

CHAPTER 5

CONCLUSION AND SUGGESTIONS

5.1 Summary

The basic purpose of this study concern with the fundamental analysis of EDL-Gen, which includes analysis of economic, industry and company by using qualitative and quantitative approach. The research adopts the use of fundamental implication and found their impacts to the company performance. Finally, using financial instrument for determining the intrinsic value, the risk and return for decision making the field of investment. For this point, DCF model throughout FCFF from operating cash flow help to find intrinsic value, as well as using HPR to find return and risk in light of standard deviation formula. In this research, there are many facts may lead to draw conclusion whether an investor should invest in EDL-Gen or not.

5.2 Conclusion

Based on the results of this study the main ideas could be summarized as the following:

For the ASEAN economic analysis, the situation is still favorable with a booming economy. GDP growth rate tends to increase proportionally with the population growth year by year. It's driven energy consumption rapidly increase in the region. In part of Lao economic growth potential in the future by driven from

industry and service sector. Laos has great potential resources in terms of hydropower development for generation of electricity. The aggressive growth of the country's power demand will be driven by rising demand in area of mining industry, manufacturing, services and also households throughout the nationwide due to the GOL's plan on rural electrification targeted up to 80% of total households by 2015 and up to 90% by 2020 respectively.

Laos economic partners have improved their economic conditions and almost every country's growth rate is relatively high. Hence, increments of yearly electricity consumption is tangible; such as in 2012 Vietnam GDP growth reached till 6.1%; for Thailand up to 6.4% with electricity consumption increase from 2,321 KWh to 2,529 KWh per person per year; and Cambodia GDP growth of 7.2% while its electricity consumption increases from 220 KWh to 259 KWh. All contribute to the expansion of electricity industry in Lao PDR. As far as the industry analysis is concerned, in overall industry sector is improving over the years. With a constant industry growth outlook that is driven by domestic and foreign economic factors and is enhanced by the government support implies that electricity industry is still profitable.

According to analysis of company's financial statement, the result show that the company's performance is relatively not good due Net profit and ROE decreases, which indicated company's ability to make profit decline throughout shareholder' dividend. Furthermore, its intrinsic value is less than the current price.

That shows, the share price is overvalued and investor should adopt the strategy sell. On the other point, when consideration of market value EDL-Gen's share is still attractiveness because P/E its only eight years and also low risk and high return (holding one year)

In light of this favorable economic conditions both domestic and neighboring countries added with the population growth, EDL-Gen will gain continuously from long term power purchase agreement that may reap revenue from average sale up to 15% by 2011 to 2020. EDL-Gen income stability in the future can be foreseeable due to its strong capacity of generation and distribution of electricity, it has a strong support by the government's policy as already mentioned above and also EDL du Lao which is the parent and holding power projects that is being developed in Lao PDR, all guarantee the company's revenue stability and also the shareholder's dividend.

5.3 Recommendations

Fundamental technique is based on the analysis of the economy, industry and the company as well. In this research, economic indicators have effect on the electricity industry growth. Based on expansion of Laos economic partners that have concession agreement to purchase electricity from Laos enhanced by the increase of their electricity consumption, expansion of electricity industry in Lao PDR is significant.

According to current report, Lao economy is on the increasing stage, this rings a bell for investors that it is the right time to start one's business. One of the most

profitable industry sectors lies on energy especially with EDL-Gen, somehow attention should be done. For that point, company also has several risks due to government policy on electricity price. Government may reduce that price to help poor person, and also increase income tax within four years since 2011, therefore, that policy will have impact on dividend. Risk from foreign exchange rate influences the decision, based on company's financial report in 2012 company suffers from foreign exchange loss of -2.95% compared to previous year. As electricity power is sold by local currency though the company buys equipment and interest payment by foreign currencies, therefore exchange rate fluctuation will have impact to the business operation of the company.

Furthermore, according to financial analysis of EDL-Gen its performance relatively not good that implies a bad sign for investment. Net profit decreased its impact to dividend decreases. And also, regarding to the intrinsic value which is lower than the current value, investors should sell the shares of the company for capital gain (short term investment). On the other point, investors who prefer for long term investment; the sign is also good because based on the economic factors, electric demand, government support, company's development plan, installed capacity of the firm and also long term purchasing agreement with the government of neighboring countries, these factors will drive the company growth well in the future.

5.4 Limitations and Further Research

Due to some limitations on this research, several points could be taken into consideration for the next research related to the topic:

- a. The methodology used in this research is limited to fundamental analysis with discount free cash flow model throughout FCFE from operating free cash flow (OCF). For this matter, it may be better if adding dividend discount model, and also technical analysis combined with fundamental analysis by analyzing the price trend and volume of trading.
- b. This research limits the period of analysis only for a couple of years which is not actually quite significant for a security analysis with a minimum range of five years. Periods may have impact on the result and the latter may differ from the other research. If possible increasing the duration may be consistent.
- c. Only a single company is analyzed within this research that may limit investors' alternatives making investment in the LSX. For the next research, not only the number of the studied companies should be increased but also the area of stock exchange like comparison with the countries surrounding Lao PDR, in other words its neighbors.

