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Company's return, risk, and beta

Nwokwu Tochukwu Christian
Post Graduate and Mid-Career Development Unit, University of Colombo, Colombo, Sri Lanka

Abstract
Vallibel Finance PLC is a Public Limited Liability company incorporated in Sri Lanka under PB 526/PQ. It is a Licensed Finance Company by the Monetary Board of the Central Bank of Sri Lanka under the Finance Business Act No. 42 of 2011. The Company's major financial services related with acceptance of deposits, granting of lease facilities, hire purchases, pawning, mortgage loans, personal loans, other credit facilities and related services in the finance business. The company was incorporated in 1974 and later it has been acquired by Vallibel Investments (Pvt) Limited in 2005. This acquisition has brought a reconstitution of the Board and the senior management staff. Vallibel Investments (Pvt) Limited currently has a stake of 73% of Vallibel Finance PLC. The company has been ranked and listed amongst the top and most valuable 100 brand in Sri Lanka by LMD. Currently, Vallibel Finance operates with a network of 27 branches across the country and the Head Office is located in Colombo. As at the end of the March 2015 the assets and deposits base of the Company stood at Rs. 17.0Bn and Rs. 12.0Bn respectively. So in terms of assets and deposits base of 47 Licensed Finance Companies, Vallibel Finance PLC was in the 12th and 8th place respectively. The lending portfolio of the company has been indicated a 24% growth in 2015 comparing to the previous year records, reaching Rs.12.5 Billion from Rs.9.9 Billion. Also, the company has recorded a profit after tax of Rs.372.0 Million during the financial year of 2015 against the previous year figure of Rs.304.0Million. The oversubscribed debenture issue had taken place in March 2015, which witnessed the financial stability of the company and its reputation among the general public towards the company being a leading financial company in the country.

Keywords: expenditure, cash flow, macro environment factors, company's return, risk, and beta

Introduction

The company is planning to diversify its business activities beyond the traditional financial services. Therefore we proposed Vallibel Finance to venture into and invest in the real estate sector. We propose the company to implement this project as a pilot project which will mark the entry of the company in this new business venture. The proposed project is to construct a luxury condominium apartment at Rajagiriya in a land, extent of 40 perches. The location of the project, Rajagiriya is a suburb of Colombo which has a higher demand for the residential population. The apartment will be a 10 storied building and each floor will be comprised with 05 numbers of apartment units totaling upto 50 number of apartments. The current market analysis study indicated that the higher demand for the apartments in Rajagiriya area, since the location provide direct access to Colombo and located in close vicinity to all the facilities and services that ease the basic needs of the population. The estimated period for completion of construction will be two years and the company intends to obtain reservations from the prospective buyers before and during the construction period to start the project. In which, advanced payments are obtained from the buyers, which will be invested on the project at the initial stage. After the project is completed the remaining apartments will be sold to earn the profit. The company expects to complete the occupation of the apartment within five years' time after completion of the construction.

Justification for the selection

The basis for the selection of the project by Vallibel Finance PLC can be justified by considering the macro & micro environment factors that are affected the real estate business.

Macro Environment Factors

After the liberation from the 30 years prolonged civil war in 2009, and also opening of the economy to outside investors have been penetrated to the most of the entrepreneurs and educated groups to move Colombo from the remote areas. As a result from the transfers of the population from rural to urban has been created an increased demand for the houses and apartments during the last couple of years. Out them high income earners are much concerned about the luxury apartments in Colombo and suburban areas. Also, the scarcity of lands coupled with the increase in population density has been caused to increase the demand for condominium apartments. Further it is relevant to mention that first generation of Sri Lankans who moved to West , 30-40 years ago are in their retirement age .They are looking at Sri Lanka as their final destination and also they are willing to invest their savings here. A substantial demand has been arisen from those segments towards condominium apartments. Also, it has been observed that there is a demand from foreigners as well as expatriates who are staying in Sri Lanka for various reasons towards the condominium apartments which have the all facilities required for their life styles.

