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Validity of Capital Asset Pricing Model (Substantiation from KARACHI STOCK MARKET)

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Abstract: - Capital-Asset-Pricing-Model comprehensively tested , Either accepted or rejected of asset pricing models , This model came into exist in the era of late 1960 by its author having name William Sharp From that era (1960) this model is remained the function of text books as well as business school of Pakistan .CAP-Model shows that the expected return of securities or of portfolio has to be equal to the rate on free risk securities plus the risk premium. If the return on investment did not full fill or beat the return on investment then the investor should not be occupied the investment .Using this example we can compute the return on investment. This research paper used in framework of Pakistani institutions, and the period for his research paper is used from 2011 to 2014.The main aim of this research paper is to estimate the authenticity and the validity of an opinion. And size of the sample selected 30 companies from KARACHI STOCK EXCHANGE and applied the CAP-M and it is known that CAP-Model does not hold on KSE as our H1 is rejected and Ho is accepted in the light of results.

The methodology adopted in this field is to calculation of beta via covariance and variance approach for the prediction of the required return, security price consequently underlying. Security price and estimation of risk is widely required for those people who invest in portfolio form. Hence it comes to know after this research CAP-Model does not hold on KSE market as from 120 observation only 9 observations supported to CAP-Model in line of minor difference where as on the other hand huge difference exist among expect and actual return . So CAP-Model does not fully convey the exact results but in a few years it expresses the most accurate results when used on certain breeds. When it is applied on KARACHI STOCK EXCHNAGE (KSE) with thirty companies CAPM does not fully hold on KSE.

***Key Words**: CAP Model, KSE-100, Beta, Expected and actual returns.*

I. INTRODUCTION

CAPITAL ASSET PRICING MODEL also knew a CAP-Model comprehensively tested , Either accepted or rejected of asset pricing models , This model came into exist in late in 1960 to be its author having a name (William Sharp). From that era (1960) this model is remained the function of text books as well as business school of Pakistan .CAPM shows that the expected return of securities or of portfolio has to be equal to the rate on free risk securities plus the risk premium.ies plus the risk premium. If the return on investment did not full fill or beat the return on investment then the investor should not be occupied the investment .Using this example we can compute the return on investment. This research paper used in framework of Pakistani institutions, and the period for his research paper is used from 2011 to 2014.The main aim of this research paper is to estimate the authenticity and the validity of an opinion.

The methodology adopted in this field is to calculation of beta via covariance and variance approach for the prediction of the required return, security price consequently underlying. Security price and estimation of risk is widely required for those people who invest in portfolio form.

In our study we consider the returns as the gain on capital (capital gain) just due to the unavailability of the data about the dividend. Previous data (Returns) of the companies are used for estimation of result. In the section of findings it is suggested that MODEL OF CAPITAL ASSET PRICING shown the exact findings for short periods and for few companies only. And remaining research paper contains on five sections, Section two contains the literature review and Section three documented about Methodology, and Section four contains on the Findings and Interpretation and at the end Section five contains a long conclusion.

II. LITERATURE REVIEW

In riskier project or in securities investor who investing, Demand higher return usually investors determine the degree of risk of securities through different kinds of models. Cap-Model widely used by finance manager and investors for the purpose of finding risk of investment and determine the expected return of investment (Jagannathan and Weng , 1993)

Like other models, model of capital asset pricing also has assumptions (Van Horne , 2000) Diversification portfolio is a way through which un-systematic rick can be minimize. There are three kinds of risk behaviors, Risk taker is those investors who carry high risk for minimum level of return, and risk averse are those kinds of investor who take a minimum risk for higher returns were as neutral risk falls upon those investors who take risks for equal levels of return (Lav and Quey, 1974) Beta-is measuring scale who calculate to systematic-risk and keep positive-relation with the proceeds. Positive-relation with the return.

In the context of Capital-APM, investors are rewarded in two ways first one value of money for time and the second one is the risk that contains on securities. First statement explains risk free return that is denoted with (RF) it gives to investors something extra due to their investment in stocks for the specific period. The second statement of formula is [B (Rm-Rf)] it is the risk premium for having extra risk .Model of capital asset pricing (CAP-M) mostly used for determining the return of the investors , whereas the result of this model is not usually supported

From the existence of Capital-APM (1960) many studies have conducted for the approving validity and authenticity of this model .This Capital APM is based on few assumptions as other models shows ground for denigration and these assumptions-of model are investors invest in diversify port folio ,period of transaction is single and horizon , Investor can borrow and lend on risk free rate , Capital of market Should be faultless (Toney Haed, 2008)Above all these assumptions are the cons of this Capital-APM .This Capital-APM contains on art and science (Adeiyemi , 2006) Science relates decision making regarding the construction of port-folio of market where as art contains to realistic consideration that is related to the margins of the decision.

