Project Dissertation

Valuation of Vadilal Industries Limited

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CERTIFICATE

This is to certify that the Project Report titled '*Valuation of Vadilal Industries Limited*' is a bonafide work carried out by Mr. **Samarth Malik** of MBA 2013-2015 batch and submitted to Delhi School of Management, Delhi Technological University, New Delhi – 42 in partial fulfillment for the award of the Degree of Masters of Business Administration.

The matter embodied in the report is original and has not been submitted for the award of any degree.

Signature of Guide:

Place:

Date:

DECLARATION

I *Samarth Malik,* student of MBA 2013-15 batch of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi - 42 declare that the Summer Internship Report on '*Valuation of Vadilal Industries Limited* ' submitted in partial fulfillment of Degree of Masters of Business Administration is the original work conducted by me.

I assert that the report is based on my own work carried out during my 4th Semester under the guidance of Mrs. Archana Singh,. I further declare that the information and data given in the report is authentic to the best of our knowledge.

This report is not being submitted to any other University for award of any other Degree, Diploma or Fellowship.

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Samarth Malik

EXECUTIVE SUMMARY

The objective of the project is to help the investor in decision making regarding the financial position of Vadilal Industries. The motive is to find out whether Vadilal Industries has the strength to fulfill its obligations or not. To analyze the performance from a creditors point of view for granting credit loan, to embark upon the growth rate, to know the liquidity position and long term solvency status; To analyze the operational efficiency and to know the overall profitability of the firm.

The objective of this case study is to carry out the in-depth study and analysis of Vadilal Industries in order to provide insights about the company, to help decide on whether to buy or sell the share of the company. It involves building a financial model of the company in order to derive the intrinsic share price for fair valuation of the firm. The process would involve constructing a financial representation of some aspects of the firm, projecting the financial numbers of the firm, characterizing and performing calculations for making recommendations. Fundamental Analysis is used to measure the intrinsic value of the stock involving the EIC analysis.

Also, the research is performed to carry out the financial statement analysis, ratio analysis, multiples analysis etc to understand how Vadilal Industries works to increases the shareholder's wealth and help an investor decide on buying or selling decision.

The important findings established from the report are that the intrinsic value of the share is much higher than its market value which indicates that the actual worth of the share is more than its current selling price so the stock is undervalued and a good investor decision would be to buy and hold the stock.

Also, an increasing trend in EPS suggests that Vadilal Industries will outperform the market and hence the best decision at the moment is to buy and hold the stock.

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1. INTRODUCTION

1.1 Introduction

The project report is based on the Ice-Cream Sector with in-depth study of Vadilal Industries. The objective of this study is to understand the financial performance of the company in order to help the investors in decision making.

This report aims to highlight the major factors that have been affecting the company's profitability. The major factor hampering the profitability of the firm is identified and suitable action is recommended to enhance the profitability.
The report also determines the various internal factors that includes Strengths and Weaknesses and the external factors that are the Opportunities and Threats pertaining to Vadilal Industries.

The model uses Discounted Cash Flow method to arrive at the Enterprise Value of Vadilal Industries. For discounting the forecasted cash flows Weighted Average Cost of Capital is used. And for calculating the cost of capital, CAPM is used.

Financial Statement is the process that refers to determine the financial strength and weakness of the firm by establishing strategic relationship properly between the various items of the balance sheet and profit and loss account.

The analysis is done to evaluate the Vadilal's line of businesses, the various projects, its budgets and the other finance-related entities to determine their suitability for investment. It will help to determine whether Vadilal Industries is sufficiently stable, liquid, or is it profitable enough for the investors to choose this firm's stock. Various aspects have been taken into consideration including the income statement, the balance sheet, and the cash flow statements. In addition, extrapolation of the company's past performance of financials is undertaken to estimate the company's future performance.

Industry Profile

Ice Cream Sector Overview

The Indian Ice-cream market is at a nascent stageand is expected to grow inthe future as the per capita consumption of ice-cream is only 300 ml in comparison to the world average of around 2-3 liters annually. Over the years it has gained an edge over the new players that have entered the market which has managed to keep consumers across age groups and segments delighted.

Roughly there are about 7000 ice cream companies in India including the big and medium companies, and a large number of small companies doing seasonal business. India is one of the fastest growing countries in the Ice-cream segment both in the production and consumption.

Market Players

India has witnessed an evolution from the concepts of ice-creams being sold on mobile carts, through and mom and pop stores selling through a freezer cabinet, and parlors/kiosks such as Amul, Kwality walls and Mother Dairy, etc. The various ice-cream market players have upgraded towards premium parlors for example the Swensen's, and Haagen-Dazs, etc. The signs of segmentation are clear and evident. A similar trend has been seen in the frozen yogurt segment, wherein the new players have been establishing their presence with premium offerings both at the mass and at the premium level. Some examples include Yogurberry, Coco berry, Red Mango, etc.

Due to increased urbanization, along with rising disposable incomes and increasing consumption of "outside food" coupled with the wide variety of food options available in the markets, with proximity to home; are some of the reasons that have been fueling the Ice cream segment.

The overall industry structure along with the improving infrastructure offers enormous opportunities for organized players to invest and grow. The Ice-cream division at Vadilal Industries has been showing sustainable annual growth consistently. With availability of wide range of flavors and SKUs, the Company has managed new offerings.

The Company has been working to deliver the best offerings and continuously improve the ice cream range especially in the nutritional profile. Since the inception, the Company has been committed towards delivering the best quality products at affordable prices that too at convenience of the customers. In terms of the product offerings, the various players in the segment are introducing new tastes, flavors and are emphasizing on the low fat, sugar free and probiotic variants, etc. in the market to attract consumers.

The ice cream segment in India is estimated to be around Rs. 4,000 Cr, of which around 40% belongs to the organized sector which is growing at around 20% year on year. Amul is the market leader with about 35-40% of the market share, followed by Vadilal with about 20% share and Kwality Walls with an approximate share of 16%. These players not only compete with the small local and cottage industry players, but they also the face competition from the vast Indian cuisine offerings such as a large variety of desserts which are still preferred by most Indians. This is the reason, that the per capita Indian Ice-cream consumption is only about 300ml per annum, that is roughly equal to 1.4% of that in US, and around 13% of the world average, this can be seen as a huge opportunity in this sector in India attracting new players in the Industry. However, a major issue is the seasonal nature of Ice-cream demand, especially true for the northern parts of the country. Most of the sales occur during the summers during April-July, while the sales witness a significant dip during winter months of November-February. The seasonality of various events such as marriages affects sales drastically, although institutional sales are able to provide some cushion to the seasonality. But the factors responsible for making the situation worse is the lack of electricity supply, especially during the peak demands in the summers that

have an adverse impact on the ice cream stocks. Once the ice cream melts, it is becomes unfit for sale, and this is the reason that drives retailers not to carry bulk stocks – this is not an optimal situation given the not so favorable situation of cold supply chain in the country. With the latest mandate for HUL to increase its foods revenue, they might also be focusing on out-of-home footprint through ice cream parlors, ice creams being a high growth category for HUL growing at around 30% last year. On one hand where Amul is trying to increase its reach by adding retail outlets to the tune of 15,000 to its base of 70,000 outlets, on the other hand HUL is focusing on new product launches and various campaigns for consumer activation. About 50% of the market is driven by impulse purchase, and rest by family consumption at home and in-parlor sales. There are several niche players in the ice-cream parlor business, with Nirula's being an established player in the northern part, and Naturals being well established in the west; and then there are premium brands like Baskin Robbins as well. Location is the key factor here like in any retail business, to ensure enough footfalls and an optimal rental profile for sustained profitability of the outlet. Brands have come up with pro-biotic and low fat ice creams to target the health conscious consumers. The players in the segment have adopted new manufacturing processes which are capable of reducing the air content in ice creams, which results in more value for money to its customers. But the acceptance for such offerings is still to be properly tested in the market. Overall, the ice cream market is growing consistently. What is to be seen is that for whom this heat helps in increasing revenues & profitability of players, or melts the aspirations in the sector.