Since the economy has grown rapidly since 2010, there has been significant growth in many sectors and real among of them, estate sector can be identified as a rapidly growing sector. With an improved economy and an easing of the official rate of inflation, the outlook for sustained growth remains positive. At present the, Sri Lankan construction industry has closely followed the upward momentum of the national economy. In addition to that under new budget proposals 2016, it is proposed to reduce the tax on importation of construction machineries such as concrete mixers and cranes. This proposal would help to reduce the cost of the construction and ultimately to cut down the cost of apartments.

This will be affected on the demand of the condominium apartments favourably.

Micro Environment Factors

It is observed that few companies in the financial sector have been successfully diversified their business activities toward real estate dealings. (Eg: Ceylinco group) Hence being a well-established financial organization, Vallibel Finance would be able to venture this business without much difficulty. Also, being a financial institution with a sound financial background it would be easy to raise funds (Eg: Bank loan) towards the project. Moreover, the company can arrange credit facilities to prospective buyers to finance the purchase cost of apartments.

Estimates of the capital requirement

Preliminary Cost Estimate for the Proposed Luxuary Apartment at Rajagiriya

ITEM	DESCRIPTION	AMOUNT	
1	Priliminaries (Site Preparation)	3,275,080.00	
2	Sub Structure (Piling Construction)	25,000,000.00	
3	Sub Structure (R.C.C. Basements/Parking)	22,500,000.00	Note: 4
4	Apartments Construction (Including basic Furniture)	1,200,000,000.00	Note: 2
5	Fire Installations	2,900,000.00	
6	Plumbing Installations	5,976,000.00	
7	Data & Tele Communication Installations	965,000.00	
8	Generator	1,200,000.00	
9	Transformer	560,650.00	
10	Water Sump and Pump	1,100,000.00	
11	Sewer Treatment Plant	650,000.00	
12	Electrical Installations	19,000,000.00	
13	Swimming Pool Construction	6,000,000.00	
14	Gym	3,500,000.00	
15	Security System	750,000.00	
16	Landscaping	1,200,000.00	
17	Roof top Garden	900,000.00	
18	HVAC	5,500,000.00	
	SUB TOTAL 01	1,300,976,730.00	
	12 % for VAT	156,117,207.60	
	SUB TOTAL 01 WITH VAT	1,457,093,937.60	
Other Expenditures			
19	Consultancy Fees (Engineering, MEP, Fire, Architectural, Landscaping, Interior,etc)	12,173,581.14	
20	Insuarances	117,087,905.70	Note:3
21	Cost of the Land	32,000,000.00	Note:1
22	Expenses for Approvals (UDA, Local Authority, etc)	900,000.00	
	SUB TOTAL 02	162,161,486.84	
	GROSS TOTAL	1,619,255,424.44	

Cost Incurred for the Project=GROSS TOTAL		1,619,255,424.44
No of Apartmnets	50	
Sellable Cost per apartment	40,000,000.00	2,000,000,000.00
Net Profit Generate		**380,744,575.56**
Profit percentage gain from the project		23.51

Note 1: Land Cost

Perchs	Per perch	Total
40	800000	32000000

Note 2: Assume that the apartment has 10 floor and each floor 5 no of apartmnet units

Therefore total no of apartments is 50	50
Each apartment has 2000 sqft	2000
construction cost per sqft =12000	12000
Total cost for the construction of Apartments only =2000*12000*50	
	1200000000

Note:3 Insurance calculation

Insurance value paid= (cost incurred for the project) *0.09

Note:4

Area of basement=4500 sqft	4500
Per sqft constrction cost =5000 LKR	5000
Total cost for basement=4500*5000	22500000

Fig 1

Projection on income and expenditure and cash flows of the project

Assumptions for Cash Flow Analysis

Following is a discussion of key assumptions about income and expenditure and cash flows of the project

Income

Based on the comparable condominium projects in the market, the average market sales value of the furniture Luxury apartment has decided as Rs.70, 000,000 and expected to be increased by 10% every year. The vacancy rate of 40% for the first year is feasible assumption as the location is highly demanded. The normal practice is collecting 30% of advance from the confirm customers at the initial stage of the project. Vacancy rates for apartment's uses are based on the market trends.