This Capital APM is widely used in different countries by different author for the core purpose of finding the returns of the fund. In the era of (1974) Quay and Lau tested Capital APM is valid on the Stock-market of Tokyo and Show the correct outcome. Market's investors were awarded for having systematic-risk ,

In the research paper of (Gomaz and Zepatro , 2003), with the size of sample 220 securities off United States securities from S&P index 500 and time span he covered (1973-1998) , consistent market systematic risk element and second vigorous management-risk , Above two factors of risk they use and they interpret findings are Evidence of two beta model . The same research occupied in the market of UK with size of sample 64 securities, and concludes the findings in favor of this Model due to the similarity in the structure of market of US and United-Kingdom. (Hamlenk and Frasar)in their study (2004) and they documented that in previous studies outcomes conclude that results of Capital-APM ;are correct and accurate where as with the passage of time more authentic tools as APT out-performs the Capital-APM.

Their research covered 22 years period from (1975-96) and size of sample was seven sectors , and research applied on London stock exchange and findings of capital asset pricing model are compared with conditional Model of GARCH .The returns and risk , determined by GARCH Model are authentic these are pessimistic in nature where as when it is calculated via CAP Model results does not match with the real condition that is measure correctly via the model of *GARCH* .Similar like this study there is an-other research conducted in the stock market of Australia with the time period 6 years from (1988 - 1993) and size of sample was Eight sector , Interpret the same findings . In this research it is concluded that findings of GARCH model and THEORY OF ARBITRAGE PRICING (APT) is similar whereas output of Capital Asset Pricing Model are Differ. Hence it is concluded decision made on the base of CAP Model may be misleading (Groeniwold and Frasar , 1997)

The approach of symmetric explains, It is stress on sole statement description or single beta that was accurate and expressed in study of (Parron and Queo, 2005)They concluded in their study and period selected seven years (1978-2004) and size of sample was fifty securities of United States Stock market and express views in light of results that CAP Model only show single statement element which leads to the false conclusion of the findings.

Research too contains that CAP Model takes into accounts, two very imperative features determined in most time series, having names structure instability and non-linearity. The research conducted by the authors (Wu and Haang, 2005)covered 81 years from (1924-2004) , sample was based on companies 926 takes into account the both over talk about features , and they found in their research that CAP Model is the model that leads to in-appropriate betas , if not correct .

In one more research carry out by the authors (Gregores & Staavors, 2006) upon Greek stock market with the five years period from (1998-2002), Selected sample size 100 companies in Stock Exchange of Athens .The major results of their research doesn't provide the essential statement high return high risk, they found that CAP Model gives good results for few years where as overly it does not support to the model. In 2008 (Hui and Christophar)conducted research, covering 11 year from (1996-2006) with size of sample 95 companies in Japan and Us institutional frame work. They interpret their results that CAP Model unable to give details the true returns once they practical on Japan and United State, stock market.

(Etzaz and Atteya) Conducted research in Pakistan in 2008 on KSE with the size of sample of 49 companies and covered (1993-2004) . That took macro economics factor as evidence of Risk and tallies their outcome with

the model of conditional multi risk factors. They found that traditional CAPM well performs relationship of risk and return but outcome are supported to only some stocks with few years .Another study in Pakistan Conducted by (Haneef, 2010)he covered 4 year period (2004-2007) and took size of sample from sector of Tobacco only . He found that CAP Model not appropriate in pricing the assets in local institutional frame work as required returns estimated via Beta not accurate.

The depiction of the CAP Model is low because for calculation of market returns it is used and beta used for market decision and compensation for the size of sample 70 co's from *NASDAQ* , done that Capital-APM is widely use for pricing , calculate the cost of capital . Where as calculation way slowly have been changed, Capital-APM usually gave low return values ways. Reason of short certification authority is economical specification that use market returns as the just independent variable, it is not count to other variables that are used in different calculation of models (i.e. APT) for showing true results.

The (Shafier & Vovek, 2008), they documented with size of sample 50 companies and period selected from (2000-05) gave the same findings when applied in actual practice the findings also show that CAPM used one independent-variable that could not be used for return estimation.