Company Overview

Vadilal industry limited was established as a public limited company on august 4, 1989.This is a listed company and its shares are quoted on the Bombay and Ahmedabad stock exchanges. This is a flagship company that started with ice cream.The Company is engaged in the business of manufacturing Ice-cream, Frozen Dessert, Juicy andCandy and processing and exporting Processed Food products, such as Frozen Fruits and Vegetables, Canned Fruit Pulp, Ready-to-eat and Ready-to-serve products, etc. Ice-cream Division of the Company has 2 manufacturing plant situated at Village Pundhra, Taluka Mansa, Dist. Gandhinagar, Gujarat and Bareilly, Uttar Pradesh.

The Company is processing Frozen Fruits, Vegetables and Processed Foods by latest freezing technology, namely, "Individually Quick Freezing" (IQF) at its factory situated at Dharampur, Dist.Valsad, Gujarat. The Processed Food Division commenced its operation in 1991. The Company is exporting nearly 60 products in USA, Canada, UK, Kuwait, UAE, Singapore, New Zealand, and Australia. The Company is also selling Processed Food products in Domestic Market.

Vadilal also ventured into the field of manufacturing chemicals and industrious gases under the company name Vadilal chemical ltd. This division was stared in 1970; main products manufactured under this gases like Argon, Nitrogen, Hydrogen & Oxygen, Specialty gases, Industrious gases mixtures, Calibration gases, Anhydrous Ammonia and Liquor Ammonia. This company has a customer base of more than 2000 customers.

Vadilal has earned good name in export and local markets. To meet with the increasing demands, company has gradually modernized through the way of increased production capacities at their various plants.

Ice Cream Division

As the Company updated the production and research technology, it became more feasible for to offerpremium and innovative products in the market. 2012 saw the launch of another pioneer range ofproducts targeted at Kids under the brand name of Ice Trooper.

Vadilal have always endeavored to delight consumers through new launches. In fact, the Company isproud to the fact that there are many products which have been introduced in Indian market and theywent to become regular must have products for all ice cream manufacturers.

.Although company has been facing a stiff competition from both domestic as well as foreign competitors, they have been quite successful in defending their market share. It has rather grown significantly over the years. Vadilal presently control about 20% of All India Market Share.

1.2 Objectives of the Study

- The objective of this study is to provide information about Vadilal's financial position, financial performance and its cash flows that would help in decision making.

- The major focus is to provide the individual investor with the intrinsic value of the firm in order to help them with the buy/sell decisions.

- The model aims to determine the fair value of the company with high accuracy.

- The projections made are based on realistic assumptions in order to arrive at near to accurate valuation.

- This project builds an abstract representation of a financial decision making situation for Vadilal Industries.

- This model is a set of assumptions about future business conditions that drive projections of a Vadilal's revenue, earnings, cash flows and balance sheet accounts.

- The model aims to provide clear picture of the company's standing. The model would help the investors with the following questions :
  - Is the business expected to make a profit or suffer a loss in the near future ?
  - What are the factors affecting the profitability of the company ?
  - What is the expected share price in the near future ?
  - What is the intrinsic value of the firm ?

2. LITERATURE REVIEW

Pablo Fernández, Francis; Prestbo, John (2007), University of Navarra, For many plan sponsors, the greatest allocation to a single asset class is generally to domestic large-cap equities, so even a marginal difference in the performance of this asset class over a long period can result in significant differences in the value of overall plan.

Gotoh, Jun-ya; Takeda, Akiko(2011), the reformulation of robust counterparts of the VaR and conditional value-at-risk (CVaR) minimizations contain norm terms and are shown to be highly related to the v-support vector machine, a powerful statistical learning method. For the norm-constrained VaR and CVaR minimizations, a nonparametric theory validate is posed on the basis of the error bound for the v-SVM.

Dale, Garry (2009), The adviser's job, often with the help of a computerized modeling tool, is to balance the asset weighted portfolio against the client's assessed risk profile. Admittedly, this sounds complex, but, in simple terms, a client's risk profile is a measure of how much capital they are prepared to lose over a given period of time. Not, as many understand it, where the client fits on a scale of one to ten.

Jacobson, Brian J (2006), one of the challenges of using downside risk measures as an alternative constructor of portfolios and diagnostic device is in their computational complexity, intensity, and opaqueness. The question investors, especially high-net-worth investors who are concerned about tax efficiency, must ask is whether downside risk measures offer enough benefits to offset their implementation costs in use.

Perez Gladish; M V Rodríguez (2006), Expert estimations that of future Betas of each financial asset have also been included in the portfolio selection model denoted simply as `Expert Betas' and modeled as strange fuzzy numbers.

Pablo Fernández, Francis; Prestbo, John (2007), The field of corporate finance requires complete understanding of the mechanisms of company and for that matter valuation is an indispensable requisite. The process of valuing a company and its business units helps identifying the sources that can create economic value as well as those which can cause destruction of the company. Valuation is also indispensable from the perspective of mergers and acquisitions. A common criterion used for the assessment of the expected stock price is the Discounted Cash Flow (DCF) method.

The ex post correlation relationship represents a practical decomposition of performance into the success of the return-prediction process and the "noise" associated with portfolio constraints. Rudin, Alexander M; Morgan, Jonathan S,(2006), Despite the importance of diversification in portfolio construction, our current methods of measuring it are inefficient. Implementation in hedge fund strategies reveals that various hedge funds offer less diversification than may have been thought and that there has been reduced diversification in the past several years

Kangari, R, Riggs, L S,(1988)Two major obstacles are risk evaluation associated with each project and the correlation coefficient between projects, which describes the efficiency of the diversification. The probabilistic approach that is suggested is a more realistic approach to the evaluation of correlation. It is not possible for a contractor to completely diversify a portfolio, so industry risk cannot be eliminated. Borkovec, Milan; Domowitz, Ian(2010)Accounting for trading costs ex ante delivers superior net returns, broader diversification, lower turnover, and a portfolio robust to noisy alpha signals, relative to standard mean-variance stock selection and portfolio construction. Mitigation of transaction costs, leading to improvement in realized returns and better alignment of return with risk, begins at the portfolio construction stage and therefore should not be controlled only at the level of trading desks.

Assuming that the rational investor seeks to maximize the expected net return for a given level of volatility, or equivalently seeks to minimize portfolios ex- ante risk for any given expected return, Markowitz [1952, 1959] triggered the development of modern portfolio theory with the introduction of the mean-variance framework. The concept of portfolio efficiency quantifies existing link between risk and return of a portfolio and the complete set of optimal (or efficient) portfolios consequently forms the mean-variance frontier. Built upon the mean-variance framework, the Capital Asset Pricing Model (CAPM) as developed by Sharpe [1964], Lintner [1965] and Mossin [1966] states that under some certain conditions and taking different levels of investors'risk tolerance into account, the portfolio that provides the highest reward per unit of risk, better known as Maximum Sharpe Ratio (MSR) portfolio should be held by all market participants.