REFERENCES

- AswathDamodaran, 2001, Investment Valuation Tools and Techniques for Determining the Value of Any Asset, p. 533-34, 659).*www.ebook3000.com*
- Arshad Khan and VaqarZuberi, 1999, Stock Investing for Everyone, page 85.
- ASEAN Country, 2012, Operation Business Plan Cambodia 2013-2015.
- ASEAN Centre for Energy, 2013 Power Network Interconnection, Natural Gas Infrastructure, andPromotion of Renewable Energy and Energy Efficiency.
- ASEAN Centre for Energy, ASEAN plan of action for energy cooperation 2010-2015, p.3
- ASEAN Centre for Energy, 2009, The 2nd ASEAN energy demand outlook, p. 39, 40
- ASEAN Centre for Energy,2011, The 3nd ASEAN Energy Outlook, p.15, 18-23, 43, 45-6, 76, 78, 84-5.
- ASIAN Development Bank, ASIAN development outlook2013 for Laos PDR, Thailand, Cambodia and Vietnam.
- Bank of the Lao PDR, Monetary Policy Department: Monetary Statistics 2010-12
- Bank of the Lao PDR: Annual Economic Report, 2010-2012
- Charles P. Jones, 2010 Investments Principles and Concepts, p. 224, 247, 260-62, 369, 362-63,381.11th edition.John Wiley & Sons, Inc.
- Charles J. Corrado& Bradford D. Jordan, 2005 Fundamental of investments valuation and management, 3rd edition, p.177
- Damodar N. Gujarati, 2003, Basic Econometrics, 4th edition, p.55. McGraw-Hill
- Diana Suhardiman, Sanjiv de Silva (IWMI), and Jeremy Carew-Reid, Final Report 2011, Policy review and institutional analysis of the hydropower sector in Laos, Cambodia and Vietnam.
- DynaSeng and Jason R. Hancock, 2011, Fundamental Analysis and the Prediction of Earnings.*International Journal of Business and Management*. Vol.7,No 3

- Department of Alternative Energy Development and Efficiency, Thailand Energy Statistic, 2012.
- Elleuch.J, 2009, Fundamental Analysis Strategy and the Prediction of Stock Returns.*International Research Journal of Finance and Economics*, Vol4, No2, 95-107.
- Eugene F. Brigham & Joel F. Houston, 2004, Fundamentals of Financial Management, 10th edition, p.55-57.
- Embassy of Israel in Hanoi, 2012, Socialist Republic of Vietnam- Country Snapshot. Economist Intelligence Unit, Country Report Vietnam 2012, Pp. 2,4.www.forbes.com/places/vietnam/
- Electricite du Laos, Statistic Planning office:Electricity Statistic 2011
- Electricity Generation public company, Annual report 2010-2012.
- Economist Intelligence Unit, Vietnam Country Report, 2012. Pp. 19
- Finland futures research center, 2012, Future energy demand in Laos, FFRC eBook p.29, 30, 33-36
- E.D. Galyadkina, E.B. Gerasimova& V.V. Bykovsky , 2011, Fundamental Analysis: The p 237.method of studying company's investment appetite.No4 (35)
- Gordon D. Richardson, 2006, Relative accuracy and predictive ability of direct valuation methods, price to aggregate earnings method and a hybrid approach.*Journal Accounting and Finance*, 46(2006) 553-575.
- George Abonyi, 2012, The Emerging ASEAN Economic Community (AEC 2015) and the Challenge of Innovation - Micro View (Part 2), p. 1-2
- Gil Cohen, AndreyKudryavtsev and Shlomit Hon-Snir, 2011, Stock Market Analysis in Practice: Is It Technical or Fundamental? *Journal of Applied Finance & Banking*, vol.1, no.3, 2011, 125-138.
- Graham, Benjamin and David L. Dodd's1989, Security Analysis, p 41.
- Holthausen, R. W., and Larcker, D. F. (1992). The Prediction of stock Returns using Financial Statement information. *Journal of Accounting and Economics*, Vol. 15, 373-412.

Harvard Kennedy School and Fulbright Economics Teaching Program, Case study
Vietnam Electricity.P.2, Vol. 232/6

IMF, World Economic Outlook Database, 2012-2013

Keith C. Brown and Frank K. Reilly, 2009, Analysis of Investments and Management
of Portfolios, p. 278-79, 326,335, 454,468 9th edition.

K.R Subramanyam and Mohan Venkatachalam, 2007, Earnings, Cash Flows, and Ex
Post Intrinsic Value of Equity. The Accounting review, Vol. 82, No. 2, pp.
457-481.

Kim, Dennis Doyoun, 2010, Fundamental Analysis and Intrinsic Value of Jinro
Corporation in South Korean Market.

KongchhengPoch and SavongTuy, 2012. Cambodia's Electricity Sector in the
Context of Regional Electricity Market Integration. Economic Institute of
Cambodia, Caombodia and JICA-PILAC 2, Cambodia office, pp.7

Lawrence J. Gitman and Michael D. Joehnk, 2001 Fundamentals of Investing, p. 150-
51, 8th edition. Addison Wesley.

LertrRatanavanich, 2012, Energy Security: Future and Challenges in Greater
Mekong Subregion. The 7th GMSARN International Conference, pp. 3.

Michael Cahill, 2003, Analyzing Companies and Valuing Share, p. 168-69.Pearson
Education.

Mehdi Sarikhani&FahimeEbrahimi, 2011, An empirical evaluation of using the
residual income model for prediction of stock price. *African Journal of
Business Management* Vol. 6(55) pp.2043-2047.

Mehdi Sarikhani and FahimeEbrahimi, 2011, An empirical evaluation of using the
residual income model for prediction of stock price.*African Journal of
Business Management*, Vol. 6(5) pp. 2043-2047, p.8.

Ministry of energy, Department Alternative Energy Development and Efficiency.
Thailand energy statistic, 2012, pp. 26, 27, 45

Ministry of Energy department of alternative, Electric power in Thailand 2011

Ministry of Energy and Mine, Development Plan power and mine in the 5 period
7th2011-2012

Ministry of energy and mines, Strategy development plan of power and mines 2006-2020

National Bank of Cambodia, Annual report 2011

National University of Singapore, 2012, Energy Studies Institute (ESI) Bulletin on Energy Trend and Development, Vol 5, Issu 3.

