BERLIN SCHOOL OF BUSINESS & INNOVATION

Essay Title: Corporate Financial Analysis: The Case of Tesla Inc.

Name: KWAKU BONFUL BOSOMPIM (Q1041201)

Date: 17TH FEBRUARY, 2023

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Introduction

Organisations are entities that have to perform well if they are to exist into the long term. For purposes of assessing the financial health of an organisation, an analysis of its financial statements is carried. This is done usually to ensure that investors are well informed in their investment and economic decision making as far as a firm is concerned. More so, the analysis of the financial statement is a way through which businesses are aided to make the best of decisions as far as issues of capital budgeting, capital structure and working capital decisions are concerned (Ross et al., 2013). Additionally, given that one of the key objectives of a business is to grow, organisations tend to undertake long term planning and projections using different techniques (Brealey et al., 2007). The long-term growth planning helps organisations to examine interactions through the linkage of investment proposals and different financing choices, aids in exploring different scenarios in a consistent manner, minimizes organisations being taken unawares in their activities, and ensures feasibility and internal consistency.

CHAPTER ONE

TASK ONE- FINANCIAL STATEMENT ANALYSIS AND CORPORATE GOVERNANCE

Financial statement analysis of Tesla Inc.

Table 1, 2 3, 4, and 5 show ratios computed using Tesla Inc.'s financial statement for a two-year period (2020-2021). The importance of the ratio analysis is in its ability to aid in establishing relationship between financial items in the financial statements. There are different forms of financial statement ratios. However, the ratio that is computed depends on the information the user seeks to obtain. For purposes of this report, the ratios considered are profitability ratios, liquidity ratios, activity ratios, solvency ratios and the DuPont analysis.

Profitability ratios

These ratios help to provide insight into how efficient a firm has been in the generation of earnings using a firm's resources (Ross et al., 2103). For purposes of this report, return on capital employed, return on sales, asset utilization ratio, gross profit margin, and return on equity. From Table 1, the data shows that comparatively, Tesla Inc. has been more efficient in the use of its assets and resources in the generation of returns in 2021 as compared to 2020. This is the case given that the various profitability indicators shown in Table 1 improved were higher in 2021. This outcome may have been as a result of robust cost minimization measures, and revenue enhancing mechanisms.

Table 1 Profitability ratios

		Measurement	2021	2020
Ratios	Return on capital employed	Net income/Capital Employed, where capital employed is	0.133032	0.022744
	Return on sales	Net profit/Total sales	0.104862	0.027334
	Asset utilization ratio (ROA)	Net profit/Total assets	0.09084	0.01653
	Gross profit margin	Gross profit/Total sales	0.252792	0.210236
	Return on equity	Net profit/Total shareholders' equity	0.186956	0.038785

Liquidity ratios

These are ratios help to provide insight into how well a firm is positioned in settling its current liabilities/short term liabilities using current assets (Ross et al., 2013). They help to show the extent to which a firm is exposed to the risk of liquidity (Brealey et al, 2007). The liquidity ratios considered in this report include current ratio, and quick ratio. From Table 2, it is observed that both current ratio and quick ratio declined in 2021 from higher ratios in 2020. Generally, higher ratios are acceptable. The result in Table 2 shows that current ratio in decline from 1.9 in 2020 to 1.4 in 2021. Though the decline in the current ratio, the figures suggest that Tesla Inc. is still well positioned in terms of liquidity, since it has more current assets to take care of its short-term maturing financial obligations/liabilities. In relation to quick ratio, which considers the current assets (excluding inventories) of a firm in relation to current liabilities, the ratio shows that there was a decline from 1.6:1 in 2020 to 1.1:1 in 2021. The implication of this result is that in the absence of inventory, Tesla Inc. for both 2021 and 2020 had enough highly liquid short-term assets to settle its current liabilities and other short-term maturing financial obligations.