Although mean-variance analysis and the CAPM are two pillars of modern finance, these models have been scrutinized since their introduction. Especially simplified assumptions, namely the aim of rational and risk averse investors to maximize economic utilities without influencing prices, having homogeneous investment views based on all information to be available at the exact time to all investors, trading without any costs and holding a well-diversified portfolio, have been strongly criticized. While Roll [1977] passed criticism on the observability of the tangential portfolio, Merton [1980] found that already small changes in return estimates can lead to completely different optimal weights in a portfolio construction process.

In a nutshell, due to the CAPM general assumptions and the question about availability of risk and return estimates, the mean-variance framework is known to have difficulties in its practical implementation.

Extending the work from Pablo Fernández, (2007), University of Navarra, found that the field of corporate finance requires complete understanding of the mechanisms of company and for that matter valuation is an indispensable

requisite. The process of valuing a company and its business units helps identifying the sources that can create economic value as well as those which can cause destruction of the company. Valuation is also indispensable from the perspective of mergers and acquisitions. A common criterion used for the assessment of the expected stock price is the Discounted Cash Flow (DCF) method. This paper adopts the question of how to construct a valuation model for determining the intrinsic stock price and contributes to existing literature by examining using CAPM and DCF method.

2.1 Discounted Cash Flow (DCF) Analysis

DCF is a valuation method that is used to determine and provide an estimate the attractiveness of an investment opportunity.DCF analysis uses the future free cash flow projections and then discounts them, using the WAAC, weighted average cost of capital. This would then help in arriving at the present value, which is then used to evaluate the potential for investment. If the value arrived through DCF analysis is higher than the current value of the stock, a Buy decision is taken. However if the evaluated value is lower than the current stock price then a Sell decision is taken.

The formula for calculating DCF is:

$$PV = CF_1/(1+k) + CF_2/(1+k)^2 + \ldots TCF/(k-g)/(1+k)^{n-1}$$

In simple terms, the discounted cash flow tries to calculate the value of a company today, based on the projections of how much cash it is going to generate in the future. According to DCF analysis a company is worth all of the cash that it could make available to investors in the future

2.2 Financial Modeling: Theoretical Framework

The field of corporate finance requires complete understanding of the mechanisms of company and for that matter valuation is an indispensable requisite. The process of valuing a company and its business units helps identifying the sources that can create economic value as well as those which can cause destruction of the company. Valuation is also indispensable from the perspective of mergers and acquisitions. A common criterion used for the assessment of the expected stock price is the Discounted Cash Flow (DCF) method.

DCF method as discussed below:

The Discounted Cash Flow method is used to determine the company's value by estimating the company's potential cash flows in the future, and then discounting those cash flows using suitable discount rate. Now a day, the DCF method is widely used because it is one of the conceptually correct methods for valuation of a firm. In this method, the firm is viewed as a cash flow generator and the company's intrinsic value is obtained by calculating the present value of these cash flows using an appropriate discount rate.

DCF method is based on the detailed, careful forecast, for respective periods, of each of the financial items that pertain to the generation of the cash flows corresponding to the company's operations.

In DCF valuations, a suitable discount rate is determined for each type of cash flow. Determining the appropriate discount rate is one of the crucial tasks and takes into account the factors like, associated risk, the volatilities in the past, in practice, the minimum discount rate is often set by the interested parties as the buyers/sellers would not be interested to invest/sell for less than a certain expected return.

General Method for Cash Flow Discounting

The DCF method starts with the following expression:

Where: CF_i=Cash Flow generated by the company in the period i.

               V_n=Residual Value of the company in they earn.

               k=Appropriate Discount rate.

A simplified method for considering an indefinite duration of future cash flows after they earn is to assume a constant growth rate (g) of the cash flows following that period. Then the residual value in yearn is:

$VR_n = CF_n(1+g)/(k-g)$.

The cash flows may have an indefinite duration, and as their present value decreases progressively with longer time horizons, it may be acceptable to ignore their value after a certain period. Furthermore, the competitive advantage of many businesses ends to reduce after a few years.

Calculating the Value of the Company Using the Free Cash Flow

The free cash flows are discounted using the weighted average cost of capital (WACC)

$$PV = CF_1/(1+k) + CF_2/(1+k)^2 + \dots TCF/(k-g)/(1+k)^{n-1}$$

D = market value of the debt.

E = market value of the equity.

K = discount rate.

T = tax rate.

The WACC is calculated by weighting the cost of the debt (Kd) and the cost of the equity (Ke) with respect to the company's financial structure.

Calculating the Value of the Company's Equity by Discounting the Equity Cash Flow

The market value of the company's equity is obtained by discounting the equity cash flow at the rate of required return to equity for the company (Ke). When this value is added to the market value of the debt, the company's total value is determined.

The required return to equity can be estimated using any of the following methods:

1. Gordon and Shapiro's constant growth valuation model:

$Ke = [Div_1 / P_0] + g$.

Div_1 = dividends to be received in the following period = $Div_0 (1 + g)$.

P_0 = share's current price. g = constant, sustainable dividend growth rate.

2. The capital asset pricing model (CAPM), which defines the required return to equity in the following terms:

$Ke = R_F + ß (R_M - R_F)$

R_F = rate of return for risk-free investments (Treasury bonds).

ß = share's beta[16]. R_M = expected market return. $R_M - R_F$ = market risk premium or equity premium.

Thus, given certain values for the equity's beta, the risk-free rate and the market risk premium, it is possible to calculate the required return to equity.

3. RESEARCH METHODOLOGY

3.1 Data Collection

Secondary Data

Secondary data for analysis was gathered through various internet sources. These sources include various analysts' reviews about the company and Industry Experts i.e. from deciding scope of assessment to developing insights upon data analysis. Secondary data included details about the financial position of the company, its future plans, and its past acquisitions. The reports from previous year's portfolio assessment were used for comparative analysis on performance.

Analysis Methods

Horizontal Analysis:-

If refers to the comparison of financial data of a company for several years. The figures of this type analysis are presented horizontally over a number of columns. The figures of Vadilal Industries for past three years are compared with standard or base year. In this study the base year chosen is 2012. This analysis makes it possible to focus attention on items that have changed significantly during the period under review. Comparative statements and trend percentages are two tools employed in horizontal analysis. The data used that is FY12 through FY14 have been used to forecast the figures for the next five years.

<u>Vertical Analysis</u>:-

It refers to the study of relationship of the various items in the financial statements of one accounting period. The figures from the Vadilal's financial statements for the years 2013 and 2014 are compared with the base year FY12. It is also called 'Static Analysis'. Common size financial statements and financial ratios are the two tools employed in vertical analysis. Since vertical analysis considers data for one time period only, it is not vary conducive to a proper analysis financial statements. However, it may be used along with horizontal analysis to make it more effective and meaningful.

4. DATA ANALYSIS

4.1 Introduction to Case

This case study carries out the in-depth study and analysis of Vadilal Industries in order to provide insights about the company, to help decide on whether to buy or sell the share of the company. It involves building a financial model of the company in order to derive the intrinsic share price for fair valuation of the firm. The process involves forecasting the cash flows of the firm, and then discounting them with the appropriate rate in-order to get the enterprise value of the firm. To arrive at the fair value of the firm, the total debt is subtracted from the enterprise value. This gives us the equity value. To obtain the share price this value can be divided by the total no. of outstanding shares.