Patricia A. Libby, Robert Libby, Fred Philips, & Stacey Whitecotton, 2009, Principles of Accounting, p.736, 742). McGraw-Hill

Robert Libby, Patricia A. Libby & Daniel G. Short, 2011, Financial Accounting, p.702, 707). McGraw-Hill.

Richard C. Grimm, 2012, Fundamental Analysis as a Traditional Austrian Approach to Common Stock Selection, *the quarterly journal of Austrian economics*.

Russell J. Lundholm & Richard G. Sloan, 2004, Equity Valuation & Analysis. International edition, p. 80, 92, 110.

Reilly, F.K., and Brown, K.C. (2006), Investment Analysis and Portfolio Management, 8th, ed. Thomson South-Western.

Stephen A. Ross, Randolph W. Westerfield & Jeffrey Jaffe, 2010, Corporate Finance, 9th edition, p108-111). McGraw-Hill.

Stephen H. Penman, 2007 Financial Statement Analysis and Security Valuation, third edition, p.347.

Theodore Goodman, Monica Neamtiu and Frank Zhang (2011), Fundamental Analysis and Option Return.

Tien Minh Do and Deepak Sharma, 2011, Vietnam's energy sector: A review of current energy policies and strategies, P. 1-2

United States of American Department of Commerce, Vietnam Market for Power Generation, Transmission and Distribution, March 2012, pp.3-4. www.globaltrade.net

Wanrapee Banchuenvijit, 2008, Investment Philosophy of Warren E. Buffett vs Principle and Theory of Finance. *Journal of University of Thai Chamber of Commerce*. Vol.1

World Bank Lao PDR country, Lao PDR economic monitor, 2011-2012

World Bank office Bangkok, Thailand Economic Monitor 2012, pp.7.
www.worldbank.or.th

Youngho Chang and Yanfei Li, 2012, Power generation and Cross-border Grid Planning for the Integrated ASEAN Electricity Market: A Dynamic Linear Programming Model, p.1, 8

ZviBodie, Alex Kane & Alan J. Marcus, 2007 Essentials of Investments, 6th edition, p.360,364,366, 429-31, 440, 412-13). McGraw-Hill.

ZviBodie, Alex Kane, Alan J and Marcus, 2008, Essentials of Investments, 7th edition, p 117, 371.McGraw-Hill.

ZviBodie, Alex Kane, Alan J and Marcus, 2010, Investments, 9th edition, p 635-38,427-8.McGraw-Hill.

WEBSITE

http://www.atimes.com/atimes/Southeast_Asia/MA19Ae01.html

<http://www.lsx.com.la/en/about/history.jsp>

<http://asean.fta.govt.nz/laos-overview>

<http://www.bol.gov.la/laoweb/index5.php>

<http://www.tradingeconomics.com/laos/inflation-gdp-deflator-annual-percent-wb-data.html>

<http://www.worldbank.org/en/country/cambodia/overview>

Appendix 1: Statement of financial position by Common-size model

EDL-Generation Public Company
Statement of financial position
As at 31 December 2012

		31-Dec 2012 Notes Million Kip	31-Dec 2011 Million Kip	31- Dec 2012 (%)	31- Dec 2011 (%)
Assets					
Non-current assets					
Pre-operating expenses, net	4		1,982	-	0.04
Interest in associates	5	535,651		8.03	-
Interest in joint ventures	5	1,186,398		17.78	-
Advance payment for investment	6	379,001	434,923	5.68	8.30
Assets under concession, net	7	3,944,900	3,947,527	59.11	75.36
Other non-current assets		5,197		0.08	-
Total non-current assets		6,051,147	4,384,432	90.66	83.70
Current assets					
Cash and cash equivalents	8	164,511	342,795	2.46	6.54
Short-term investments	9	40,000	100,000	0.60	1.91
Trade and other receivables	10	413,633	402,764	6.20	7.69
Spare parts and supplies, net		3,128	3,749	0.05	0.07
Other current assets		1,805	4,832	0.03	0.09
Total current assets		623,077	854,140	9.34	16.30
Total assets		6,674,224	5,238,572	100	100
Equity					
Shareholder's equity					
Share capital	11	4,904,867	3,474,388	73.49	66.32
Share premium	11	142,229	15,577	2.13	0.30
Legal reserve	12	109,268	58,408	1.64	1.11
Translating financial statements	5	-324		-	-
				0	
Retained earnings		436,292	371,091	6.54	7.08

Total equity		5,592,332	3,919,464	83.79	74.82
Liabilities					
Non-current liabilities					
Long-term borrowing, net	13	874,603	1,070,276	13.10	20.43
Total non-current liabilities		874,603	1,070,276	13.10	20.43
Current liabilities					
Account payable		453	874	0.01	0.02
Current portion of long-term-borrowings	13	173,753	211,921	2.60	4.05
Accrued expenses	14	22,983	22,228	0.34	0.42
Accrued income tax	15	6,829	13,786	0.10	0.26
Other current liabilities	16	3,271	23	0.05	0.00
Total current liabilities		207,289	248,832	3.11	4.75
Total liabilities		1,081,892	1,319,108	16.21	25.18
Total equity and liabilities		6,674,224	5,238,572	100	100

Appendix 2: Statement of income by Common-Size model

EDL-Generation Public
Company
Statement of Income
For the year ended 31
December 2012