Table 2 Liquidity ratios

		Measurement	**2021**	**2020**
Ratios	Current ratio	Current liabilities/current liabilities	1.375285:1	1.87514:1
	Quick ratio	Current liabilities-inventory/current liabilities	1.083126:1	1.58731:1

Activity ratios

They represent ratios that help to show the effectiveness of a firm in putting its investments, resources, and assets to use (Van Horne and Wachowicz, 2009). The activity ratios used in this report include the inventory turnover rate, receivables turnover rate, and payable turnover rate. Generally, higher turnover rates are preferred for inventory turnover, and receivables turnover. However, on the basis of credit management, firms usually prefer lower payable turnover rate since it could make free cash available for pursuing short term return generating activities. It is however possible that lower payable turnover rate has to do with liquidity issues of a firm. Essentially, firms have to ensure proper management of payables to foster good relations between the firm and its suppliers/creditors.

From Table 3, the data reveals that in terms of inventory turnover rate and receivables turnover rate, there was an improvement in 2021 from 2020. The number of times inventory is bought and sold increased marginally from 6.1 times in 2020 to about 7 times in 2021. This is good for the firm because it means that the firm was quicker in 2021 in turning its inventory into sales as compared to 2020. Additionally, the number of times Tesla Inc. collects its cash from debtors moved from about 17 times in 2020 to 28 times in 2021. The suggestion from this is that Tesla Inc. has improved the rate at which it collects debts from persons to which it sells on credit. A possible reason for the improvement in the receivables turnover rate could be discount granting to customer which allows prompt settlement of debts.

Table 3 Activity ratios/asset management ratios

		Measurement	**2021**	**2020**
Ratios	Inventory turnover rate	Cost of goods sold/Inventory	6.98575647	6.07315289
	Receivables turnover rate	Sales/Accounts receivable	28.13538944	16.72110286
	Payable turnover rate	Cost of goods sold/Accounts payable	4.011670823	4.116013882

Solvency ratios

The solvency ratios depict the level of financial and bankruptcy risk a firm is exposed to (Ross et al., 2013). They are also ratios that show the capability of firms in dealing with long term liabilities and financial obligations. For this report, gearing ratio and interest coverage are considered (Van Horne and Wachowicz, 2009).

Table 4 shows the gearing ratio and the interest coverage for Tesla Inc. for 2020 and 2021. The gearing ratio of a firm expresses the debt of a firm in relation to its equity. The data in Table 4 shows that gearing ratio decreased from 1.3:1 in 2020 to 1:1 in 2021. This result shows that for 2020, for every US$ 1.30 of debt, there was US$ 1 equity, suggesting that for 2020, Tesla Inc. had more debt as compared to equity in its capital structure. However, for 2021, the gearing ratio in Table 4 shows that for every US$ 1 debt, there was US$ 1 equity. This means that for 2021, Tesla Inc. virtually had its debt and equity to be equal.

In relation to interest coverage, the data in Table 4 shows that Tesla Inc.'s interest coverage improved from 2.7 times in 2020 to 17.6 times in 2021. This is clearly suggestive of the fact that the number of times Tesla Inc. can use its earnings before interest in settling its finance or interest cost improved in 2021. What this suggests is that as far as financial risk and bankruptcy risks are concerned, Tesla Inc. is less exposed in 2021.

Table 4 Solvency ratios

		Measurement	**2021**	**2020**
Ratios	Gearing	Total debt/Total equity	1.0118917	1.2786502
	Interest coverage	Earnings before interest and tax/Interest payment	17.58221024	2.665775401

DuPont Analysis

The DuPont model is a financial ratio model that provides insight on the difference in return on equity and return on assets (Ross et al., 2013). The model advances that the difference that is observed between ROA and ROE is as a result of the element of financial leverage. There are two variants of the DuPont model. These are the three step DuPont Model, and the Five-Step DuPont Model. For this report, the three-step model is considered. The three-step model decomposes ROE into the product of three elements namely net profit margin, asset turnover rate, and equity multiplier. The measurement of these three components is shown in Table 5. Applying the model, the result in Table 5 shows that the ROE computed in Table 1 and the ROE computed using the DuPont model is the same. A consideration of the figures however shows that the difference between ROA and ROE is largely accounted for by the financial leverage which is not accounted for when ROE is used.

Table 5 DuPont Analysis

		Measurement	**2021**	**2020**
Ratios	Net profit margin	Net profit/Sales	0.104862234	0.027333841
	Asset turnover rate	Sales/Total Assets	0.866282532	0.604740354
	Equity multiplier	Total Assets/Total Equity	2.058067508	2.346366704
ROE using DuPont analysis			**0.186956**	**0.038785**

Stakeholders of Tesla Inc.