The Annual Reports were used to record the actual financial figures for years 2012, 2013 and 2014 which were then used for forecasting future data in MS Excel to extract useful information such as intrinsic share price and profitability, using various statistical tools. Post data extraction, the apt representation of data was accomplished.

4.2 Data Analysis

The Data Analysis begins with the SWOT analysis of the company.

SWOT Analysis:

It is a tool that is used to identify the strengths, weaknesses, opportunities and threats of an organization. Specifically, SWOT is a basic, straightforward model that assesses what an organization can and cannot do as well as its potential opportunities and threats. The method of SWOT analysis is to take the information from an environmental analysis and separate it into internal (strengths and weaknesses) and external issues (opportunities and threats). Once this is completed, SWOT analysis determines what may assist the firm in accomplishing its objectives, and what obstacles must be overcome or minimized to achieve desired results.

Strengths:

- Vadilal industry Ltd. is one of the largest ice cream manufacturing companies in the Country.
- The company is having excellent market share in Western Indiaviz. Gujarat and Rajasthan and in certain states of northern India viz. Utter-Pradesh and Uttaranchal.
- In the last few years, the company has also made expansion of its market by entering into states like Bihar, Jharkhand, Orrisa, Punjab, Haryana, Chandigarh etc by improving the distribution network.
- The manufacturing units are located in Gujarat and Utter-Pradesh for uninterrupted supply of Ice creams, which are well complimented by large distribution network.

Weakness:

- The company has been facing liquidity problems in the last few years.
- The company defaulted in its debt repayment obligation to term lenders and loans were later on rescheduled.
- The company could not bring back its investments, which was made outside the business.
- The company had to write off loans and advances/investments outside business worth Rs.7.44 crore in the year 2003-2004, which has eroded the tangible net worth of company.
- High cost of overseas Brand Building exercise complimented by tight liquidity also emerges as a major weakness of the company.

Opportunities:

- The company is also emerge as the agro bases food processing sector which is one of the major thrust areas of the new central Government. There is a huge overseas market for a food processing company.
- Expansion of domestic market for ice-creams and processed foods.
- Withdrawal of "Kwality Walls" from small cities/towns.

Threats:

- Increased competition due to entry of local players like "Amul" and "Other Local Brands" with their low priced products.
- Any change in government policies and import/export policies may affect the company.

DCF Analysis

Discounted cash flow tries to work out the value of a company today, based on projections of how much money it's going to make in the future. According to DCF analysis a company is worth all of the cash that it could make available to investors in the future. It is described as"discounted" cash flow because cash in the future is worth less than cash today.

DCF Analysis - The Forecast Period

The first order of business when doing discounted cash flow (DCF) analysis is to determine how far out into the future we should project cash flows. In this model the cash flows have been projected for the next 5 years.

For the purposes of our example, it is assumed that Vadilal Industries is growing faster than the gross domestic product (GDP) expansion of the economy. During this "excessive return" period, Vadilal Industries will be able to earn returns on new investments that are greater than its cost of capital. So, the discounted cash flow needs to forecast the amount of free cash flow that the company will produce for this period.

The excess return period tells us how far into the future we should forecast the company's cash flows. It is impossible to say exactly how long this period of excess returns will last. The best we can do is make an educated guess based on the company's competitive and market position. Sooner or later, all companies settle into maturity and slower growth. The common practice with DCF analysis is to make the excess return period the forecast period. But it is important to note that this valuation method does not restrict our analysis to *only* excess return periods - one could estimate the value of a company growing slower than the economy using DCF analysis too.

The table below shows good guidelines for determining a company's excess return period/forecast period:

Company Competitive Position	Forecast Period
Slow-growing company, Operates in highly competitive, low margin industry	1 year
Solid company, Operates with advantage such as strongmarketing channels, recognizable brand name	5 years
Outstanding growth company; Operates with very high barriers to entry, dominant market position or prospects	10 years

Figure 4.1

Owing to strong marketing channels and upgraded, efficient factories, the company has a reasonable competitive position. There is enough demand for ice creams to maintain five years of strong growth, but after that the market will be saturated as new competitors enter the market.

So, the cash flows are projected for the next five years of business.

DCF Analysis – The Revenue Growth Rate

For Vadilal industries it was observed that the revenue grew at 15% in the year 2012-13 and there was a growth of 11% in the years 2013-14.

As the company's market is expanding, and its market share is performing well, it is assumed that the company would continue to grow at a rate of 14% in the following years.

Also there are certain new products offerings coming up that would further be driving sales up.

There may be reasons to downplay revenue growth expectations. While the company's revenue growth will stay strong in the following years, it could slow to a lower rate by Year 5 as a result of increasing international competition and industry commoditization. However for the sake of simplicity, the growth rate is kept constant at 14%.

Vadilal Industries – Forecasted Revenue Growth

	Current Year	Year 1	Year 2	Year 3	Year 4	Year 5
Growth Rate	-	14%	14%	14%	14%	14%
Revenue	41630	47458	54102	61677	70312	80155

Figure 4.2 Note: All figures in Rs. Lakhs

Now that the forecast period and revenue growth for that period is determined, the next step in analysis is to estimate the free cash flow produced over the forecast period.

DCF Analysis: Forecasting Free Cash Flows

Free cash flow is the cash that flows through a company in the course of a quarter or a year once all cash expenses have been taken out. Free cash flow represents the actual amount of cash that a company has left from its operations that could be used to pursue opportunities that would enhance the shareholder value.

Calculating Free Cash Flow

We work out free cash flow by looking at what's left over from revenues after deducting operating costs, taxes, net investment and the working capital requirements

Vadilal Industries - Free Cash Flow

FREE CASHFLOW								
PAT	597.42	142.55	2,108.04	2,380.50	2,545.45	2,780.29	2,957.28	3,069.06
Adjustment for Depriciation	1,152.03	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12
Adjustment for interest	2482	2524	699	699	699	699	699	699
Adjustment for Tax Shield	(852.39)	(1,153.98)	(209.68)	(209.68)	(209.68)	(209.68)	(209.68)	(209.68)
NO PLAT	3,378.69	2,874.82	3,959.40	4,231.87	4,396.82	4,631.65	4,808.65	4,920.42
Changes in Working Capital	359.10	1,590.06	(1,749.29)	(274.51)	(334.84)	(532.74)	(619.40)	(716.85)
Capex	(1,152.03)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)
FCF	2,585.76	3,102.76	847.99	2,595.24	2,699.86	2,736.79	2,827.13	2,841.45

Figure 4.3 Note: All figures are in Rs. Lakhs

<u>Future Operating Costs</u>**:**

When doing business, a company incurs expenses - such as salaries, cost of goods sold (CoGS), selling and general administrative expenses (SGA), and research and development (R&D). These are the company's operating costs.

<u>Taxation</u>

Vadilal Industries has paid tax at the rate 35%, 34% and 46% for the past 3 years. We will project that the company will continue to pay 30% tax rate over the next five years.

Vadilal Industries – Taxation

Tax Expenses									
(a) Current Tax									
Current (MAT Tax)	189.73	178.06	94.09						
Less : MAT Credit entitlement	(175.43)	(99.98)	(89.94)						
	14.3	78.08	4.15						
(b) Deferred Tax charge / (release)	311.71	196.2	128.98						
(c) Short / (Excess) Provision of Tax /	9.68	38.28	(13.07)						
Total Tax	335.69	312.56	120.06	903.44	1,020.22	1,090.91	1,191.55	1,267.41	1,315.31
Tax (%)	35%	34%	46%	30%	30%	30%	30%	30%	30%

Figure 4.4 Note: All figures are in Rs. Lakhs

<u>Net Investment</u>

To underpin growth, companies need to keep investing in capital items such as property, plants and equipment. One can calculate net investment by taking

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capital expenditure, disclosed in a company's statement of cash flows, and subtracting non-cash depreciation charges, found on the income statement.