CAP Model depended on only one quantify of risk (Beta) & reject the additional all elements contribute in security risk. In the light of literature as it is said that CAP-Model does not express the accurate results but in few years it express the accurate results when applied on certain stocks.

Hence the relationship of essential risk and outcome is not discarded and the model remains its position in literature and it can be proved helping arm for stakeholders.

III. HYPOTHESES

H1= Does CAP Model gave accurate findings when applied on KSE.

Ho= CAP model does not gave accurate findings when applied on KSE.

IV. METHODOLOGY

The core purpose of this research is to found the validity and authenticity of CAP Model. The main area of this research is to give focus upon the estimation of beta of 30 companies and calculate the required return and compared with actual return for the purpose of findings about the authenticity of CAP Model

KSE 100 Index made with two rules that is used for selecting the sample from research projects.

V. THESE TWO RULES ARE FOLLOWED

Rule-1 =excluding to the mutual fund sector (34) companies with the highest market capitalization.

Rule-2= Remaining (66) companies are taken with the largest market capitalization overly.

Our sample did not cover for all Co's in KSE 100 that's why the probability sampling technique is adopted and apply on population .Firstly it is applied to companies that fall in rule 1, 15 companies are selected by doing systematic sampling formula and same technique used for 2nd rule and 15 companies are selected as a sample for rule two so in this way the total sample size made 30 Co's. Whole secondary data obtained from the site of KSE-100 and time span choose (2011-14) Four years. Previous period is not taken because research have conducted in that era .Our research tests the authenticity and validity of the CAP Model by applying on KARACHI STOCK EXCHNAGE for the period that is not covered in any other research .

The tool for analyses of the data is used to MS-Excel and following formula is used for calculating required return of underlying securities.

CAPM = Rf + [β (Rm-Rf)

CAPM = required rate of return

RF= risk free rate of return

β = Beta

Rm= risk premium

The rate of stocks are taken from KSE on monthly bases and return is estimated by

$$R = \frac{pt - pt-1}{pt-1}$$

The above formula used for calculating the expected return of securities and market return . The COV of each security and variance of market return. And the COV is estimated by doing the following formula.

$$Cov = \frac{x - \bar{x} * Y - \bar{Y}}{n-1}$$

X = return of Stock
$\bar{X}$ = Average Stock returns
Y = return of market
$\bar{Y}$ = Average market return
N= is number of Observation

The Risk free rate took from the IMF web site, and statistical formula applies and calculate the SD, COV as it was taken for calculating for beta.

5-Findings and interpretation

From the monthly data of 30 companies, required and actual rate of return is calculated with the help of formulae of CAP model. In the light of literature as it is said that the CAP - model does not express the accurate results but in a few years it express the results when applied on certain stocks. When it is applied on KARACHI STOCK EXCHNAGE (KSE) with thirty companies CAPM does not fully hold on KSE.

5.1-Slightly different results

Calculated data of four year are attached at the end of this research paper , In table 1 shows certain years annual expected return and actual returns are differ but slightly differ , not differ in big perpetration this thing express the applicability of CAP-Model. In table 1 by comparing the findings with results of literature it is evidence that in a few years the results of actual return is little differ from CAPM results. In a different scenario of beta that CAP Model's results are close to accurate however it is suggested in light of the evidence CAP Model is applicable to securities with low risk and not on high risk securities.

TABLE 1: SLIGHTLY DIFFERENCE IN ACTUAL RETURN AND EXPECTED RETURN

Sr #	Company name	Year	Monthly beta	Expected return	Actual return	Difference
1	Fazal Textile Mills Ltd	2011	-0.877	-0.418	-0.436	0.018
2	Rafhan Maize Products Ltd	2011	0.240	0.114	0.055	0.059
3	Nishat Mills Ltd	2012	0.036	0.020	-0.038	0.058
4	Dewan Salman Fiber Ltd	2013	0.073	0.041	-0.012	0.053
5	Island Textile Mills Ltd	2011	0.092	0.051	0.000	0.051
6	Clariant Pakistan Ltd	2014	0.473	0.264	0.289	0.025
7	Nestle Pakistan	2011	-0.906	-0.313	-0.358	0.045
8	Pak Suzuki Motors Co Ltd	2013	-0.578	-0.323	-0.369	0.047
9	Shezan International Ltd	2011	-0.533	-0.041	-0.096	0.055

We confirm that the results obtained by (Aitzaz and Ateiya) our results are comparatively match with then , that show in table 1 .Partial evidence of our research is also matching with the research of (LAU & Quaey , 1974) they documented that CAP Model is applicable upon the stock of Tokyo and gave the accurate results .