Tesla Inc., currently known as Tesla, is a business that develops, manufactures, sells and leases high performance fully electric automobiles (vehicles), and energy generation, and storage systems, and offers services that relate to its products. It is a firm incorporated in the United States of America, and currently has its headquarters in Austin, Texas, U.S. Its manufacturing facilities are located in places namely California in the US, Nevada in the US, New York in the US, Shanghai in China, Berlin in Germany, and Texas in the US. Its automobile products include Model 3, Model Y, Model S, Cybertruck, Tesla Semi, Tesla Roadster, and Model X, while its energy generation and storage products include Powerwall, Megapack, Retrofit Solar Energy Systems, and Solar Roof.

In business management, stakeholders are parties that have interest in particular firm or who may be impacted or impact the operations of a business. Common examples of stakeholders include customers, suppliers/creditors, governments, communities, society, employees, and management. In relation to Tesla Inc., observing from their recent and publicly available annual report, which is the 2021 report, the key stakeholders identified include management, employees, government (regulatory authorities, and tax authorities), suppliers/creditors, customers, communities, societies, and financial institutions (banks).

Management includes those who manage the affairs of Tesla on a day-to-day basis on behalf shareholders. Shareholders appoint managers through the board of directors to run the business on their behalf. From the annual report of Tesla for 2021, its executive management comprises of Elon Musk, Zachary, Andrew Baglino, and Jerome Guillen.

Employees on the other hand are persons hired by management of the organisation to help achieve the goal of profit making and to ultimately enhance the stock value of shareholders. Additionally, suppliers form part of the stakeholders of Tesla. This is because the firm according to its 2021 annual report sources various parts of its products from different suppliers around the world. Furthermore, governments also form part of the stakeholders of Tesla. This is based on the reason that according to the 2021 annual report, a number of government programs, regulations, and incentives applied to the corporation. Examples of these government policies and incentives that affect or applied to the corporation as per the 2021 annual report include California Alternative Energy and Advanced Transportation Financing Authority Tax incentives, Nevada Tax Incentives, and Automobile Manufacturer and Dealer Regulation. Lastly, in relation to stakeholders, communities and societies as a whole form part of Tesla's stakeholders. This is the case because the firm operates in communities and societies in which its activities and operations are carried out. The operations of the firm affect the constituents of these communities and societies, which in turn makes the communities and the society one of Tesla's stakeholders.

Measures adopted by Tesla Inc. to address agency problem

The agency problem arises from ownership and control of corporations being separated. This separation of ownership from control usually culminates into managerial opportunism, resulting in agency problems and costs, which firms the bases of the agency theory in governance literature. To address issues of managerial opportunism hence reduce agency problems and cost, Tesla has put a number measures in place. Key among corporate governance measures adopted include the institution of board of directors. In addition to this, the board of directors have formed a number of committees to perform the corporate governance activities to reduce the agency problems. The committees on the board include audit committee, compensation committee, nominating and corporate governance committee, and disclosure controls committee. Overall, these committees are in place to ensure effective monitoring of management activities to ensure the interest of shareholders and those of management are aligned and balanced.

In addition to having the board of directors and its sub committees to check the activities of management to ensure interest alignment, Tesla has over the years implemented stock-based compensation systems, and performance-based awards. The stock-based compensation represents a situation where management and some employees of the firm are not compensated entirely using cash. However, as part of measures to retain management and employees of a certain caliber in terms of experience and qualification, the firm offers stock to them to make them part owners of the firm. Additionally, the stock-based compensation is to ensure that management and employees have sense of ownership to ensure they work towards achieving the long-term performance goals of Tesla as a whole.

Lastly, as part of measures to ensure quality in the financial reports of Tesla for purposes of providing quality information for informed decisions, the services of an external auditor is contracted to provide an opinion on the true and fair position of Tesla. The external auditors used by Tesla for 2021 is PricewaterhouseCoopers LLP. The task of the external auditor is to scrutinize the financial records of the firm to ensure that the

management of the firm has complied with all laid down rules and regulations in the preparation of its statements. By passing an opinion on the financial statements, shareholders and other stakeholders obtain a fair idea of whether management is doing the right thing or not its financial reporting system which has implications for decision making. If the external auditors are convinced that the informed churned out through the firm's financial reporting system, they indicate that the statements present fairly in all material respects the financial position of the corporation, otherwise a qualified opinion is rather provided.