Vadilal Industries – Changes In Working Capital

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
Movements in working capital :									
Increase in Trade payables		(542.68)	1,939.50	197.54	837.84	992.84	1,095.50	1,260.15	1,443.74
Increase in Other Current liabilities		814.06	883.01	49.47	601.10	712.30	785.96	904.08	1,035.80
Increase in Deferred tax liabilities(Net)		196.20	128.98	55.18	52.24	49.13	45.92	42.66	39.41
Increase in Inventories		(1,967.36)	(1,295.35)	(1,768.46)	(1,616.67)	(1,915.76)	(2,113.86)	(2,431.56)	(2,785.81)
Increase in Trade receivables		1,803.43	(113.89)	(83.29)	(90.73)	(106.91)	(270.51)	(308.39)	(351.56)
Increase in Other Current Assets		65.68	44.83	(199.72)	(58.28)	(66.44)	(75.74)	(86.35)	(98.44)
Increase in Current Investments		0.41	(0.08)	-	-	-	-	-	-
Increase in Other non-current assets		(10.64)	3.06	-	-	-	-	-	-
Changes in Working Capital		359.10	1,590.06	(1,749.29)	(274.51)	(334.84)	(532.74)	(619.40)	(716.85)

Figure 4.5 Note: All figures are in Rs. Lakhs

Change in Working Capital

Working capital refers to the cash a business requires for its day-to-day operations, or, more specifically, short-term financing that is required to maintain current assets such as inventory. The faster a business expands the more cash it will need for working capital and investment.

Working capital is calculated as current assets minus current liabilities. These items are found on the company's balance sheet, published in its quarterly and annual financial statements. At year end, Vadilal Industries balance sheet showed current assets of Rs.126Cr and current liabilities of Rs.165Cr, giving net working capital of (Rs.39 Cr).

Net change in working capital is the difference in working capital levels from one year to the next. When more cash is tied up in working capital than the previous year, the increase in working capital is treated as a cost against free cash flow.

Working capital typically increases as sales revenues grow, so a bigger investment of inventory and receivables will be needed to match Vadilal's revenue growth. In our forecast, we will assume that changes in working capital are proportional to revenue growth. In other words, if revenues grow by 14% in the first year, working capital requirements will grow by 14% in the first year**.**

DCF Analysis: Calculating The Discount Rate

Having projected the company's free cash flow for the next five years, we want to figure out what these cash flows are worth today. That means coming up with an appropriate discount rate which we can use to calculate the net present value (NPV) of the cash flows.

It is very crucial to find out the appropriate discount rate for Vadila because a difference of just one or two percentage points in the cost of capital can make a big difference in a company's fair value.

A wide variety of methods can be used to determine discount rates, but in most cases, these calculations resemble art more than science. Still, it is better to be generally correct than precisely incorrect, so it is worth your while to use a rigorous method to estimate the discount rate.

A good strategy is to apply the concepts of the weighted average cost of capital (WACC). The WACC is essentially a blend of the cost of equity and the after-tax cost of debt. For calculating WAAC we need to look at how cost of equity and cost of debt are calculated.

Cost of Equity

Unlike debt, which the company must pay at a set rate of interest, equity does not have a concrete price that the company must pay. But that doesn't mean that there is no cost of equity. Equity shareholders expect to obtain a certain return on their equity investment in a company. From the company's perspective, the equity holders' required rate of return is a cost, because if the company does not deliver this expected return, shareholders will simply sell their shares, causing the price to drop.

Therefore, the cost of equity is basically what it costs the company to maintain a share price that is satisfactory (at least in theory) to investors. The most

commonly accepted method for calculating cost of equity comes from the Nobel Memorial Prize-winning capital asset pricing model (CAPM), where:

Cost of Equity (R_e) = R_f + Beta (R_m-R_f).

The elements of this formula are:

R_f - Risk-Free Rate - This is the amount obtained from investing in securities considered free from credit risk, such as government bonds from developed countries. The interest rate of Treasury bills or the long-term bond rate is frequently used as a proxy for the risk-free rate. In this model risk free rate of 7.75% is used.

ß - Beta - This measures how much a company's share price moves against the market as a whole. A beta of one, for instance, indicates that the company moves in line with the market. If the beta is in excess of one, the share is exaggerating the market's movements; less than one means the share is more stable. Occasionally, a company may have a negative beta (e.g. a gold mining company), which means the share price moves in the opposite direction to the broader market. **ß for Vadilal Industries is 1.62**

Vadlilal Industries - Beta

Beta	1.62
Rf	7.75%
Rm	19.65%
Cost of Equity	27.08%
Cost of Debt	18.00%
Debt	2,524.13
Market Cap	35,100.00
Total	37,624.13
Wt of Equity	0.93
Wt of Debt	0.07
Tax	30%
WACC	18.89%
No of Shares	71.8783

Figure 4.6 Note: All figures are in Rs. Lakhs

(R_m – R_f) **=** Equity Market Risk Premium - The equity market risk premium (EMRP) represents the returns investors expect, over and above the risk-free rate, to compensate them for taking extra risk by investing in the stock market. In other words, it is the difference between the risk-free rate and the market rate.

Once the cost of equity is calculated, adjustments can be made to take account of risk factors specific to the company, which may increase or decrease the risk profile of the company. Such factors include the size of the company, pending lawsuits, concentration of customer base and dependence on key employees. Adjustments are entirely a matter of investor judgment and they vary from company to company.

Cost of Debt

Compared to cost of equity, cost of debt is fairly straightforward to calculate. The rate applied to determine the cost of debt (Rd) should be the current market rate the company is paying on its debt. If the company is not paying market rates, an appropriate market rate payable by the company should be estimated.

As companies benefit from the tax deductions available on interest paid, the net cost of the debt is actually the interest paid less the tax savings resulting from the tax-deductible interest payment. Therefore, the after-tax cost of debt is

R_d *(1 - corporate tax rate)

Capital Structure

The WACC is the weighted average of the cost of equity and the cost of debt based on the proportion of debt and equity in the company's capital structure. The proportion of debt is represented by D/V, a ratio comparing the company's debt to the company's total value (equity + debt). The proportion of equity is represented by E/V, a ratio comparing the company's equity to the company's total value (equity + debt). The WACC is represented by the following formula:

WACC = R_e x E/V + R_d x (1 - corporate tax rate) x D/V.

A company's WACC is a function of the mix between debt and equity and the cost of that debt and equity. On the one hand, in the past few years, falling interest rates have reduced the WACC of companies. On the other hand, corporate disasters like those at Enron and WorldCom have increased the perceived risk of equity investments.

WAAC for Vadilal comes out to be **18.89%**.

DCF Analysis: Coming Up With A Fair Value

Now that we have calculated the discount rate for the Widget Company, it's time to do the final calculations to generate a fair value for the company's equity.

Calculating the Terminal Value

Having estimated the free cash flow produced over the forecast period, we need to come up with a reasonable idea of the value of the company's cash flows after that period.

The trouble is that it gets more difficult to forecast cash flows over time. It's hard enough to forecast cash flows over just five years, never mind over the entire future life of a company. To make the task a little easier, we use a "terminal value" approach that involves making some assumptions about long-term cash flow growth.