5.2-Totally Different results

In above portion CAP Model giving results near to accurate with slightly difference , In table 2 same companies given but with totally different results , for the other years results of expected returns are totally different from the actual return and the gap between expected and actual return is very high , The difference varies with high ration and this same results are seen in literature , our results are in the line of (Huie and Christophar , 2008)They documented that according to CAP Model fail to measure the exact return , when it is applied on two different stock market .

TABLE 2 : HUGE DIFFERENCE IN ACTUAL RETURN AND EXPECTED RETURN

Sr #	Company name	Year	Monthly beta	Expected return	Actual return	Difference
		2011	0.453	0.253	3.787	-3.534
		2012	0.259	0.089	0.926	-0.837
1	Fazal Textile Mills Ltd	2013	-0.097	-0.008	-0.112	0.104
		2012	-0.522	-0.291	1.318	-1.610
	Rafhan Maize Products	2013	-1.837	-0.634	-0.469	-0.165
2	Ltd	2014	0.509	0.040	0.471	-0.432
		2011	1.716	0.592	-0.735	1.327
		2012	0.420	0.200	1.341	-1.141
3	Nishat Mills Ltd	2013	-0.080	-0.006	0.101	-0.107
		2011	0.410	0.142	-0.825	0.967
		2013	0.078	0.037	0.114	-0.077
4	Dewan Salman Fiber Ltd	2014	0.984	0.077	1.006	-0.930
		2012	-1.004	-0.346	-0.022	-0.324
		2013	-0.064	-0.030	-0.134	0.104
5	Island Textile Mills Ltd	2014	-0.728	-0.057	1.473	-1.530
		2011	-0.359	-0.124	-0.591	0.467
		2012	-0.273	-0.130	0.616	-0.746
6	Clariant Pakistan Ltd	2013	-0.305	-0.024	0.016	-0.040
		2011	-0.622	-0.347	0.278	-0.625
		2012	0.875	0.417	0.105	0.312
7	Nestle Pakistan	2013	-0.416	-0.032	1.045	-1.077
		2012	-1.221	-0.421	-0.826	0.404
	Pak Suzuki Motors Co	2013	0.219	0.104	0.848	-0.744
8	Ltd	2014	0.016	0.001	-0.277	0.278
		2011	0.917	0.512	0.815	-0.303
		2013	0.680	0.235	-0.197	0.432
9	Shezan International Ltd	2014	-0.365	-0.174	-0.567	0.393

VI. CONCLUSION

In this research it is tested that application of CAPITAL ASSET PRICING MODEL of Karachi Stock exchange about the validity and authenticity of CAP Model on local institutional framework with thirty companies selection from KSE and time period selected four years from (2011-14) . Although evidence split but it is found that CAP-Model doesn't give the fully accurate results when it applies on KSE out of 120 observation only 9 observations supported to CAPM and these observations have slightly difference between expected and actual return , whereas remaining all observations have huge difference among expected and actual returns .Hence it is found that *CAPITAL ASSET PRICING MODEL* does not fully hold on *KARCHI STOCK EXCHANGE* and this model may be misguide to investors for valuation of securities . Our findings of this research are in the line of (Aitzaz and Ateiya, 2008) and (Forrma and Frinch , 1992) where by findings of our research show that CAPITAL-APM is not authentic and reliable for measurement of risk of securities and investors should not depend upon this model for calculation of pricing of securities in Pakistani market , so our "H1" is rejected and "Ho "is accepted after applying the CAP-Model on KSE .The future part of this research is , investor can calculate expected and actual return of securities with other tools as GARCH model and APT .