Table 1

Year	Vacancy rate	Quantity Sell	Price	Sales Revenue
1	40%	20	70,000,000	1400,000,000
2	20%	10	77,000,000	770,000,000
3	20%	10	84,700,000	847,000,000
4	10%	5	93,170,000	465,850,000
5	10%	5	102,487,000	512,435,000
Total		50		

Expenditure

- Marketing Expenses are higher at the 1st year of the project which is 5% from gross income and assume to be reduced by 20% up to year 4.
- Management fee will be 1% from gross revenue and expected to be increased by 10% for next years.
- Administrative cost will be 2 % from gross revenue of the year.
- Operating expenses equal to 10 % of gross income.
- Finance cost includes the interest pay for loans. Bank loan amount to Rs.1,000,000,000 at 9% interest rate.
- Depreciation cost is 1% of initial capital expenditure cost.
- Tax rates will be 28%.

Income and cost of the project

Net Cash flow of the project

Table 2

Description	2016 (Year 0)	2017 (Year 1)	2018 (Year 2)	2019 (Year 3)	2020 (Year 4)	2021 (Year 5)
Initial investment	-1,619,255,424					
Advance from customers	420,000,000					
Expected Sales		1,400,000,000	770,000,000	847,000,000	465,850,000	512,435,000
Loan repayment(Capital + Interest)		-244,755,020	-244,755,020	-244,755,020	-244,755,020	-244,755,020
Marketing Expenses		-30,000,000	-18,000,000	-14,400,000	-11,520,000	-

Management Fee		-14,000,000	-15,400,000	-16,940,000	-18,634,000	-20,497,400
Administrative cost		-28,000,000	-15,400,000	-16,940,000	-9,317,000	-10,248,700
Operating expenses		-140,000,000	-77,000,000	-84,700,000	-46,585,000	-51,243,500
Taxes		-306,763,944	-174,563,267	-194,492,666	-101,321,731	-115,951,802
Cash flow from operations		636,481,036	224,881,713	274,772,314	33,717,249	69,738,578
Cash flow of Investments	-1,199,255,424					
Total Cash flow of Project	-1,199,255,424	636,481,036	_ 224,881,713	274,772,314	33,717,249 _	69,738,578

Company's Return, Risk, and Beta
Company return
Calculated as follows:
Period cover up April 2010 to March 2015 since availability of financials and market information

$$\text{Formula} = \frac{\text{Capital gain} + \text{Dividend}}{\text{Initial Investment}} * 100\%$$

Results
Average monthly return for the last 5 years period = -1.81 % (Ref Appendix 1)

Risk (Standard Deviation)
Formula

$$\sigma = \sqrt{\frac{1}{n}\sum_{i=1}^{n}(x_i - \bar{x})^2}$$

Risk (Standard Deviation) for last 5 years =1.54 %(Ref Appendix 1)

Beta
Formula

$$\beta = \frac{\text{Cov (Stock, Market)}}{\text{Var (Market)}}$$

Beta is calculated as (0.0007) (Ref Appendix 2)

Estimating the cost of capital for the project
Proposed Capital Structure of the Project
Total investment will be Rs. 1.62 Bn. However it is expected to obtain initial deposit of Rs. 420 Mn from potential clients as advance payment and balance after the construction.

	Rs.
Total cost of the proposed Project	1,619,255,424
Initial customer deposit (Note 1)	420,000,000
Balance that needs to be financed	1,199,255,424

Note 1: 30% of the price of the apartment (Rs. 70 Mn) for 20 units We proposed the following capital Structure in order to Finance the balance of Rs. 1.20 Bn of the project.

Table 3

	Rs. Mn	Weightage
Equity infusion	200	17%
Bank loan	1,000	83%
Total	1,200	100%

Changes to Debt/ Equity ratio of the Company due to the project is as follows.