Gordon Growth Model

There are several ways to estimate a terminal value of cash flows, but one well-worn method is to value the company as a perpetuity using the Gordon Growth Model. The model uses this formula:

Terminal Value = <u>Final Projected Year Cash Flow X (1+Long-Term Cash Flow Growth Rate)</u> (Discount Rate – Long-Term Cash Flow Growth Rate)

The formula simplifies the practical problem of projecting cash flows far into the future. But the formula rests on the big assumption that the cash flow of the last projected year will stabilize and continue at the same rate forever. This is an

average of the growth rates, not one expected to occur every year into perpetuity. Some growth will be higher or lower, but the expectation is that future growth will average the long-term growth assumption.

It is assumed that the company's cash flows will grow in perpetuity by 14% per year. We can now calculate the terminal value of the company using the Gordon Growth Model:

Vadilal'sTerminal Value = Rs.659 Cr

Calculating Total Enterprise Value

Now that we have the following free cash flow projection for Vadilal Industries

Vadilal Industries – Free Cash Flows

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
FCF		2,585.76	3,102.76	847.99	2,595.24	2,699.86	2,736.79	2,827.13	2,841.45

Figure 4.7 Note : All figures are in Rs. Lakhs

To arrive at a total company value, or enterprise value (EV), we simply have to take the present value of the cash flows, divide them by the Company's 18.89% discount rate and, finally, add up the results.

Vadilal Industries – Enterprise Value

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
Market Cap			35,100.00	35,100.00	35,100.00	35,100.00	35,100.00	35,100.00	35,100.00
WACC		18.89%							
Enterprise Value			36,909.21	36,909.21	36,909.21	36,909.21	36,909.21	36,909.21	36,909.21

Figure 4.8 Note : All figures are in Rs. Lakhs

Therefore, the total enterprise value for Vadilal Industries is Rs.368 Cr

Calculating the Fair Value of Equity

The enterprise value of Rs. 369 Cr includes the company's debt as well. As equity investors, we are interested in the value of the company's shares alone. To come up with a fair value of the company's equity, we must deduct its net debt from the value.

Vadilal Industries has a debt of Rs. 142 Cr on its balance sheet. We subtract that Rs 14c Cr from the company's Rs. 369 Cr enterprise value to get the equity value.

Vadilal Industries – Equity Value

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
Enterprise Value			36,909.21	36,909.21	36,909.21	36,909.21	36,909.21	36,909.21	36,909.21
Equity Value			22,644.97	32,644.97	32,644.97	32,644.97	32,644.97	32,644.97	32,644.97

Figure 4.9 Note : All figures are in Rs. Lakhs

So, by our calculations, Vadilal's equity has a fair value of Rs. 226 Cr.

Now we divide the fair value by the number of vadilal Industries shares outstanding, we get a fair value for the company's shares. This comes out to be Rs. 454 for 2015.

Since the shares are trading at a lower value than this, it represents a buying opportunity for investing.

Vadilal Industries -Equity and Liabilities Balance Sheet

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
BALANCE SHEET AS ON 31ST MARCH									
EQUITY AND LIABILITIES									
Shareholders' Funds									
Share Capital	718.78	718.78	718.78	10,718.78	10,718.78	10,718.78	10,718.78	10,718.78	10,718.78
Reserves & Surplus	10370.72	10791.67	10,771.96	12,880.00	15,260.50	17,805.95	20,586.24	23,543.52	26,612.58
Sub Total	11089.5	11510.45	11,490.74	23,598.78	25,979.28	28,524.73	31,305.02	34,262.30	37,331.36
Deferred Government Grant	25.58	22.38	19.19	19.19	19.19	19.19	19.19	19.19	19.19
Non-Current liabilities									
Long Term borrowings	8272.86	7560.96	8,199.65	3,199.65	3,199.65	3,199.65	3,199.65	3,199.65	3,199.65
D/E Ratio	*0.75*	*0.66*	*0.71*	*0.14*	*0.12*	*0.11*	*0.10*	*0.09*	*0.09*
Deferred tax liabilities(Net)	1094.41	1290.61	1419.59	1474.77	1527.02	1576.15	1622.07	1664.73	1704.14
Deferred tax liabilities(Net) (% of Revenue)	*4%*	*4%*	*4%*	*4%*	*3%*	*3%*	*3%*	*2%*	*2%*
Long term provisions	34.19	53.97	98.06	99.23	102.31	105.58	109.07	112.78	116.76
Long term provisions (% of Long Term Borrowings)	*0%*	*1%*	*1%*	*3%*	*3%*	*3%*	*3%*	*4%*	*4%*
Sub Total	9401.46	8905.54	9717.30	4773.66	4828.98	4881.38	4930.79	4977.16	5020.55
Current liabilities									
Short term borrowings	5119.32	7369.7	6,064.59	1,064.59	1,064.59	1,064.59	1,064.59	1,064.59	1,064.59
Short term borrowings (% of COGS)	*32%*	*40%*	*29%*	*5%*	*4%*	*3%*	*3%*	*3%*	*2%*
Trade payables	4487.99	3945.31	5,884.81	6,082.35	6,920.18	7,913.02	9,008.53	10,268.68	11,712.42
Trade payables (% of COGS)	*28%*	*22%*	*28%*	*26%*	*26%*	*26%*	*26%*	*26%*	*26%*
Other current liabilities	2617.18	3431.24	4,314.25	4,363.72	4,964.81	5,677.12	6,463.07	7,367.16	8,402.95
Other current liabilities (% of COGS)	*16%*	*19%*	*21%*	*19%*	*19%*	*19%*	*19%*	*19%*	*19%*
Short term provisions	268.97	248.73	287.52	234.73	267.06	305.38	347.65	396.28	452.00
Short term provisions (% of COGS)	*2%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*	*1%*
Sub Total	12493.46	14994.98	16551.17	11745.38	13216.64	14960.10	16883.84	19096.71	21631.97
TOTAL LIABILITIES	33010.00	35433.35	37778.40	40137.00	44044.09	48385.41	53138.83	58355.36	64003.07

Figure 4.10 Note - All values are in lakhs.

Short term borrowings of Vadilal Insdustries were increasing at a rate of ~ 35% till 2014, resulting in very high finance cost;in turn affecting the profitability of the firm. In order to reduce the interest cost associated with the short term borrowings, an amount of Rs.100 Cr has been infused via equity.This amount could be used to retire the debt and thus reduce the finance cost.

