment, selection and on job training
- Link Pay-Performance Benchmark the Return on Human Resource Cost Ratio with competitor having same machinery/product and other infrastructure.
- Regular reports/feedback of HR efficiency

- Skill based pay
- Special incentive for high performance
- Regular performance appraisals
- Improve productivity of HR through training & motivational techniques

## REFERENCES

1. Pulic, A. (1998). Measuring the performance of intellectual potential in knowledge economy. Paper presented in 1998 at the 2<sup>nd</sup> McMaster World Congress on Measuring and Managing Intellectual Capital by the Austrian Team for Intellectual Potential.
2. Taha. A.M. (2006). Economy of Elitists. Management Accountant, 15(2), 36-38.
3. Yalama, A. and Coskun, M. (2007). Intellectual capital performance of quoted banks on the Istanbul stock exchange. Journal of Intellectual Capital, 8(2), 256-271.

## Human Capital Efficiency and Executives Pay over the Three Year Period

Table3

S. No	Company Name	2009		2008		2007	
		HCE	Exc Pay	HCE	Exc Pay	HCE	Exc Pay
1	Ahmed Haassan Textile	3.4337511	2580000	0.3539802	1980000	3.0922004	1530000
2	Allawasaya Textile	1.7684858	2341288	1.0995822	1664785	1.4905599	1632911
3	Al-Noor Suger	5.6135381	39041000	5.6638632	25091000	3.661181	15226000
4	American Life Insurance	1.5783177	80570000	1.6042615	61029000	2.0713785	54285000
5	Arif Habib Sec. Ltd.	- 324.00354	5.82E+09	2255.5938	1900000	2243.666	0
6	Asia Insurance Ltd.	1.8477865	2960000	2.4297938	2160000	3.1419765	0
7	Askari Bank Ltd.	1.6076596	92015700 0	1.3066666	92949900 0	3.7510506	64256200 0
8	Askari General Insurance	1.03213	8695006	9.4162912	7143670	1.8325455	5294032
9	Askari Leasing	178.09598	11362599	3.2817118	11308207	3.5183964	9549079
10	Ayesha Textile	0.808031	3193000	1.5118365	3457000	2.0129082	7900000
11	Azam Textile	1.4338226	5378750	2.0815352	5248750	0	0
12	Azgard Nine Ltd.	1.5655083	26211675 3	4.6026243	19632882 0	4.2006883	10319841 6
13	Balochistan Particle Board	4.6923077	9000	5.0586207	8000	2.6912752	10000
14	Bank Al Falah	1.5143843	1.566E+09	1.6674893	1.771E+09	2.5645156	1.156E+09
15	Bank of Punjab	0	0	- 9.1550583	15110600 0	4.6003185	11714400 0
16	Blessed Textile	3.6305756	2880000	3.7464151	2880000	4.265236	2880000
17	Bosicor Pakistan Ltd./Byco	- 8.7980407	17108100 0	8.5542761	11657200 0	0.7409293	71640000
18	Central Insurance	- 102.70467	4169000	20.507232	3954000	424.06805	2473000
19	Century Paper	1.9317324	68354000	2.2955085	48647000	2.9272879	34119000
20	Chakwal Spinning	1.5612505	1200000	1.9160409	1200000	1.9470473	1200000
21	Climax Engineering	1.0506426	1759000	0.5887743	1759000	0.717558	1743000
22	Clover Pakistan Ltd.	1.4644094	21006768	3.4624712	14076097	3.8970803	10807407
23	Colony Sarhad Textile	- 11.098963	1232780	- 0.6097456	923870	0	0
24	Colony Sugar Mills	8.3674925	13207000	6.2485773	3043000	0	0