		31-Dec 2012	31-Dec 2011	31-Dec 2012	31-Dec 2011
	Notes	Million Kip	Million Kip	Percent	Percent
Sales		779,887	881,748	100	100
Cost of sales	17	- 185,990	- 204,671	-23.85	-23.21
Gross profit		593,897	677,077	76.15	76.79
Other income		4,613	9,781	0.59	1.11
Administrative expenses	17	- 61,846	- 48,013	-7.93	-5.45
Foreign exchange gain/(loss), net		- 22,998	3,895	-2.95	0.44
Interest expense	18	- 35,680	- 41,278	-4.58	-4.68
Share of profit of associates and joints ventures	5	105,605		13.54	
Profit before income tax expense		583,591	601,462	74.83	68.21
Income tax expense	19	- 27,118	- 30,104	-3.48	-3.41
Net profit for the year		556,473	571,358	71.35	64.80
Earnings per share					
Basic earning per share for the year	20	59,008	68,176	7.57	7.73

Appendix 3: Statement of cash flow by Common-Size model

EDL-Generation Public Company
Statement of cash flows
For the year ended 31 December 2012

	Notes	31-Dec 2012 Million Kip	31-Dec 2011 Million Kip	31-Dec 2012 Percent	31-Dec 2011 Percent
Cash flow from operating activities					
Net profit before income tax for the year		629,587	593,672	94.57	102.71
Adjustments to reconcile net profit to net cash					
Amortization of pre-operation	4	1,982	2,104	0.30	0.36
Depreciation	7	156,597	151,951	23.52	26.29
(Profit) on sale of assets under concession		- 38		- 0.01	-
Foreign exchange (gain)/loss		- 22,998	3,895	- 3.45	0.67
Gain on translation					
Share profit from investment	5	- 105,605		- 15.86	-
Finance cost		35,680	10,815	5.36	0.10
Operating profit before working capital change		695,205	762,437	104.43	131.91
Change in operating assets and liabilities					
Trade and other receivable		868	- 177,396	0.13	- 30.69
Pre-operating expenses			- 1,704	-	- 0.29

Spare part and supplies		621	876	0.09	0.15
Other current assets		3,027		0.45	-
Accounts payable		- 421		- 0.06	-
Other assets		- 5,197	- 4,832	- 0.78	- 0.84
Other current liabilities		3,248	- 19,384	0.49	- 3.35
Accrued expenses		2,429	36,590	0.36	6.33
Cash generated from operations		699,780	577,980	-	-
Income tax paid	15	- 34,075	- 18,607	- 5.12	- 3.22
Net cash receipts from operating activities		665,705	577,980	100	100
Cash flows from operating activities					
Cash flows from investing activities					
Advance payment for investment	6	- 200,366	- 178,635	20.03	25.56
Advance investment for acquisition of associates and joint ventures	6		- 256,288	-	36.66
Cash received from advance payment for acquisition of associates and joint ventures	6	256,288		- 25.62	-
Acquisition of associates and interest in joint ventures	5	- 1,628,506		162.77	-
Short-term to parent company			- 250,000	-	35.76
Loan repaid from parent company			250,000	-	- 35.76
Purchases of assets under concession	7	- 155,428	- 164,097	15.53	23.48
Purchases of short term investment, net	9	- 40,000	- 100,000	4.00	14.31
Proceed from short term investment, net		100,000		- 9.99	-
Proceeds from sale of assets under concession		1,496		- 0.15	-

Net cash used by investing activities		- 1,000,516	- 699,020	100	100
Cash flow from financial activities					
Proceeds from assurance of ordinary share and right to surcharge the ordinary shares	11		- 884,149	-	210.04
Cash received from issuance of ordinary share	11	1,557,131	884,172	189.31	
Proceed from long term borrowings	13		2,574	-	
Repayment on borrowings	13	- 210,843	- 224,602	- 25.63	53.36
Dividends paid to shareholders	21	- 364,806	- 115,936	- 44.35	27.54
Dividends paid to non controlling interests	21	- 121,602	- 38,645	- 14.78	9.18
Interest payment		- 37,353	- 44,361	- 4.54	10.54
Net cash used by financing activities		822,527	- 420,947	100	100
Net decreases in cash and cash equivalents		- 178,284	- 541,987	-108.37	- 158.11
Cash and cash equivalent beginning of the year		342,795	884,782	208.37	258.11
Cash and cash equivalent ending of the year	8	164,511	342,795	100	100

Appendix 4:Result of ratios analysis

Year	2011	2012	Unit
Leverage ratios			
Times Interest Earned	15	19	Decimal; Times
Asset Utilization			
Total asset turnover	0.17	0.12	Decimal; Times
Profitability Ratios			
Return on Asset (ROA)	10.76	9.03	Percentage
Return on Equity (ROE)	14.38	10.77	Percentage
Liquidity Ratios			
Current ratio	3.43	3.01	Decimal; Times
Market price ratio			
Price-earning ratio (P/E)	7.95	8.23	Decimal; Times

Appendix 5: Calculation fair value

Period	2012		2011	
Sales	779,887		881,748	
EBIT Margin				
EBIT	629,587		593,672	
Taxes	27,118		30,104	
NOPLAT	602,469		563,568	
D&A	156,597		151,951	
INCREASE IN NWC	- 189,520		614,179	
CAPEX			1,982	
FCFF	948,586		99,358	
NFA	6,051,147		4,384,432	
Dep	156,597		151,951	
Net capital spending			1,823,312	
CA	623,077		854,140	
CL	207,289		248,832	
Working capital	415,788		605,308	
Change in NWC			- 189,520	
Calculation of requires rate of return				
Risk free rate	6.5		6.5	
Beta	0.996		0.996	
Risk premium	14.64		14.64	
K	21.08144		21.08144	
EQUITY	5,592,332		3,919,464	
DEBT	1,081,892		1,319,108	
V(E+D)	6,674,224		5,238,572	
Rd(Interest expense)	35,680		41,278	
Rate (BOL's short-term lending interest rate for Kip with maturity less than 1 year)	12.50		12.50	
EBIT	629,587		593,672	
Tax	27,118		30,104	
Tc	23.216572	0.23217	19.72070157	0.197207016