CHAPTER TWO

TASK TWO-INVESTMENT DECISION MAKING AND ASSET SELECTION

a. Making an investment

To find out how much is needed to be invested in today's terms to obtain the future value of $2 million, the future value formula has to be used. The future value model is given as follows:

$$PV=FV/(1+r)^n \quad \textbf{(Eq. 1)}$$

Where PV means present value, FV denotes future value, r is the expected rate of return, and n denotes the time or period investment. For this report, 16% is assumed as the expected rate of return. Therefore, the PV is given as follows;

$PV=2000000/(1.16)^{20}$ = $102770.9121 or $102771. The PV of $102771 indicates that for the $2 million to be secured in the next twenty years, the amount that has to be invested today is $102771 and the rate of return on this investment should be 16%.

b. Selected security from yahoo.finance.com

Equity security

An equity security is financial security asset that denotes the proportional share in the equity capital of a corporation or firm. In other words, they represent part ownership in firms and provider the holders with certain rights. There are two forms of equity security and these are preferred stock and common stock. While holders of preferred stocks have no voting rights in the firm, holders of common stocks have voting rights.

c. Selection of five securities

i. Tesla, Inc

Tesla is a firm incorporated in the US and is into the development, manufacturing, sales and services of automobile and energy storage components. It is a firm listed on Nasdaq.

ii. Ford Motor Company

For Motor Company is also an automobile firm incorporated in the US and develops, manufactures, sells and services automobiles. It has its shares listed on New York Stock Exchange.

iii. Apple Inc.

Apple is an electronic gadget producing firm incorporated in the US. It develops, manufacturers, sells, and services phones, watches, tablets, and other electronic products. The firm has its shares quoted on the Nasdaq.

iv. Microsoft Corporation

Microsoft Corporation is a software developing corporation incorporated in the US. It is the developer of Microsoft applications such as Windows and Microsoft suite (e.g., Microsoft Word and Excel). The corporation is listed on the Nasdaq.

v. Exxon Mobil Corporation

Exxon Mobil Corporation is a firm that is into the production of gas, and oil as well as the manufacturing of chemicals. It is a US multinational corporation headquarters in Texas US. It has its shares listed on the New York Stock Exchange.

d. Selection of two-asset portfolio to meet objective

i. Apple Incorporated equity stocks (equity security)

The equity stock of Apple is selected because over the years it has proven to be a firm doing well in the market. This is reflected in their stock prices over the period. In as much as stock prices fluctuate very often, in the long run, the gains from investment in stocks are rewarding. On the basis that Apple Incorporated has shown good market indicators over the years it is selected as one of two-asset portfolio that can help to achieve the accumulated savings of $2 in twenty (20) years.

ii. Oil and Gas UltraSector ProFund Investor (mutual funds/collective investment schemes)

In addition to investment in the shares of Apple incorporated, Oil and Gas UltraSector ProFund Investor, which is a mutual fund scheme is selected as the second asset. Mutual funds are investment vehicles where investments are done in securities such as stocks, bonds, or real assets such as gold or real estate through a fund manager. The reason for choosing this asset portfolio is that there are professionals and experts in investment who will help to manage your asset, and ensure individual investor risk exposure is minimized. Through the management of the pooled investment by the fund managers, returns to investment are more guaranteed in the next 20 years.