25	Crescent Textile	2.741528	75992000	2.5238201	55123000	11.945397	50693000
26	D.G.K Cement	7.2103208	20168400 0	6.0268766	15619400 0	8.2380855	111658000
27	D.S. Industries	1.5682182	4627800	2.4695611	4960000	3.7161469	3600000
28	Dadex Eternit	1.8961834	50351000	1.9560385	34111000	1.6616806	32633000
29	Dar es Salam Textile	1.2188112	8205690	1.3232039	8950074	2.0059072	9719371
30	Dawood Hercules	0.4378816	28401233 7	5.5617029	20674068 2	22.106696	14288406 7
31	Dawood Lawrencepur	1.3101331	9989448	0.1662199	26703926	0.8903288	27454622
32	Dewan Textile	0.0872617	9780000	1.6988853	10260000	2.7801657	9720000
33	Din Textile	2.304398	21428903	3.0859741	24721571	3.1369795	17317155
34	Dynea Pakistan	2.1238737	14288422	2.0680961	10618882	1.7776085	10682743
35	EFU General Insurance	2.0231269	18966100 0	-4.854081	17809400 0	20.737625	13125900 0
36	Elcott Spinning	2.8676433	11961451	4.0440785	10243912	3.5674676	7476794
37	Escorts Bank	- 1.3579912	38418597	2.5149945	39793979	3.1960696	37800314
38	Faisal Spinning	3.3179683	2160000	3.7195964	2880000	3.8812945	2880000
39	Faran Sugar	2.4363476	18483998	2.3124876	4176667	2.0700416	3480000
40	Fateh Textile	2.0103424	2899970	3.8311482	1883685	46.445006	22238000
41	Fatima Enterprises	2.9149794	7186000	3.1697747	8049000	2.7350025	3620000
42	Fauji Cement	7.9221866	44003000	5.6752708	40060000	6.9367552	25287000
43	Fauji Fertilizer Bin Qasim	5.6160337	67816100 0	8.098408	38382600 0	7.4477937	26332100 0
44	Fecto Cement	3.5209064	71329000	1.4442405	81137000	1.675399	62743000
45	Fecto Sugar	1.6054973	2594396	2.3026547	3737396	0.184862	4104436
46	Gatron Industries	2.311774	77122000	2.311774	77122000	2.6598663	39127000
47	General Tyres	1.5455239	84211000	1.712298	79892000	1.7087457	80593000
48	Ghandhara Industries	0.4689694	17566000	1.9515052	13477000	4.8847776	11148000
49	Ghani Automobiles	- 0.0862533	10800000	1.5413468	7200000	- 2.0046268	0
50	GlaxoSmithKline	2.0256253	43961200 0	3.1321664	35049000 0	2.9934873	31488000 0
51	Globe Textile	13.151873	17064000	6.4390474	16000000	- 1.6645287	0
52	Grays of Cambridge	1.5521475	4781391	1.4299217	4252901	1.6326493	3985454
53	Habib Insurance	3.8483654	25003000	- 3.0036149	22976000	6.3355915	22238000
54	Hajra Textile	0.9734089	3490800	1.0017922	3490800	0.3314201	3510000
55	Hala Enterprises	1.2221457	5246059	1.171198	3402671	1.5330226	2513964
56	Highnoon Laboratories	1.4592249	10215192 3	1.4786574	88763467	1.5732956	78245960
57	Hinipak Motors	2.3345168	13584000 0	3.1067735	12548900 0	2.2824855	10861300 0
58	Honda Atlas Cars	1.3509789	12276300 0	3.3794433	10482900 0	0.5066343	93856000
59	Ibrahim Fibres	4.0565031	20476421 6	4.4988897	15520850 7	4.2369709	12300477 7
60	ICC Textile	2.0738682	2601718	0.7731535	1325762	1.8279925	11999360
61	ICI Pakistan	2.863944	77497100 0	3.3547084	68690900 0	3.7142078	57614200 0
62	Idrees Textile	3.5492787	0	3.2006658	0	3.180066	0
63	International Industries Ltd.	3.4976991	15900000 0	5.4616498	11576200 0	5.2322331	77333000
64	Ittehad Chemicals	4.1376381	48205000	4.1737364	33028000	5.8216815	25000000
65	Jahangir Saddiqi Investments	- 10.104429	12155451 2	1.3124338	12523100 4	6.0539711	91481418