WACC	19.2200	18.2998
Discount cash flow at the weight average cost of capital (WACC)		
FCFF	948,586	99,358
WACC	19.22	18.30
NPV	2,320.15	5,148.12
NPV of TV		7,468.27
Calculate of the terminal value		
	2012	2011
RR	0.5	0.5
net income	602,469	563,568
stockholders' Equity	5,592,332	3,919,464
Average stockholders' Equity	55,923.32	39,194.64
ROE	0.11	0.14
$g = (RR)(ROE)$	0.055	0.07
	5.5	7
FCFF	948,586	99,358
WACC	19.2200	18.2998
TV	49,348.71	5,422.44
		54,771.15
EV	6,674,224	5,238,572
Net debt	1,081,892	1,319,108
Minorities		
Eq. V.	5,592,332	3,919,464
No. of share	1,021	827
Fair share price	5,477	4,741
MV	5,750	

Appendix 6: Calculation return by holding period return model (HPR)

Date	2012			Date	2011		
	Closing price	Dly HPR	Mly HPR		Closing price	Dly HPR	Mly HPR
26/12/2012	5,750	0.862068966	0.930061285	27/12/2011	4,200	0	-2.26955
25/12/2012	5,800	0.869565217		26/12/2011	4,200	0	
24/12/2012	5,750	0.877192982		23/12/2011	4,200	0	
21/12/2012	5,700	0		22/12/2011	4,200	1.204819	
20/12/2012	5,700	0.869565217		21/12/2011	4,150	-2.35294	
19/12/2012	5,750	0		20/12/2011	4,250	1.190476	
18/12/2012	5,750	0		19/12/2011	4,200	-2.32558	
17/12/2012	5,750	0.862068966		16/12/2011	4,300	1.176471	
14/12/2012	5,800	0		15/12/2011	4,250	0	
13/12/2012	5,800	0.869565217		14/12/2011	4,250	-1.16279	
12/12/2012	5,750	0.877192982		13/12/2011	4,300	0	
11/12/2012	5,700	0		12/12/2011	4,300	0	
10/12/2012	5,700	0		9/12/2011	4,300	0	
7/12/2012	5,700	1.724137931		8/12/2011	4,300	0	
6/12/2012	5,800	1.754385965		7/12/2011	4,300	0	
5/12/2012	5,700	0		6/12/2011	4,300	0	
4/12/2012	5,700	0		5/12/2011	4,300	0	
29/11/2012	5,700	0	13.37023034	1/12/2011	4,300	0	

28/11/2012	5,700	3.389830508	-	30/11/2011	4,300	0	4.969231
27/11/2012	5,900	0		29/11/2011	4,300	0	
26/11/2012	5,900	0		28/11/2011	4,300	-1.14943	
23/11/2012	5,900	0.854700855		25/11/2011	4,350	0	
			-				
22/11/2012	5,850	0.847457627		24/11/2011	4,350	0	
21/11/2012	5,900	0		23/11/2011	4,350	2.352941	
20/11/2012	5,900	0		22/11/2011	4,250	-2.29885	
19/11/2012	5,900	0		21/11/2011	4,350	-1.13636	
16/11/2012	5,900	3.50877193		18/11/2011	4,400	0	
15/11/2012	5,700	0		17/11/2011	4,400	0	
14/11/2012	5,700	2.702702703		16/11/2011	4,400	0	
13/11/2012	5,550	1.834862385		15/11/2011	4,400	0	
12/11/2012	5,450	0		14/11/2011	4,400	2.325581	
9/11/2012	5,450	0.925925926		11/11/2011	4,300	2.380952	
8/11/2012	5,400	1.886792453		10/11/2011	4,200	0	
7/11/2012	5,300	1.923076923		9/11/2011	4,200	0	
6/11/2012	5,200	1.960784314		8/11/2011	4,200	0	
5/11/2012	5,100	2		7/11/2011	4,200	0	
2/11/2012	5,000	-0.99009901		4/11/2011	4,200	-2.32558	
1/11/2012	5,050	1		3/11/2011	4,300	2.380952	
26/10/2012	5,000	0		2/11/2011	4,200	2.439024	
25/10/2012	5,000	2.040816327		1/11/2011	4,100	0	
24/10/2012	4,900	0	2.051335998	31/10/2011	4,100	0	-6.79053
23/10/2012	4,900	0		28/10/2011	4,100	-1.20482	

22/10/2012	4,900	0	27/10/2011	4,150	0	
19/10/2012	4,900	0	26/10/2011	4,150	-1.19048	
18/10/2012	4,900	0	25/10/2011	4,200	-4.54545	
17/10/2012	4,900	0	24/10/2011	4,400	4.761905	
16/10/2012	4,900	0	21/10/2011	4,200	0	
15/10/2012	4,900	0	20/10/2011	4,200	0	
12/10/2012	4,900	0	19/10/2011	4,200	0	
11/10/2012	4,900	0	18/10/2011	4,200	0	
10/10/2012	4,900	0	17/10/2011	4,200	-1.17647	
9/10/2012	4,900	0	14/10/2011	4,250	0	
5/10/2012	4,900	0	11/10/2011	4,250	0	
4/10/2012	4,900	0	10/10/2011	4,250	-2.29885	
3/10/2012	4,900	0	6/10/2011	4,350	0	
2/10/2012	4,900	1.030927835	5/10/2011	4,350	0	
		-				
1/10/2012	4,850	1.020408163	4/10/2011	4,350	-1.13636	
28/9/2012	4,900	0	3/10/2011	4,400	0	
27/9/2012	4,900	0	30/9/2011	4,400	0	-9.15935
26/9/2012	4,900	-1.01010101	29/9/2011	4,400	-2.22222	
25/9/2012	4,950	-1	28/9/2011	4,500	1.123596	
24/9/2012	5,000	2.040816327	27/9/2011	4,450	1.136364	
21/9/2012	4,900	0	26/9/2011	4,400	-1.1236	
20/9/2012	4,900	0	23/9/2011	4,450	-3.26087	
19/9/2012	4,900	0	22/9/2011	4,600	2.222222	
18/9/2012	4,900	0	21/9/2011	4,500	0	
17/9/2012	4,900	1.030927835	20/9/2011	4,500	2.272727	