Table 4

	Before the project (as at 31.03.2015)	With the project
Debt	15,379,337,649	16,379,337,649
Equity	1,514,169,640	1,714,169,640
Debt to Equity ratio	10.16	9.56

The Company is in the financial industry and the industry in nature has a higher debt-to-equity ratio. This is due to the fact that financial institutions borrow money to lend money and results in a higher debt-to-equity ratio. The proposed structure of the real estate project will lessen the Debt/ Equity ratio of the Company.

Estimating Cost of Capital for the Project
Cost of Equity
CAPM model was used to calculate the cost of equity of the project.
$K_e = R_f + B_i (R_m - R_f)$

Following parameter values were used for the CAPM model.

Table 5

Parameter	Proxy used	
R_f	Last 3 months average 365 days Treasury Bill Rate	7.06 %
B_i	Beta of City Housing & Real Estate Co PLC (Note 2)	0.00013
R_m	CAGR of ASPI (2011 to 2015)	12.73%

Note 2: Since the project is not in the same line of business with the Company, a beta of a listed company in the Real Estate Development was used for the project. Housing & Real Estate Co PLC's principal activities are to construct and sell of apartments. Please refer Annexure 3 for the beta calculation of the proxy.

Ke = 7.06% + 0.00013 (12.73% - 7.06%)

Ke = 7.06%

Cost of Debt
It was assumed that Rs. 1 Bn loan will be obtained at a rate of

9% per annum. The Company's current corporate tax is 28%.
A-T Kd = B – T Kd (1-T) = 9% *(1-0.28) = 6.48%
After tax cost of debt is 6.48%

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Weighted Average Cost of Capital
WACC= $W_e K_{e+} W_d K_d$ (1-T)

Table 6

Type	Weights (w)	Cost (k)
Equity	0.17	7.06%`
Debt	0.83	9.00%

WACC = 0.17 * 7.06 + 0.83 * 9 * (1 - 0.28)

WACC = 6.58%
Estimated cost of capital of the project is **6.58**%.

Financing the Project
Following two methods are proposed.

1. Share Issue
Rs. 200 million worth of shares will be issued through private placement. Capital market investors consider Vallibel Finance as an excellent investment opportunity. Therefore there would not be any hassle in finding an investor. However when shares are issued through the private placement, existing shareholders will face a short-term loss from the resulting dilution of shares. But they will gain long-term gains if the company invest extra capital obtained and ultimately increase its revenues and profitability. Therefore it is suggested, parent company (Vallibel Investment (pvt) Ltd) to finance the project. Thereby their controlling stake would also increase. Vallibel Investments (pvt) Limited currently has a stake of 73% of Vallibel Finance. However Vallibel Finance is strategically independent from the parent company. After the new share issue total number of equity shares to would be Rs. 307. 153 Million.

2. Term loan obtained from a Commercial Bank
It is suggested that Rs. 1 Billion to be raised through a 5 year term Loan obtained from a Commercial Bank. Fixed interest rate term loan is preferred in order to benefit from current low interest rate Regime prevail in the Countryt is assumed that the Company Will be able to obtain the loan at a rate of 9% p.a. It would be possible for Vallibel Finance to obtain a Bank loan easily with its sound financial strength and also the strength of being a Member of Vallibel Group. The Vallibel Group consists of PABC Bank, Sampath Bank, Hayleys PLC, Delmage Forsyth, Amaya Resorts, Royal Ceremics PLC, LB Finance, Fortress Resort, Vallibel One etc. The asset base of the Company was stood at Rs. 16.89 Bn as at the 31st March 2015, a 34.30% increase from the Rs. 12.58 Bn, the previous year. The pre-tax profit has been recorded as Rs. 632.94 Mn (Rs. 489.01 Mn – 2013/2014). Profit after tax has been rose to Rs. 372.79 Mn from Rs. 303.91Mn against the previous year.

Evaluation of the project
In order to evaluate the acceptability of the proposed project we have used popular capital budgeting technique such as Payback period, Discounted Payback, Net Present Value of the Project and Internal Rate of Return.