66	Janana D Mall	1.5295879	12635000	2.0666912	14169000	2.1022705	8868000
67	Javed Omer Vohra and Co.	- 95.292793	4748973	- 59.752575	3902630	193.54276	1038919
68	Jubilee Spinning	1.721745	8429934	1.7822471	4487476	1.0761173	4049908
69	Karachi Electricity Supp Corp	0.0865906	43598300 0	- 0.6482699	13751300 0	- 0.5288269	57229500 0
70	Kohinoor Mills	1.5359085	52571245	2.0157194	53940641	2.9637955	47673768
71	Lafarge Pakistan	2.417362	18892333 4	3.2106198	73835965	3.3307951	55511594
72	Lakson Tobacco	2.4001725	43372500 0	2.9346713	27912100 0	2.7369031	94573000
73	Landmark Spinning	1.0130574	0	1.016192	0	- 0.8969322	0
74	Lucky Cement	11.267977	10530700 0	7.2206133	70192000	8.2140415	53912000
75	Maple Leaf Cement	9.8306685	65952000	5.29619	61353000	3.1586512	45538000
76	Masood Textile	1.7256419	49350000	2.1740769	31855000	2.0494899	20452000
77	MCB Bank	5.7786641	1.83E+09	5.0589962	1.463E+09	4.5849682	1.14E+09
78	Mehr Dastgir	0.014682	570000	- 0.1853646	1140000	1.4294723	1140000
79	Mehran Sugar	3.534932	22174086	2.0979011	14368197	0.8466171	12499017
80	Mian Textile	1.0240836	2304000	1.7534435	2304000	1.2304992	2304000
81	Millat Tractors	5.9748692	89729000	4.0840948	66448000	2.6256687	63736000
82	Mirpurkhas Sugar	3.1088505	42713000	1.9134816	29946000	1.3945416	25948000
83	Mitchells Fruits	1.8456442	14954817	1.7239842	10148958	2.1419425	7216741
84	Mohammad Farooq Tex	- 0.2758413	43191000	1.3151815	34187000	1.3518689	36871000
85	Mubarak Textile	1.5782484	0	0.5478818	0	1.3372703	0
86	N.P. Spinning	3.8009075	6892948	0.8319706	6900656	2.2853742	4007698
87	National Bank of Pakistan	2.4813897	1.38E+09	2.9283098	96205200 0	4.068395	55439800 0
88	National Foods	1.8669575	10856400 0	1.7407271	57948000	1.7660267	43635000
89	National Refinery	6.2412514	27005700 0	12.732184	12609000 0	3.6024307	11045400 0
90	National Silk	1.5459653	4231200	1.7424643	3571200	1.8330017	3571200
91	Nestle Pakistan	3.2515602	1.009E+09	3.212906	72807300 0	0	0
92	Netsol Technology	2.078076	11310700 0	3.1795136	15674000 0	2.4583474	76491000
93	Nimir Resins	1.8396163	0	9.4352117	11715855	1.4908255	7380170
94	Nishat Mills	2.9826529	97471000	6.6928529	71875000	3.1982877	45590000
95	Oil and Gas Development Corp	16.841955	2.481E+09	18.171075	1.475E+09	19.234624	65413300 0
96	Olympia Textile	- 2.2321976	1800000	0.7826165	1800000	1.2235004	1800000
97	Orix Leasing	0.5019025	14401887 9	3.2923004	12991049 1	3.8681193	10610369 0
98	P.I.A - A	1.3914263	4.329E+09	- 0.9139516	2.489E+09	0.9078542	2.061E+09
99	Pace Pakistan Ltd.	11.342232	57684000	22.106722	39335000	14.870553	14760000
100	Packages Ltd.	1.7636786	18861100 0	2.2498006	18598600 0	2.369606	15498500 0
101	Pak Elektron	3.9816597	10504400 0	3.6537949	20695700 0	4.8343331	73465000
102	Pak Gen Insurance	14.758775	2883649	2.8676678	2914596	3.329473	2547435
103	Pak Gulf Leasing	4.5985806	3044194	2.8630403	3810336	1.3924094	5326372