14/9/2012	4,850	0	19/9/2011	4,400	-1.1236	
13/9/2012	4,850	0	16/9/2011	4,450	-4.30108	
12/9/2012	4,850	3.191489362	15/9/2011	4,650	-1.06383	
		-				
11/9/2012	4,700	1.052631579	14/9/2011	4,700	-1.05263	
		-				
10/9/2012	4,750	1.041666667	13/9/2011	4,750	-1.04167	
7/9/2012	4,800	0	12/9/2011	4,800	1.052632	
6/9/2012	4,800	0	9/9/2011	4,750	3.26087	
5/9/2012	4,800	0	8/9/2011	4,600	3.370787	
4/9/2012	4,800	0	7/9/2011	4,450	1.136364	
3/9/2012	4,800	0	6/9/2011	4,400	-4.34783	
31/8/2012	4,800	0	5/9/2011	4,600	-4.16667	
30/8/2012	4,800	0	2/9/2011	4,800	0	
29/8/2012	4,800	0	1/9/2011	4,800	-1.03093	
		-				
28/8/2012	4,800	2.040816327	31/8/2011	4,850	-1.02041	-4.97089
27/8/2012	4,900	0	30/8/2011	4,900	0	
24/8/2012	4,900	0	29/8/2011	4,900	-1.0101	
23/8/2012	4,900	0	26/8/2011	4,950	0	
22/8/2012	4,900	0	25/8/2011	4,950	0	
21/8/2012	4,900	0	24/8/2011	4,950	0	
20/8/2012	4,900	2.083333333	23/8/2011	4,950	1.020408	
		-				
17/8/2012	4,800	1.030927835	22/8/2011	4,900	-2	
16/8/2012	4,850	1.041666667	19/8/2011	5,000	0	
15/8/2012	4,800	0	18/8/2011	5,000	0	

14/8/2012	4,800	1.052631579		17/8/2011	5,000	-0.9901	
		-					
13/8/2012	4,750	1.041666667		16/8/2011	5,050	0	
10/8/2012	4,800	0		15/8/2011	5,050	0	
9/8/2012	4,800	1.052631579		12/8/2011	5,050	0	
		-					
8/8/2012	4,750	1.041666667		11/8/2011	5,050	-0.98039	
7/8/2012	4,800	0		10/8/2011	5,100	0	
6/8/2012	4,800	1.052631579		9/8/2011	5,100	0.990099	
		-					
3/8/2012	4,750	1.041666667		8/8/2011	5,050	-0.98039	
2/8/2012	4,800	0		5/8/2011	5,100	0	
1/8/2012	4,800	1.052631579		4/8/2011	5,100	0	
31/7/2012	4,750	0	2.173174873	3/8/2011	5,100	0	
30/7/2012	4,750	1.063829787		2/8/2011	5,100	0	
27/7/2012	4,700	0		1/8/2011	5,100	0	
		-					
26/7/2012	4,700	1.052631579		29/7/2011	5,100	0	-2.71756
25/7/2012	4,750	1.063829787		28/7/2011	5,100	0	
24/7/2012	4,700	0		27/7/2011	5,100	0	
23/7/2012	4,700	0		26/7/2011	5,100	-0.97087	
20/7/2012	4,700	1.075268817		25/7/2011	5,150	0	
19/7/2012	4,650	0		22/7/2011	5,150	0	
18/7/2012	4,650	0		21/7/2011	5,150	-0.96154	
		-					
17/7/2012	4,650	1.063829787		20/7/2011	5,200	0	
16/7/2012	4,700	0		19/7/2011	5,200	2.970297	

13/7/2012	4,700	0		18/7/2011	5,050	-4.71698	
12/7/2012	4,700	1.075268817		15/7/2011	5,300	0.952381	
11/7/2012	4,650	0		14/7/2011	5,250	0.961538	
10/7/2012	4,650	0		13/7/2011	5,200	0	
		-					
9/7/2012	4,650	1.063829787		12/7/2011	5,200	0	
6/7/2012	4,700	0		11/7/2011	5,200	0	
5/7/2012	4,700	0		8/7/2011	5,200	0	
4/7/2012	4,700	0		7/7/2011	5,200	0	
3/7/2012	4,700	1.075268817		6/7/2011	5,200	0	
2/7/2012	4,650	0		5/7/2011	5,200	0	
		-					
29/6/2012	4,650	1.063829787	2.996344394	4/7/2011	5,200	-0.95238	
28/6/2012	4,700	2.173913043		1/7/2011	5,250	0	
27/6/2012	4,600	0		30/6/2011	5,250	0.961538	-1.49523
		-					
26/6/2012	4,600	2.127659574		29/6/2011	5,200	0	
		-					
25/6/2012	4,700	1.052631579		28/6/2011	5,200	0	
22/6/2012	4,750	0		27/6/2011	5,200	0	
21/6/2012	4,750	-3.06122449		24/6/2011	5,200	0	
20/6/2012	4,900	-1.01010101		23/6/2011	5,200	0	
19/6/2012	4,950	-1		22/6/2011	5,200	0	
18/6/2012	5,000	2.040816327		21/6/2011	5,200	0.970874	
15/6/2012	4,900	0		20/6/2011	5,150	-1.90476	
14/6/2012	4,900	1.030927835		17/6/2011	5,250	-0.9434	
13/6/2012	4,850	0		16/6/2011	5,300	3.921569	

