A STUDY ON VALUATION OF AUTO MOBILE SECTOR EQUITY STOCKS WITH RESPECT TO CAPM – ZEN SECURITIES

[1]A. Navya sri, [2] T. Rakesh

[1]PG Student, Department of MBA, **TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**, Hyderabad, Telangana, India.

[2] Assistant Professor, Department of MBA, **TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**, Hyderabad ,Telangana, India.

Abstract

The Capital Asset Pricing Model (CAPM) is the most commonly used techniques for calculating the required return of a risky asset in the global investing community. This project text plains CAPM and helps in explaining the return on stocks in order to make better investment decisions. A simplistic approach has been adopted wherein Daily data for a set of macroeconomic variables, market return as well as four indices were taken for the period of 5 years . It was observed that the Index returns are mainly explained by market returns, however not much could be explained by the macroeconomic variables. According to the findings of the tests an inference was drawn that could explain the index returns more efficiently as compared to the Capital Asset Pricing model.

I.INTRODUCTION

The capital asset pricing model (CAPM) is used to calculate the required rate of return for any risky asset. Your required rate of return is the increase in value you should expect to see based on the inherent risk level of the asset. The capital asset pricing model (CAPM) is a model that describes the relationship between systematic risk and expected return for assets, particularly stocks. CAPM is widely used throughout finance for the pricing of risky securities, generating expected returns for assets given the risk of those assets and calculating costs of capital. Specifically, Beta is derived by the volatility of a single stock's price compared to the volatility of the market's price. The more volatile the stock's price compared to the market's price, the higher the Beta coefficient.Most value investors, including Warren Buffet and Charlie Munger, don't measure risk based on the volatility of an instrument's price per share. They focus on the assets fundamentals in order to assess the risk of an investment. Their rationale is that

price action in a instrument is more of a measure of the ebbs and flows of people's enthusiasm for the instrument rather than a reflection of what is actually happening at the underlying asset.

Therefore investors that use CAPM are generating a required return not based on a true measure of risk. So models based on this calculation would be inherently wrong and lead to poor investment decisions.

The general idea behind CAPM is that investors need to be compensated in two ways: time value of money and risk. The time value of money is represented by the risk-free (rf) rate in the formula and compensates the investors for placing money in any investment over a period of time. The risk-free rate is customarily the yield on government bonds like U.S. Treasuries.

Definition:

Why It Is Important: CAPM is widely used in the finance industry by various professions such as investment bankers, financial analysts and accountants. It is an integral part of the weight average cost of capital (WACC) as CAPM calculates the cost of equity. With WACC, it can be used to find the cumulative present value of the future cash flows of an investment and to further calculate its enterprise and implied equity value. The CAPM model says that the expected return of a security or a portfolio equals the rate on a risk-free security plus a risk premium. If this expected return does not meet or beat the required return, then the investment should not be undertaken. The security market line plots the results of the CAPM for all different risks (betas). The market risk premium is the difference between the expected return on a market portfolio and the risk-free rate. Market risk premium is equal to the slope of the security market line (SML), a graphical representation of the capital asset pricing model (CAPM). CAPM measures required rate of return on equity investments, and it is an important element of modern portfolio theory and discounted cash flow valuation. Market risk premium describes the relationship between returns from an equity market portfolio and Treasury bond yields. The risk premium reflects required returns, historical returns and expected returns. The historical market risk premium will be the same for all investors since the value is based on what actually happened. The required and expected market premiums, however, will differ from investor to investor

Research Objective:

• To calculate the Risk and Return of selected equities.

• To calculate the Systematic Risk of selected equities.

• To calculate the expected returns of portfolio of selected equities.

• To suggest the investor which equity is better to invest

Research Methodology:

Capital asset pricing model: A belief of the CAPM and the protection retail line (lavender) for the Dow Jones Industrial Average over 3 ages for weekly dossier. In finance, the capital advantage valuing model (CAPM) is a practical model used to decide a in theory appropriate necessary rate of return of an advantage, if that asset is expected amounted to a before well-various folder, likely that advantage's non-diversifiable risk. CAPM adopts the form of serviceableness functions (at which point only first and second importance matter, that is risk is calculated by difference, e.g., a four-sided serviceableness) or by preference advantage returns whose expectation distributions are complete interpreted apiece first two importance (for example, the common allocation) and nothing undertaking costs (inevitable for variety to discard all peculiar risk). Under these conditions, CAPM shows that the cost of venture capital is driven only by beta. Despite it failing many practical tests, and the life of more up-to-date approaches to advantage appraising and notebook pick (to a degree trading of stock by computer pricing belief and Merton's case question), the CAPM still debris common on account of allure clarity and serviceableness in a type of situations.