RESULTES OF ALL COMPNIES TAKEN FROM KSE

Sr #	Company Names	Year	Monthly Beta	Expected Return	Actual Return	COV	Under / Over valued
		2011	0.454	0.253	0.039	0.119	Over-Rated
		2012	1.297	0.448	-0.596	0.303	Over-Rated
		2013	0.060	0.029	4.255	0.507	Under-Rated
1	Loty Pakistan	2014	1.521	0.118	-1.000	0.334	Over-Rated
		2011	0.029	0.016	-0.077	0.108	Over-Rated
		2012	1.908	0.659	-0.374	0.236	Over-Rated
		2013	-0.484	-0.231	1.354	0.225	Under-Rated
2	MTL	2014	0.159	0.012	0.250	0.087	Under-Rated
		2011	-0.373	-0.208	0.063	0.111	Under-Rated
		2012	1.349	0.466	-0.233	0.171	Over-Rated
	koot addu	2013	-0.111	-0.053	0.188	0.143	Under-Rated
3	power co.,	2014	-0.193	0.015	-0.119	0.162	Over-Rated
		2011	-0.154	-0.086	0.281	0.107	Under-Rated
		2012	-0.841	-0.290	-0.845	0.502	Under-Rated
	DG khan	2013	0.747	0.356	1.109	0.191	Under-Rated
4	cement	2014	-0.139	-0.011	-0.013	0.132	Over-Rated
		2011	0.313	0.175	0.576	0.154	Under-Rated
		2012	1.572	0.543	-0.589	0.326	Under-Rated
	Engro	2013	0.844	0.402	0.599	0.168	Under-Rated
5	coporation ltd	2014	0.020	0.002	0.010	0.094	Under-Rated
		2011	0.439	0.245	0.420	0.172	Under-Rated
		2012	0.690	0.238	-0.717	0.351	Over-Rated
	National	2013	0.616	0.293	0.544	0.173	Under-Rated
6	refinary system	2014	0.243	0.019	0.662	0.184	Under-Rated
		2011	0.204	0.114	0.392	0.138	Under-Rated
		2012	1.268	0.438	-0.633	0.338	Under-Rated
	Fuji fertalizer	2013	-0.070	-0.033	0.998	0.204	Under-Rated
7	bin qasim	2014	0.285	0.022	0.126	0.129	Under-Rated
		2011	0.394	0.220	1.017	0.237	Under-Rated
		2012	-0.183	-0.063	-0.528	0.262	Over-Rated
		2013	-0.017	-0.008	1.699	0.248	Under-Rated
8	Atles batry ltd	2014	0.254	0.020	0.038	0.139	Under-Rated
		2011	0.536	0.299	0.861	0.218	Under-Rated
		2012	-1.964	-0.678	-0.613	0.201	Over-Rated
		2013	0.073	0.035	0.806	0.201	Under-Rated
9	Pakistan tabaco	2014	0.248	0.019	0.027	0.084	Under-Rated
		2011	-0.152	-0.085	-0.181	0.112	Over-Rated
		2012	-1.732	-0.598	0.663	0.246	Under-Rated
	Thal indtsr corp	2013	-0.303	-0.144	0.612	0.344	Under-Rated
10	ltd	2014	-0.832	-0.065	0.015	0.158	Under-Rated
	jahangeer	2011	0.799	0.446	7.185	0.588	Under-Rated
11	sidique and co	2012	-1.655	-0.571	-0.979	0.552	Over-Rated

	Ltd	2013	1.144	0.545	0.023	0.150	Over-Rated
		2014	-0.313	-0.024	-0.587	0.314	Over-Rated
		2011	0.131	0.073	0.461	0.177	Under-Rated
		2012	0.124	0.043	-0.460	0.192	Over-Rated
	Mirpurkhas	2013	0.362	0.173	-0.133	0.176	Over-Rated
12	Sugar Mills Ltd	2014	0.242	0.019	-0.396	0.144	Over-Rated
		2011	0.028	0.016	-0.058	0.095	Over-Rated
		2012	0.050	0.017	0.635	0.160	Under-Rated
	Shahtaj Sugar	2013	-0.973	-0.464	0.038	0.216	Under-Rated
13	Mills Ltd	2014	0.550	0.043	-0.124	0.182	Over-Rated
		2011	0.453	0.253	3.787	0.370	Under-Rated
		2012	0.259	0.089	0.926	0.173	Under-Rated
	Fazal Textile	2013	-0.877	-0.418	-0.436	0.246	Over-Rated
14	Mills Ltd	2014	-0.097	-0.008	-0.112	0.139	Under-Rated
		2011	-0.522	-0.291	1.318	0.184	Under-Rated
		2012	-1.837	-0.634	-0.469	0.149	Under-Rated
	Rafhan Maize	2013	0.240	0.114	0.055	0.102	Over-Rated
15	Products Ltd	2014	0.509	0.040	0.471	0.196	Under-Rated
		2011	-0.246	-0.137	3.667	0.341	Under-Rated
		2012	0.169	0.058	0.386	0.112	Under-Rated
		2013	-0.376	-0.179	0.095	0.175	Under-Rated
16	Bata pk ltd	2014	-0.848	-0.066	-0.211	0.168	Over-Rated
		2011	0.036	0.020	-0.038	0.120	Over-Rated
		2012	1.716	0.592	-0.735	0.469	Over-Rated
	Nishat Mills	2013	0.420	0.200	1.341	0.317	Under-Rated
17	Ltd	2014	-0.080	-0.006	0.101	0.161	Under-Rated
		2011	0.073	0.041	-0.012	0.141	Over-Rated
		2012	0.410	0.142	-0.825	0.524	Under-Rated
	Dewan Salman	2013	0.078	0.037	0.114	0.108	Under-Rated
18	Fiber Ltd	2014	0.984	0.077	1.006	0.259	Under-Rated
		2011	0.106	0.059	0.589	0.184	Under-Rated
		2012	1.025	0.354	-0.801	0.434	Over-Rated
	Worldcall	2013	0.847	0.404	0.177	0.172	Over-Rated
19	Telecom ltd	2014	0.785	0.061	-0.288	0.247	Over-Rated
		2011	0.092	0.051	0.000	0.079	Over-Rated
		2012	-1.004	-0.346	-0.022	0.097	Under-Rated
	Island Textile	2013	-0.064	-0.030	-0.134	0.131	Over-Rated
20	Mills Ltd	2014	-0.728	-0.057	1.473	0.450	Under-Rated
		2011	0.473	0.264	0.289	0.143	Under-Rated
		2012	-0.359	-0.124	-0.591	0.241	Over-Rated
	Clariant	2013	-0.273	-0.130	0.616	0.222	Under-Rated
21	Pakistan Ltd	2014	-0.305	-0.024	0.016	0.106	Under-Rated
		2011	-0.622	-0.347	0.278	0.096	Under-Rated
		2012	-0.906	-0.313	-0.358	0.134	Over-Rated
22	Nestle Pakistan	2013	0.875	0.417	0.105	0.120	Under-Rated