12/6/2012	4,850	0		15/6/2011	5,100	-3.77358	
		-					
11/6/2012	4,850	1.020408163		14/6/2011	5,300	-0.93458	
8/6/2012	4,900	0		13/6/2011	5,350	0	
7/6/2012	4,900	1.030927835		10/6/2011	5,350	-3.6036	
6/6/2012	4,850	0		9/6/2011	5,550	3.738318	
		-					
5/6/2012	4,850	1.020408163		8/6/2011	5,350	2.884615	
4/6/2012	4,900	0		7/6/2011	5,200	-0.95238	
1/6/2012	4,900	2.083333333		6/6/2011	5,250	0.961538	
		-					
31/5/2012	4,800	1.030927835	4.019976485	3/6/2011	5,200	-1.88679	
30/5/2012	4,850	1.041666667		2/6/2011	5,300	0	
29/5/2012	4,800	0		1/6/2011	5,300	-0.93458	
28/5/2012	4,800	0		31/5/2011	5,350	0	-20.9002
25/5/2012	4,800	0		30/5/2011	5,350	1.904762	
24/5/2012	4,800	0		27/5/2011	5,250	5	
23/5/2012	4,800	0		26/5/2011	5,000	-4.7619	
		-					
22/5/2012	4,800	2.040816327		25/5/2011	5,250	-4.54545	
21/5/2012	4,900	-1.01010101		24/5/2011	5,500	-1.78571	
18/5/2012	4,950	-1		23/5/2011	5,600	0	
17/5/2012	5,000	0		20/5/2011	5,600	0	
16/5/2012	5,000	0		19/5/2011	5,600	-0.88496	
15/5/2012	5,000	1.01010101		18/5/2011	5,650	3.669725	
14/5/2012	4,950	-1		17/5/2011	5,450	-4.38596	
11/5/2012	5,000	0		16/5/2011	5,700	-4.20168	

10/5/2012	5,000	0		13/5/2011	5,950	-4.03226	
9/5/2012	5,000	0		12/5/2011	6,200	-4.61538	
8/5/2012	5,000	0		11/5/2011	6,500	-0.76336	
7/5/2012	5,000	0		10/5/2011	6,550	-0.75758	
4/5/2012	5,000	0		9/5/2011	6,600	0.763359	
3/5/2012	5,000	1.01010101		6/5/2011	6,550	-0.75758	
2/5/2012	4,950	-1		5/5/2011	6,600	-0.75188	
30/4/2012	5,000	0	1.837272475	4/5/2011	6,650	0.757576	
27/4/2012	5,000	1.01010101		3/5/2011	6,600	-0.75188	
26/4/2012	4,950	-1		29/4/2011	6,650	-0.74627	1.612522
25/4/2012	5,000	2.040816327		28/4/2011	6,700	1.515152	
24/4/2012	4,900	-2		27/4/2011	6,600	-0.75188	
23/4/2012	5,000	0		26/4/2011	6,650	-0.74627	
20/4/2012	5,000	0		25/4/2011	6,700	1.515152	
19/4/2012	5,000	2.040816327		22/4/2011	6,600	-0.75188	
18/4/2012	4,900	1.030927835		21/4/2011	6,650	0.757576	
12/4/2012	4,850	1.041666667		20/4/2011	6,600	-1.49254	
11/4/2012	4,800	0		19/4/2011	6,700	1.515152	
10/4/2012	4,800	0		18/4/2011	6,600	0	
9/4/2012	4,800	0		12/4/2011	6,600	0	
6/4/2012	4,800	0		11/4/2011	6,600	-0.75188	
5/4/2012	4,800	0		8/4/2011	6,650	0	
4/4/2012	4,800	2.040816327		7/4/2011	6,650	2.307692	
3/4/2012	4,900	-2		6/4/2011	6,500	-0.76336	

2/4/2012	5,000	1.960784314	-	5/4/2011	6,550	0	
30/3/2012	5,100	3.03030303	15.02452113	4/4/2011	6,550	0.769231	
29/3/2012	4,950	3.125		1/4/2011	6,500	-0.76336	
28/3/2012	4,800	1.052631579		31/3/2011	6,550	-0.75758	-5.07905
27/3/2012	4,750	1.063829787		30/3/2011	6,600	1.538462	
26/3/2012	4,700	0		29/3/2011	6,500	-0.76336	
23/3/2012	4,700	1.075268817		28/3/2011	6,550	0	
22/3/2012	4,650	0		25/3/2011	6,550	-1.50376	
21/3/2012	4,650	1.086956522		24/3/2011	6,650	0	
20/3/2012	4,600	0		23/3/2011	6,650	0.757576	
19/3/2012	4,600	0		22/3/2011	6,600	-0.75188	
16/3/2012	4,600	1.098901099		21/3/2011	6,650	-0.74627	
15/3/2012	4,550	1.111111111		18/3/2011	6,700	0.75188	
14/3/2012	4,500	3.225806452		17/3/2011	6,650	0	
13/3/2012	4,650	2.197802198		16/3/2011	6,650	1.526718	
12/3/2012	4,550	2.247191011		15/3/2011	6,550	0	
9/3/2012	4,450	1.111111111		14/3/2011	6,550	-2.23881	
7/3/2012	4,500	0		11/3/2011	6,700	0	
6/3/2012	4,500	1.123595506		10/3/2011	6,700	0	
5/3/2012	4,450	1.111111111		9/3/2011	6,700	1.515152	
2/3/2012	4,500	1.123595506		7/3/2011	6,600	0	
1/3/2012	4,450	1.136363636		4/3/2011	6,600	0	
29/2/2012	4,400	-	-	3/3/2011	6,600	-1.49254	