104	Pak Leather	0.6237367	2149233	1.3646416	1776452	0	0
105	Pak Petroleum	13.629789	2.037E+09	11.800482	1.011E+09	10.710657	81100300 0
106	Pak Suzuki Motors	3.3152446	52244000	4.2191011	61032000	11.221297	54043000
107	Pak Synthetics	3.148466	21691000	2.904484	20799000	0.8864003	17454000
108	Pakistan PTA/Lotte Pak PTA	15.24084	19866600 0	2.3838645	14924100 0	8.1168679	15760300 0
109	Pakistan State Oil	- 0.5259217	54898800 0	10.210648	39447800 0	5.5313315	32514500 0
110	Pangrio Sugar	32.638189	3312693	1.2012675	2670382	0.7388069	2183610
111	Premier Insurance	2.0681867	39971000	0.4903482	35346000	8.7684264	29398000
112	Prosperity Weaving	3.3521946	2392195	2.2199933	2120161	2.7809866	1208485
113	PTCL - A	3.4504252	88233400 0	3.4712708	69781000 0	3.2723077	95499800 0
114	Punjab Oil Mills	3.5491996	7724053	3.1969633	5768173	2.5496037	4620523
115	Rafhan Maize Products Co. Ltd.	4.7484994	14146400 0	5.5694651	11686200 0	4.9619683	99889000
116	Reliance Insurance	0.6721312	11614277	1.9161794	9717737	2.5001882	2951500
117	Ruby Textile	1.6432976	0	1.8741243	0	3.0521184	0
118	S.S. Oils	4.7941916	1300402	5.7636201	816619	6.2156801	368000
119	Sajjad Textile	0.6935596	3283000	0.9983406	7828899	1.7449876	5608400
120	Salfi Textile	1.9084956	22830319	2.5555452	26427167	5.7544305	18670917
121	Sally Textile	1.3673961	5216888	1.8484669	5533339	1.1341004	4530817
122	Samin Textile	2.5333315	17569644	2.900652	14699937	2.9905769	14268324
123	Sana Industries	2.4039714	5020838	2.0030992	5017492	1.617628	10543436
124	Sapphire Fibres	3.6787511	49924761	5.0359132	38912740	3.4489865	37074721
125	Sapphire Textile	2.6182097	80357212	2.3127172	61364478	0	0
126	Sazgar Engineering	1.5373412	19069273	3.1214379	17447762	2.6657159	8598000
127	Service Ind. Textile	0.8998564	1200000	0.9570592	1684428	0.294425	1984151
128	Shaffi Chemicals	2.1245396	0	2.8776335	0	1.5891238	120000
129	Shakarganj Foods	0	0	0	0	0	0
130	Shahmurad Sugar	7.4052518	14570000	6.9359525	12204000	4.6641539	9961000
131	Shams Textile	1.5493273	13428000	2.3793594	12133000	4.2528434	10319000
132	Shell Pakistan	4.4987883	1.331E+09	1.5518978	58503000 0	1.5865986	61286700 0
133	Sitara Chemicals	6.7559556	59991420	7.1388134	49323599	5.5852841	36235709
134	Sitara Energy	7.7124121	10272849	7.2540922	9324138	5.2420186	3494286
135	Standard Chartered Bank	3.9230152	1.958E+09	3.9077451	1.45E+09	4.0400524	1.34E+09
136	Standard Chartered Leasing	0.1046024	19828240	0.919921	6030599	0.6183414	35789669
137	Suhail Jute Mills	1.2922226	3418188	0.7178549	4518049	0.6352362	3688420
138	Sui Northern Gas	2.8331917	45960500 0	15.116228	44657200 0	3.6979369	19411300 0
139	Suraj Cotton	2.6620819	26668000	3.1353729	22174000	4.2260342	8096240
140	Tariq Glass	1.4440507	17183089	1.4837713	12776040	2.1026927	7186321
141	Thal Ltd.	2.7293377	87368000	2.8792907	68878000	3.2827442	54578000
142	Thatha Cement	4.8210088	13710000	2.5013934	8013000	2.414884	8013000
143	Towellers Ltd.	2.8339534	18981828	2.4431946	13666864	2.0010847	13566864
144	Trust Investment Bank	- 11.317012	56775844	3.1258149	43654347	2.3967881	66494507
145	Unilever Foods	2.1200189	61354000	3.3076072	61503000	2.5787727	51559000
146	United Bank Ltd.	2.8807539	3.596E+09	3.0188067	3.044E+09	3.1047607	81539600
147	Universal Insurance	1.2556663	20487000	1.4796704	17589000	1.9625507	12076000
148	Wazir Ali Industries	0.0235152	5218000	1.4451463	3302000	0.2092416	4220000
149	World Call Telecom	2.9922073	26315700 0	1.786988	96302000	3.9162503	11772900 0
150	Yousuf Weaving	2.1941108	9058494	2.0104113	9978156	2.1794187	3600000



151	Zeal Pak Cement	-3.314299	2279000	- 4.4364054	1766000	- 2.5044463	1384000
152	Zulfizar Ind Ltd.	1.8692204	25465000	1.5246874	19816000	1.7866796	10721000
153	Grays Leasing Ltd.	- 2.7060833	7026035	0.9645926	11193620	0.1703233	10012307
154	Latif Jute Mills Limited	22.407175	360000	1.9544664	360000	0.3479246	360000