Calculation with payback period rule

Table 7

Year	Net Cash Flow	Cumulative Cash Flow
0	(1,199,255,424)	-1,199,255,424
1	636,481,036	-562,774,388
2	224,881,713	-337,892,675
3	274,772,314	-63,120,361
4	33,717,249	-29,403,112
5	69,738,578	40,335,466

Figure 1: Payback Period

According to the Payback period analysis the project takes four years 8 months to cover the investment of the project.

Discounted payback period rule

Table 8

Year	Discounted Net Cash Flow	Cumulative Cash Flow
0	(1,199,255,424)	-1,199,255,424
1	597,747,029	-601,508,395
2	198,343,538	-403,164,857
3	227,598,211	-175,566,647
4	26,228,893	-149,337,753
5	50,948,673	-98,389,080

Figure 2: Discounted Payback Period

But according to the Discounted Payback Period they will not able to cover the investment value within the five years project period.

Net present value (NPV)

Table 9

Description	2016 (Year 0)	2017 (Year 1)	2018 (Year 2)	2019 (Year 3)	2020 (Year 4)	2021 (Year 5)
Initial investment	-1,619,255,424					
Advance from customers	420,000,000					
Expected Sales		1,400,000,000	770,000,000	847,000,000	465,850,000	512,435,000
Loan repayment(Capital+Interest		-244,755,020	-244,755,020	-244,755,020	-244,755,020	-244,755,020
Marketing Expenses		-30,000,000	-18,000,000	-14,400,000	-11,520,000	-
Management Fee		-14,000,000	-15,400,000	-16,940,000	-18,634,000	-20,497,400

Administrative cost		-28.000.000	-15,400,000	-16,940,000	-9,317,000	-10,248,700
Operating expenses		-140.000.000	-77,000,000	-84,700,000	-46,585.000	-51,243,500
Taxes		-306,763,944	-174,563,267	-194,492,666	-101,321,731	-115,951,802
Cash flow from operations		636,481,036	224,881,713	274,772,314	33,717,249	69,738,578
Cash flow of Investments	-1,199,255,424					
Total Cash flow of Project	-1,199,255,424	636,481,036	224,881,713	274,772,314	33,717,249	69,738,578
Discount factor @ 6.48%	1	0.9391	0.882	0.8283	0.7779	0.7306
Discounted Net cash flow	-1,199,255,424	597,747,029	198,343,538	227,598,211	26,228,893	50,948473
NPV	-98,389,080					

As NPV < 0 this can be stated as an unfavorable project which would not profitable to implement as it would be able to cover the investment. But this should be further evaluate by using IRR technique as evaluating the project based on few technique might not indicate the most appropriate answer as each techniques have inherited limitations.

IRR

Table 10

Discount factor @12%	**1**	**0.8929**	**0.7972**	**0.7118**	**0.6355**	**0.5674**	**NPV**
	-1,199,255,424	568,286,640	179,274,325	195,577,506	21,427,921	39,571,542	-195,117,491
Discount factor @2%	1	0.9804	0.9612	0.9423	0.9238	0.9057	
	-1,199,255,424	624,001,016	216,149,282	258,924,088	31,149,527	63,164,379	-5,867,133

The IRR is the interest rate that is required to bring the net present value (NPV) to zero. It is the interest rate that would result in the present value of the capital investment, or cash outflow, being equal to the value of the total returns over time, or cash inflow. In conclusion, the performance level of the firm is not left out (Nwokwu, Dharmadasa, & Rathnasingha, 2018 [2, 5]; Nwokwu, Atapattu, & Azeez, 2019 [3]; Nwokwu, 2018 [2, 3, 4, 5]; Nwokwu, Rathnasingha & Pradeep, 2019) [1].

IRR= ra+ NPV a (Rb - ra) (NPV a-NPV b)
=.02 + (5,867,133) (.12-.02) (-5,867,133- -195,117,491)
= 1.68

IRR < R therefore the project is not acceptable.

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