	1.123595506	1.044293362				
28/2/2012	4,450	0	2/3/2011	6,700	-0.74074	
27/2/2012	4,450	0	1/3/2011	6,750	-2.17391	
24/2/2012	4,450	1.136363636	28/2/2011	6,900	2.222222	-13.8741
23/2/2012	4,400	0	25/2/2011	6,750	1.503759	
22/2/2012	4,400	0	24/2/2011	6,650	1.526718	
21/2/2012	4,400	1.149425287	23/2/2011	6,550	-2.23881	
20/2/2012	4,350	1.162790698	22/2/2011	6,700	-4.28571	
		-				
17/2/2012	4,300	1.149425287	21/2/2011	7,000	-3.44828	
16/2/2012	4,350	0	18/2/2011	7,250	3.571429	
		-				
15/2/2012	4,350	1.136363636	17/2/2011	7,000	0	
14/2/2012	4,400	1.149425287	16/2/2011	7,000	-4.7619	
13/2/2012	4,350	0	15/2/2011	7,350	-4.54545	
10/2/2012	4,350	1.162790698	14/2/2011	7,700	4.761905	
9/2/2012	4,300	1.176470588	11/2/2011	7,350	5	
		-				
8/2/2012	4,250	1.162790698	10/2/2011	7,000	1.449275	
7/2/2012	4,300	0	9/2/2011	6,900	-4.82759	
		-				
6/2/2012	4,300	1.149425287	8/2/2011	7,250	-4.60526	
		-				
3/2/2012	4,350	1.136363636	7/2/2011	7,600	-5	
		-				
2/2/2012	4,400	1.123595506	4/2/2011	8,000	-4.7619	
1/2/2012	4,450	0	3/2/2011	8,400	-4.54545	

31/1/2012	4,450	1.136363636	6.292954226	2/2/2011	8,800	4.142012	
30/1/2012	4,400	1.149425287		1/2/2011	8,450	4.968944	
27/1/2012	4,350	0		31/1/2011	8,050	4.545455	0
26/1/2012	4,350	3.571428571		28/1/2011	7,700	4.761905	
		-					
25/1/2012	4,200	1.176470588		27/1/2011	7,350	5	
		-					
24/1/2012	4,250	2.298850575		26/1/2011	7,000	4.477612	
23/1/2012	4,350	4.819277108		25/1/2011	6,700	4.6875	
20/1/2012	4,150	0		24/1/2011	6,400	4.918033	
19/1/2012	4,150	0		21/1/2011	6,100	4.273504	
18/1/2012	4,150	0		20/1/2011	5,850	4.464286	
		-					
17/1/2012	4,150	3.488372093		19/1/2011	5,600	4.672897	
16/1/2012	4,300	2.380952381		18/1/2011	5,350	4.901961	
13/1/2012	4,200	0		17/1/2011	5,100	4.081633	
12/1/2012	4,200	1.204819277		14/1/2011	4,900	4.255319	
11/1/2012	4,150	0		13/1/2011	4,700	2.173913	
10/1/2012	4,150	0		12/1/2011	4,600	-2.12766	
		-					
9/1/2012	4,150	3.488372093		11/1/2011	4,700	#DIV/0!	
6/1/2012	4,300	4.87804878					
		-					
5/1/2012	4,100	1.204819277					
4/1/2012	4,150	-1.19047619					
3/1/2012	4,200	0					

Appendix 7: Result of risk and return

Risk and Return 2012		Risk and Return 2011	
Month	Value	Month	Value
26/12/2012	0.930061285	27/12/2011	-2.269547214
29/11/2012	13.37023034	30/11/2011	4.96923083
26/10/2012	2.051335998	31/10/2011	-6.79053005
28/9/2012	2.158834268	30/9/2011	-9.159346755
31/8/2012	1.138782154	31/8/2011	-4.970885324
31/7/2012	2.173174873	29/7/2011	-2.717557889
29/6/2012	-2.996344394	30/6/2011	-1.495226446
31/5/2012	-4.019976485	31/5/2011	-20.90016609
30/4/2012	-1.837272475	29/4/2011	1.612522098
30/3/2012	15.02452113	31/3/2011	-5.079053291
29/2/2012	-1.044293362	28/2/2011	-13.87410029
31/1/2012	6.292954226		
Average return	2.770167297	Average return	-5.51587822
Risk	5.754506403	Risk	7.191732255
cv	2.077313673	cv	-1.30382361

Appendix 8: Calculation betaby SPSS

```
REGRESSION
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT y
/METHOD=ENTER x.
```

Regression

[DataSet0]

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	x ^b	.	Enter

a. Dependent Variable: y

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.996 ^a	.992	.992	.43021978423

a. Predictors: (Constant), x

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11046.296	1	11046.296	59680.974	.000 ^b
	Residual	89.768	485	.185		
	Total	11136.064	486			

a. Dependent Variable: y

b. Predictors: (Constant), x

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.003	.020		-.160	.873
x	.982	.004	.996	244.297	.000

a. Dependent Variable: y

```

DATASET ACTIVATE DataSet0.
DATASET ACTIVATE DataSet0.
SAVE OUTFILE='D:\DataSet0(BETA).sav'
/COMPRESSED.
DATASET ACTIVATE DataSet0.
    
```

```

GET
FILE='D:\EDL-Gen BETA\DataSet0(BETA).sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
    
```