II.LITERATURE REVIEW

Kim, Shin and Byun (1996) investigate in what way or manner active business strategies to hedge index alternatives would influence the latent property markets. The Black-Scholes model shows a prejudiced balance model at which point the stochastic process of the latent advantage would not experience by dynamic business plans to hedge alternatives. In reality, trading the latent advantage would influence the price of the latent advantage. They grow a model to analyze the belongings of dynamic business methods created to solve flat case for transporting papers protection on the fundamental assets markets.

Kwon and Lee (2000) resolve the belongings of the stock index futures and alternatives trades on the excitability

of the stock index, ruling firm characteristic determinants and rate of exchange premiums, to present evidence showing that business of the derivative bonds acted not increase the evaporation of the stock index.

Ohk and Jang (2008) more check the effects of the trad-insult action of the KOSPI 200 index alternatives on the KOSPI 200 index evaporation by classifying the types of the KOSPI 200 index alternatives accord-insult to business volume, open interests, news types, moneyness, and opportunity to finish. Their results revealed that the business capacity of the KOSPI 200 index call alternatives has a positive equating accompanying the excitability of the KOSPI 200 index for most cases. But, the equivalence 'tween business volume and airiness of the KOSPI 200 index was equivocal for the KOSPI 200 index set alternatives, an influence contrast to that for the index call alternatives.

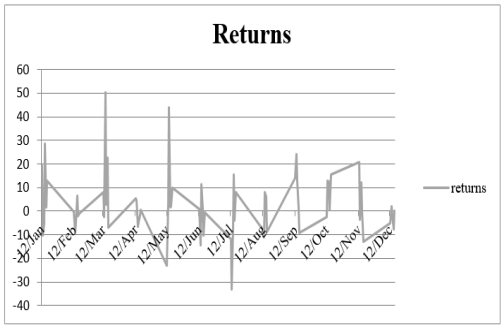
Sharma Nishi (2011) intentional the financial depiction of patron and monetary boat sector of the car manufacturing in the terms of four fiscal limits that is to say liquidity, worth, influence and administrative adeptness analysis during of ten of something from 2001-02 to 2010-11. The study decides that worth and administrative effectiveness of Tata motors as well as Mahindra & Mahindra ltd are acceptable but their liquidity position is not acceptable. The liquidity position of marketing car is much better than traveler cab portion.

Singh Amarjit & Gupta Vinod (2012) explored a survey of car manufacturing. Indian car manufacturing itself as a production center and many joint ventures have been arrangement in India accompanying alien cooperation. SWOT reasoning finished skilled are some challenges for one integrity of magician car manufacturing faces portion of problems and few creative key facial characteristics are keyless entrance, electrically regulated devices improved driving control, comfortable feel centers and more need to focus from now on on like fuel adeptness, issuance decline safety and endurance.