Vadilal Industries - Assets Balance Sheet

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
ASSETS									
Non-current assets									
(a) Fixed Assets :									
i) Tangible assets	19518	20616.85	22,362.14	23,480.25	24,654.26	25,886.97	27,181.32	28,540.39	29,967.41
ii) Capital Work - In - Progress	828.33	1496.78	418.09						
iii)Intangible Assets	0	134.07	335.50						
Sub Total (Long Term Assets)	20346.33	22247.70	23,115.73	25,084.04	27,518.62	30,484.73	34,056.79	38,319.64	44,732.11
CAPEX		3,053.40	2,230.15	3,330.43	3,796.69	4,328.23	4,934.18	5,624.97	6,412.47
CAPEX (% of Revenue)		11%	7%	8%	8%	8%	8%	8%	8%
(b) Non-current Investments	156.61	156.61	146.23	146.23	146.23	146.23	146.23	146.23	146.23
(c) Long-term loans and advances	1179.12	1866	1,750.47	1750.47	1750.47	1750.47	1750.47	1750.47	1750.47
Long-term loans and advances (% of Total Assets)	4%	5%	5%	4%	4%	4%	3%	3%	3%
(d) Other non-current assets	60.04	70.68	67.62	67.62	67.62	67.62	67.62	67.62	67.62
Other non-current assets (% of Total Assets)	0.18%	0.20%	0.18%	0.17%	0.15%	0.14%	0.13%	0.12%	0.11%
Sub Total	21,742.10	24,340.99	25,080.05	27,048.36	29,482.94	32,449.05	36,021.11	40,283.96	46,696.43
Current Assets									
(a) Current Investments	1.48	1.07	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Current Investments (% of Revenue)	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
(b) Inventories	6705.18	8672.54	9,967.89	11,736.35	13,353.02	15,268.78	17,382.63	19,814.20	22,600.01
Inventories Turnover Ratio	2.41	2.11	2.08	2.00	2.00	2.00	2.00	2.00	2.00
(c) Trade receivables	3340.85	1537.42	1,651.31	1,734.60	1,825.33	1,932.25	2,202.76	2,511.15	2,862.71
Receivables Turnover Ratio	8.53	21.36	22.11	24	26	28	28	28	28
(d) Cash & Bank balances	185.94	112.72	298.05	(1,632.37)	(2,042.11)	(2,888.90)	(4,319.14)	(6,364.46)	(10,561.90)
(e) Short term Loans & Advances	707.36	507.2	563.37	832.61	949.17	1,082.06	1,233.55	1,406.24	1,603.12
Short term Loans & Advances (% of Revenue)	2%	2%	2%	2%	2%	2%	2%	2%	2%
(f) Other Current Assets	327.09	261.41	216.58	416.30	474.59	541.03	616.77	703.12	801.56
Other Current Assets (% of Revenue)	1%	1%	1%	1%	1%	1%	1%	1%	1%
Sub Total	11267.9	11092.36	12698.35	13088.64	14561.16	15936.36	17117.72	18071.40	17306.64
TOTAL ASSETS	33010.00	35433.35	37778.4	40137.00	44044.09	48385.41	53138.83	58355.36	64003.07

Figure 4.11Note - All values are in lakhs.

Vadilal Industries –P&L

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH									
Revenue From Operations (Gross)	28580.25	32858.85	37,170.32	42,374.16	48,306.55	55,069.46	62,779.19	71,568.28	81,587.83
Less : Excise Duty	357.79	745.31	808.81						
Revenue From Operations (Net)	28222.46	32113.54	36,361.51						
Other Income	288.8	720.78	156.40						
TOTAL REVENUE	28511.26	32834.32	36,517.91	41,630.42	47,458.68	54,102.89	61,677.30	70,312.12	80,155.81
YOY Growth		15%	11%	14%	14%	14%	14%	14%	14%
Expenses :									
Cost of Materials Consumed	16077.99	18018.75	20,767.00						
Purchases of stock-in-Trade	591.76	1182.96	644.77						
Changes in inventories of Finished goods and	(498.87)	(893.85)	(715.34)						
COGS	16,170.88	18,307.86	20,696.43	23,472.70	26,706.04	30,537.56	34,765.27	39,628.39	45,200.01
COGS (% of Revenue)	57%	56%	57%	56%	56%	56%	56%	56%	56%
Employee Benefits expenses	1342.12	1537.18	1,895.21	2,081.52	2,372.93	2,705.14	3,083.86	3,515.61	4,007.79
Employee Benefits expenses (% of Revenue)	5%	5%	5%	5%	5%	5%	5%	5%	5%
Other Expenses	7116.35	8499.17	9,723.72	11,085.04	12,999.31	15,244.15	17,876.64	20,963.74	24,583.96
Other Expenses (% of Revenue)	25%	26%	27%	27%	28%	29%	30%	31%	32%
Total Expenses	24,629.35	28,344.21	32,315.36	36,639.26	42,078.28	48,486.85	55,725.78	64,107.74	73,791.76

Figure 4.12 Note - All values are in lakhs.

The total revenue growth from 2012 through 2013 was 15% and an 11% growth was observed during 2013 through 2014. The company is expected to grow at 14% per annum thereafter.

The Cost of Goods Sold(COGS) constituted about 57% of the total revenue. It is expected that in the following years as well COGS would remain around 56% of the total revenue.

The employee benefit expenses are also expected to grow constantly at around 5% per annum. The Other Expenses component constitutes 27% of the total revenue in 2014 and would increase upto 32% of the total revenue by 2020.

Vadilal Industries –P&L

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
EBITDA	3881.91	4490.11	4,202.55	4,991.16	5,380.40	5,616.05	5,951.52	6,204.37	6,364.05
Finance Cost	1989.32	2481.63	2,524.13	698.92	698.92	698.92	698.92	698.92	698.92
Finance Cost (% of Total Debt)	15%	17%	18%	16%	16%	16%	16%	16%	16%
Depreciation and amortization expenses	952.39	1152.03	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12
Less : Recoupment from Revaluation reserve	(20.73)	(53.53)	(81.36)	(81.36)	(81.36)	(81.36)	(81.36)	(81.36)	(81.36)
Total (IV)	2,920.98	3,580.13	3,804.89	1,979.68	1,979.68	1,979.68	1,979.68	1,979.68	1,979.68
EBIT	2,929.52	3,338.08	2,840.43	3,629.04	4,018.28	4,253.93	4,589.40	4,842.25	5,001.93
Profit before Exceptional & extraordinary items	960.93	909.98	397.66	3,011.48	3,400.72	3,636.36	3,971.84	4,224.69	4,384.37
Exceptional Items									
Provision for Diminution in the value of Long	0	0	135.05	0	0	0	0	0	0
Profit before extraordinary items and tax (V-VI)	960.93	909.98	262.61	3,011.48	3,400.72	3,636.36	3,971.84	4,224.69	4,384.37
Extraordinary items	0	0	-	0	0	0	0	0	0
Profit before Tax	960.93	909.98	262.61	3,011.48	3,400.72	3,636.36	3,971.84	4,224.69	4,384.37
Tax Expenses									
(a) Current Tax									
Current (MAT Tax)	189.73	178.06	94.09						
Less : MAT Credit entitlement	(175.43)	(99.98)	(89.94)						
	14.3	78.08	4.15						
(b) Deferred Tax charge / (release)	311.71	196.2	128.98						
(c) Short / (Excess) Provision of Tax /	9.68	38.28	(13.07)						
Total Tax	335.69	312.56	120.06	903.44	1,020.22	1,090.91	1,191.55	1,267.41	1,315.31
Tax (%)	35%	34%	46%	30%	30%	30%	30%	30%	30%
Profit After Tax (PAT)	625.24	597.42	142.55	2,108.04	2,380.50	2,545.45	2,780.29	2,957.28	3,069.06

Figure 4.13 Note - All values are in lakhs.

The major factor affecting the profitability of Vadilal Industries was the Finance Cost. In the year 2012 it was around Rs.19 Cr and it went upto Rs.25 Cr in 2014. This was attributed to the increase in the short term borrowing of the firm. In the year 2015 this component of Finance Cost has come down to roughly Rs.7 Cr, due to the infusion of capital in-order to retire the debt. As the finance cost is greatly reduced there is a drastic increase in the profitability of the company.

In the year 2014, PAT was somewhere close to Rs.1.4 Cr, and after retiring the debt, and thereby reducing the interest cost associated with it, the PAT increases to Rs.21 Cr in 2015.