		2014	-0.416	-0.032	1.045	0.199	Under-Rated
		2011	0.594	0.331	-0.119	0.203	Over-Rated
		2012	0.691	0.239	-0.759	0.442	Over-Rated
	Honda Atlas	2013	-0.085	-0.040	0.601	0.211	Under-Rated
23	Cars Ltd	2014	-0.414	-0.032	-0.384	0.202	Over-Rated
		2011	-0.578	-0.323	-0.369	0.164	Over-Rated
		2012	-1.221	-0.421	-0.826	0.493	Over-Rated
	Pak Suzuki	2013	0.219	0.104	0.848	0.188	Under-Rated
24	Motors Co Ltd	2014	0.016	0.001	-0.277	0.124	Over-Rated
		2011	0.055	0.031	1.338	0.282	Under-Rated
		2012	0.748	0.258	-0.579	0.338	Over-Rated
	Exide Pakistan	2013	0.382	0.182	1.430	0.225	Under-Rated
25	Ltd	2014	-0.001	0.000	0.034	0.151	Under-Rated
		2011	0.875	0.488	2.097	0.418	Under-Rated
		2012	-1.238	-0.427	-0.574	0.223	Over-Rated
	Sitara Chemicals	2013	0.632	0.301	0.325	0.091	Under-Rated
26	Industries Ltd	2014	-0.189	-0.015	-0.282	0.149	Over-Rated
		2011	0.028	0.016	0.665	0.174	Under-Rated
		2012	1.405	0.485	-0.541	0.378	Over-Rated
	Pak Datacom	2013	-0.089	-0.042	0.875	0.213	Under-Rated
27	Ltd	2014	-0.525	-0.041	-0.210	0.145	Over-Rated
		2011	0.357	0.199	0.283	0.154	Under-Rated
		2012	-0.472	-0.163	-0.757	0.379	Under-Rated
	Al-Abbas	2013	2.735	1.303	0.985	0.152	Over-Rated
28	Cement	2014	1.428	0.111	-0.430	0.389	Over-Rated
		2011	0.747	0.417	0.865	0.241	Under-Rated
		2012	0.034	0.012	-0.531	0.213	Over-Rated
	Murree	2013	-0.441	-0.210	-0.030	0.135	Under-Rated
29	Brewery Co Ltd	2014	-0.327	-0.025	0.194	0.105	Under-Rated
		2011	0.917	0.512	0.815	0.272	Under-Rated
		2012	0.680	0.235	-0.197	0.117	Under-Rated
	Shezan International	2013	-0.365	-0.174	-0.567	0.193	Over-Rated
30	Ltd	2014	-0.533	-0.041	-0.096	0.132	Over Rated

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