III.DATA ANALYSIS AND INTERPRETATION

1. Calculations of Risk and Returns of Ashok Leyland Ltd

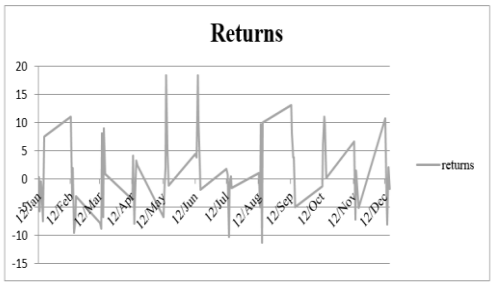
Month	Open Price	Close Price	Returns	Average Returns	Difference	D*D
Jan-19	23	27.4	19.1304	2.6093	16.5211	272.9479
Feb-19	28.4	28.3	-0.3521	2.6093	-2.9614	8.7700
Mar-19	28.05	30.3	8.0214	2.6093	5.4121	29.2907
Apr-19	30.6	32.25	5.3922	2.6093	2.7829	7.7443
May-19	32.5	25	-23.0769	2.6093	-25.6862	659.7820
Jun-19	24.7	24.95	1.0121	2.6093	-1.5972	2.5509
Jul-19	25.25	22.3	-11.6832	2.6093	-21.2925	204.2746
Aug-19	22.4	20.7	-7.5893	2.6093	-10.1986	104.0111
Sep-19	21.1	24.05	13.9810	2.6093	11.3717	129.3166
Oct-19	24	23.45	-2.2917	2.6093	-4.9010	24.0195
Nov-19	23.45	28.35	20.8955	2.6093	18.2862	334.3860
Dec-19	28.35	26.95	-4.9383	2.6093	-7.5476	56.9658
Jan-20	27.25	24.45	-10.2752	2.6093	-19.8845	166.0111
Feb-20	24.4	22.2	-9.0164	2.6093	-11.6257	135.1567
Mar-20	22.5	21.95	-2.4444	2.6093	-5.0537	25.5403
Apr-20	21.8	22.8	4.5872	2.6093	1.9779	3.9119
May-20	22.95	23.7	3.2680	2.6093	0.6587	0.4339
Jun-20	23.45	20.1	-21.2857	2.6093	-23.8950	285.4415
Jul-20	20.25	13.55	-33.0864	2.6093	-35.6957	1274.1843
Aug-20	13.5	12	-11.1111	2.6093	-20.7204	188.2496
Sep-20	12.2	15.16	24.2623	2.6093	21.6530	468.8523
Oct-20	15.25	17.2	12.7869	2.6093	10.1776	103.5833
Nov-20	17.4	16.75	-3.7356	2.6093	-6.3449	40.2581



INTERPRETATION:

The above graphs show the returns of Ashok Leyland Ltd. The Ashok Leyland Ltd has an average return of 2.6093, risk is 5.077 and co-effective of alternative is 2.093. The Ashok Leyland Ltd best quoted price is 109.9 on June 2023, & the minimum quoted price is 12.2 on Sep 2020.

2. Graphical Representation of Bajaj Auto Ltd



INTERPRETATION:

The above graphs show the returns of Bajaj Auto Ltd. The Bajaj Auto Ltd has an average return of 0.931564, risk is 6.76 and co-effective of alternative is 7.257. The Bajaj Auto Ltd chief quoted price is 2980 on Sep 2023, & the minimum quoted price is 1505 on June 2024

3. Calculation of Systematic Risk of Ashok Leyland Ltd

Month	Ashok Difference (D1)	Sensex Difference (D2)	D*D	D1*D2
Jan-19	16.5211	9.6795	93.6932	159.9164
Feb-19	-2.9614	2.3365	5.4594	-6.9194
Mar-19	5.4121	-2.7514	7.5701	-21.8907
Apr-19	2.7829	-1.6367	2.6789	-4.5549
May-19	-25.6862	-7.6331	58.2644	196.0656
Jun-19	-1.5972	6.4775	41.9575	-10.3458
Jul-19	-21.2925	-2.1603	4.6687	30.8754
Aug-19	-10.1986	0.0745	0.0055	-0.7594
Sep-19	11.3717	6.4278	41.3164	73.0949
Oct-19	-4.9010	-2.4857	6.1786	12.1823
Nov-19	18.2862	3.6094	13.0276	66.0018
Dec-19	-7.5476	-0.5654	0.3197	4.2673
Jan-20	-19.8845	0.9562	0.9143	-19.3198
Feb-20	-11.6257	-6.2518	39.0845	72.6811
Mar-20	-5.0537	-1.2158	1.4781	6.1441
Apr-20	1.9779	2.2479	5.0530	4.4461
May-20	0.6587	0.5476	0.2999	0.3607
Jun-20	-23.8950	-3.3325	11.1057	56.3029
Jul-20	-35.6957	-1.0341	1.0693	36.9120
Aug-20	-20.7204	-5.2348	27.4031	71.8235
Sep-20	21.6530	2.6814	7.1899	58.0602
Oct-20	10.1776	7.8045	60.9103	79.4311
Nov-20	-6.3449	-2.7330	7.4692	17.3405
Dec-20	-0.5321	0.9239	0.8535	-0.4916
Jan-21	-8.0691	-4.3368	18.8076	34.9939
Feb-21	-7.4725	2.1314	4.5430	-22.9271
Mar-21	47.8669	5.2014	27.0542	248.9732

INTERPRETATION:

The above table shows the orderly risk of Ashok ley land ltd for an ending of 3 months i.e., (Jan-2019 to May-2024). The orderly risk of Ashok ley land ltd is 1.9844.