Cash Flows From Operating Activities

Vadilal Industries –Cash Flow

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
Cashflow from Operating Activities									
PAT		597.42	142.55	2,108.04	2,380.50	2,545.45	2,780.29	2,957.28	3,069.06
Adjustment for interest		2,481.63	2,524.13	698.92	698.92	698.92	698.92	698.92	698.92
Adjustment for Depriciation		1,152.03	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12	1,362.12
Movements in working capital :									
Increase in Trade payables		(542.68)	1,939.50	197.54	837.84	992.84	1,095.50	1,260.15	1,443.74
Increase in Other Current liabilities		814.06	883.01	49.47	601.10	712.30	785.96	904.08	1,035.80
Increase in Deferred tax liabilities(Net)		196.20	128.98	55.18	52.24	49.13	45.92	42.66	39.41
Increase in Inventories		(1,967.36)	(1,295.35)	(1,768.46)	(1,616.67)	(1,915.76)	(2,113.86)	(2,431.56)	(2,785.81)
Increase in Trade receivables		1,803.43	(113.89)	(83.29)	(90.73)	(106.91)	(270.51)	(308.39)	(351.56)
Increase in Other Current Assets		65.68	44.83	(199.72)	(58.28)	(66.44)	(75.74)	(86.35)	(98.44)
Increase in Current Investments		0.41	(0.08)	·	·	·	·	·	·
Increase in Other non-current assets		(10.64)	3.06	·	·	·	·	·	·
		4,590.18	5,618.86	2,419.79	4,167.04	4,271.66	4,308.59	4,398.93	4,413.25

Figure 4.14 Note : All figures are in Rs. Lakhs

The drastic change in PAT from Rs.1.4 Cr to Rs.21 Cr and adjustment for interest going down from Rs.25 Cr to Rs.7 Cr is due to the reduction in the finance cost as the short term and long term debt have been retired in the year 2015.

Cash Flows From Investing Activities

Vadilal Industries –Cash Flow

FINANCIAL MODEL VADILAL INDUSTRIES	3/31/2012	3/31/2013	3/31/2014	3/31/2015	3/31/2016	3/31/2017	3/31/2018	3/31/2019	3/31/2020
Cashflow from Investing Activities									
Increase in Non-current Investments		.	10.38	.	.	.	.	.	.
Increase in Short term provisions		(20.24)	38.79	(52.79)	32.33	38.32	42.28	48.63	55.72
Increase in Long term provisions		19.78	44.09	1.17	3.08	3.27	3.48	3.72	3.98
Increase in Short term Loans & Advances		200.16	(56.17)	(269.24)	(116.57)	(132.88)	(151.49)	(172.70)	(196.87)
Increase in Long-term loans and advances		(686.88)	115.53	.	.	.	.	.	.
Increase in Fixed Assets		(1,901.37)	(868.03)	(1,968.31)	(2,434.57)	(2,966.11)	(3,572.06)	(4,262.85)	(6,412.47)
Maintenance Capex (=Depriciation)		(1,152.03)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)	(1,362.12)
		(3,540.58)	(2,077.53)	(3,651.29)	(3,877.85)	(4,419.53)	(5,039.91)	(5,745.32)	(7,911.77)

Figure 4.15 Note : All figures are in Rs. Lakhs

4.3 Findings and Recommendations

- Vadilal Industries has a Top line of Rs. 365 Cr for 2014 and it is expected to grow at a rate of 14% per annum and have a top line of Rs. 800Cr by 2020.

- The Bottom Line of Vadilal Industries is RS.1.4 Cr for 2014 and is expected to reach Rs.30 Cr by 2020.

- EBITDA for the year 2014 is reported to be Rs.42CR which is estimated to reachRs.63 CR by year 2020.

- The growth rate of company is fair and the overall profitability is expected to rise.

- The Debt to Equity Ratio for Vadilal Industries is around 0.71 for last 5 financial years and is estimated to be around .14 in year 2015 and decrease further to .09 for the year 2020. This decrease is due to the debt being retired by raising Rs.100 Cr equity.

- The Long-Term Liabilities have been very high around Rs.81Cr in 2014 and is estimated to reach Rs.32 Cr by 2020. As 50% of the fresh equity raised i.e Rs50 Cr is used to retire this debt.

- Short Term Borrowings have been around 35% of Cost of Goods Sold in year 2014. This was a major source of the finance cost. After capital infusion the short term borrowings are expected to reduce to Rs.10 Cr only i.e. 25 of the COGS by 2020.

- Capital expenditure for the year 2014 is around Rs.33 Cr as it is 7% of the Revenue and is estimated to be Rs.64 Cr by 2020. It is estimated to be 8% of the Revenue for future financial years.

- A moderate debt/equity ratio indicates that Vadilal Industries has not been very aggressive in financing its growth with debt.

- After analyzing the financials of Vadilal Industries it was clear that the company displayed a constant growth in the revenues.

- The profitability of the firm was impacted due to excessive finance cost owing to increased short term and long term borrowings.

4.4 Limitations of Study

Although DCF analysis certainly has its merits, it also has its share of shortcomings. For starters, the DCF model is only as good as its input assumptions. Depending on what you believe about how a company will operate and how the market will unfold, DCF valuations can fluctuate wildly. If the inputs - free cash flow forecasts, discount rates and perpetuity growth rates - are wide of the mark, the fair value generated for the company won't be accurate, and it won't be useful when assessing stock prices. Following the "garbage in, garbage out" principle, if the inputs into the model are "garbage", then the output will be similar.

DCF works best when there is a high degree of confidence about future cash flows. But things can get tricky when a company's operations lack what analysts call "visibility" - that is, when it is difficult to predict the sales and the cost trends with right amount of certainty. While forecasting cash flows for a few years into the future is hard enough, pushing results into eternity (which is a necessary input) is nearly impossible. The investor's ability to make good forward-looking projections is critical - and that's why DCF is susceptible to error.

Valuations are particularly sensitive to assumptions about the perpetuity growth rates and discount rates.

This model assumed a cash flow perpetuity growth rate of 14%. If that growth rate falls to 13%, Company's fair value falls from Rs 326 Cr to Rs. 277 Cr. If the growth rate rises to 15% the equity value rises to Rs. 400 Cr. Likewise, raising the 18.89% discount rate by 1% pushes the valuation down to Rs. 310 Cr, while a 1% drop boosts the Company's value to Rs 457 Cr.

DCF analysis is a moving target that demands constant vigilance and modification. A DCF model is never built in stone. If the Company delivers disappointing quarterly results, if its major customer files for bankruptcy, or if

interest rates take a dramatic turn, one needs to adjust the inputs and assumptions. If any time expectations change, the fair value will change.

That's not the only problem. The model is not suited to short-term investing. DCF focuses on long-term value. Just because our DCF model produces a fair value of Rs. 369 Cr million that does not mean that the company will trade for that any time soon. A well-crafted DCF may help you avoid buying into a bubble, but it may also make one miss short-term share price run-ups that can be profitable. Moreover, focusing too much on the DCF may cause one to overlook unusual opportunities.

DCF is a rigorous valuation approach that can focus one's mind on the right issues, help one see the risk and help in separate winning stocks from losers. But one has to bear in mind that while the DCF technique we've sketched out can help reduce uncertainty, it won't make it disappear.

What's clear is that investors should be conservative about their inputs and should not resist changing them when needed. Aggressive assumptions can lead to inflated values and cause you to pay too much for a stock. The best way forward is to examine valuation from a variety of perspectives. If the company looks inexpensive from all of them, chances are better that you have found a bargain.

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