4. Calculation of Systematic Risk of Bajaj Auto Ltd

Month	Bajaj Difference(D1)	Sensex Difference(D2)	D*D	D1*D2
Jan-19	0.558523	9.67952574	93.6932	5.4062378
Feb-19	-10.1147	2.33653596	5.4594	-23.63336
Mar-19	8.739256	-2.75137823	7.57008	-24.045
Apr-19	4.605155	-1.63673543	2.6789	-7.53742
May-19	7.651663	-7.63311232	58.2644	-58.406
Jun-19	-3.52026	6.47746033	41.9575	-24.80234
Jul-19	-0.929	-2.16025208	4.66669	2.0068742
Aug-19	-0.1573	0.0744651	0.00555	-0.011713
Sep-19	-19.1857	6.42778726	41.3164	-78.32709
Oct-19	2.186327	-2.48568048	6.17861	-5.43451
Nov-19	-5.68154	3.60937923	13.0276	-22.50683
Dec-19	-9.76398	-0.56539128	0.31967	5.5204691
Jan-20	6.617478	0.95617517	0.91427	6.3274682
Feb-20	4.237106	-6.25176033	39.0845	-26.48937
Mar-20	9.773616	-1.21576277	1.47808	-11.8824
Apr-20	-3.16757	2.24788238	5.05298	-7.120325
May-20	3.982096	0.54762134	0.29989	2.1806808
Jun-20	-2.99527	-3.33251567	11.1057	9.9817842
Jul-20	0.113856	-1.0340746	1.06931	-0.117736
Aug-20	5.928336	-5.23479467	27.4031	-31.03362
Sep-20	-7.18154	2.68139117	7.18986	-21.25652
Oct-20	-5.25297	7.80450479	60.9103	-40.99683
Nov-20	8.133162	-2.73297528	7.46915	-24.22773
Dec-20	4.14585	0.92385605	0.85351	3.8301686
Jan-21	1.360659	-4.33677315	18.8076	-5.900869
Feb-21	-0.99393	2.1314302	4.54299	-2.118492
Mar-21	-7.23999	5.20136414	27.0542	-37.65782

INTERPRETATION:

The above table shows the orderly risk of Bajaj automobile ltd ending of 3 months i.e., (Jan-2019 to May-2024). The orderly risk of Bajaj automobile ltd is 0.98

IV.FINDINGS

1. The Ashok Leyland Ltd impartiality has an average return of 2.6093, risk of 13.25, and orderly of 1.9844.
2. The Bajaj Auto Ltd impartiality has an average return of 0.931564, risk of 6.76, and orderly of 0.9848.
3. The Maruti Suzuki India Ltd impartiality has an average return of 2.374307, risk of 9.188 & orderly risk of 1.7840
4. The Mahindra Mahindra Ltd impartiality has an average return of 0.659024, risk of 6.28, &orderly risk of 0.8218.5. The Eicher Motors Ltd impartiality has an average return of 0.659024, risk of 6.28, &orderly risk of 0.7451.

V.CONCLUSION

Investment managers have widely used sapling natural CAPM and allure more refined continuation CAPM's use to allied finance is a happening. Although it has happened working in many serviceableness rate-scene operations, it has still to gain extensive use include circles for judging associations' costs of impartiality. Because of allure faults, fiscal administrations endure not depend CAPM as an exact invention for judging the cost of venture capital. Never the less tests of ten model validate that it has much to reply about the habit the returns are persistent in economic markets. In view of the basic trouble in weighing the cost of impartiality, CAPM's imperfections perform no bad than those of additional approaches. Its key benefit is namely that it restricts and specifies a widely appropriate, comparatively objective routine for translating risk measures into estimates of wonted returns' shows a new and various approach to a main task monetary resolution indicator can use the model in addition to established methods and good judgment to cultivate sensible, valuable estimates of the cost of venture

capital. Research has proved the CAPM to erect well to critique, even though attacks against it have existed growing in current age. Until entity better presents itself, nevertheless, the CAPM debris a very beneficial article in the economic administration toolkit.

VI.REFERENCES

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