CHAPTER THREE

TASK THREE- DISCOUNTED CASH FLOW AND CASH FLOW EVALUATION

Table 6: Projected discounted cashflow for a five-year period

Item/Year	0	1	2	3	4	5
Revenue	53823	58803	66448	73831	82034	91148
Expenses	7083	-8138.37	-9350.98	-10744.3	-12345.2	-14184.6
Depreciation		-2911	-2911	-2911	-2911	-2911
EBT		**48754**	**54186**	**60176**	**66778**	**74052**
Tax (11.02%)		-5373	-5971	-6631	-7359	-8161
EAT		**43381**	**48215**	**53545**	**59419**	**65891**
Add back depreciation		2911	2911	2911	2911	2911
Change in Net Working Capital		-5074	-5074	-5074	-5074	-5074
Projected cash flow		**41218**	**46052**	**51382**	**57256**	**63728**
Discount factor (8.4%)		0.9225	0.851	0.785	0.7242	0.6681
Discounted cash flow		**38024**	**39190**	**40335**	**41465**	**42577**

Methods employed for computations

In computing the discounted cash for the forecast period, the 2021 annual report of Tesla Inc. was used. In computing the revenue for each year, 10% was applied to a previous year's sales to get that for the following year. The sales figure for 2021 is 53823, and served as the basis for the computation of the first year's sales amount (see page of the annual report of Tesla Inc.).

In calculating the expenses to sales ratio, the average of the last three years' expenses to sales ratio was used (see page of the annual report for 2021 figures. Additionally, the depreciation value was obtained from the cashflow statement of Tesla for 2021. To obtain the tax rate, the tax amount for 2021 was expressed in terms of EBT. The tax rate computed is 11.02% (see page for the EBT and the tax amount for 2021). More so, to get the discount rate, the CAPM was used. The expected return was used as the discounting rate.

Computation of expected rate of return using Capital Asset Pricing Model (CAPM)

Capital asset pricing model, popularly called CAPM is a model that helps to compute the expected return of a stock. To compute the expected return of the asset, the items needed include the rate of the risk-free asset, the beta of the stock, and the market risk premium of the asset. This is given as follows:

$$E(r)= Rf+ B(Rm-Rf) \quad \textbf{(Eq.2)}$$

where the Rf is the risk free rate, B denotes the beta of the stock, and Rm denotes the market return. The deduction of Rf from Rm gives rise to what is known as market premium.

The E(r) of Tesla for 2021 there is given as follows;

$E(r)= 6+1.2(8-6)$

$E(r)= 8.4\%$

Computation of post-tax cost of debt

To compute the cost of debt the formula used is given as follows;

$$Rd=Kd(1-T)/Vd \quad \textbf{(Eq.3)}$$

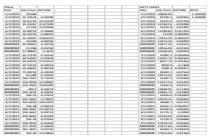
Where Kd stands for the interest rate on notes/debt; T represents the tax rate applicable

From the financial statement of the firm for 2021, the net debt amount given is 5245 and the interest rate given is 5.1%. The post-tax cost of debt is therefore given as follows;

Rd=5.1(1-0.112)/5245=0.0008634509 or 0.0009%. Therefore, the post tac cost of debt is 0.0009%.

Computing the stock beta of Tesla Inc.

The beta of a stock measures the extent to which the firm's stock is sensitive to an index or benchmark and measures stock volatility. To compute the Tesla Inc.'s stock beta, the report considered the covariance between the return (r_a) of the stock return of the index (r_b) divided by the variance of the index over a period of three years. Using the formula $Cov(r_a, r_b)/Var(r_b)$, 1.2 was found as the beta of Tesla Inc.'s stock. This is shown in the attached excel document.



Computing Weighted Average Cost of Capital (WACC)

The weighted average cost of capital is financial model through which a firm can obtain the average cost of financing its activities through the usage of both debt and equity. The formula for computing WACC is given as follows;

$$\frac{Ke(Ve)}{Ve+Vd}+\frac{Kd(Vd)}{Ve+Vd}(1-T) \qquad \textbf{(Eq.4)}$$

In equation 4, Ke stands for cost of equity; Ve stands for the value of equity; Vd stands for the value of debt and T stands for the Tax rate; and Kd denotes cost of debt.

The computation of the WACC for Tesla using data from its 2021 annual report is given as follows

$$WACC=\frac{8.4(30189)}{30189+5245}+\frac{0.0009(5245)}{30189+5245}=7.156751158\ or\ 7.2\% \qquad \textbf{(Eq.5)}$$

From the equation 5, the WACC computed is 7.2%, which represents the average cost using both debt and equity in financing the firm's operations. For the equity and debt figures, see balance sheet on page 49 of Tesla inc.'s 2021 annual report.

Computation of the terminal value of the projection period

There are various ways of computing the terminal value of the projection period. However, since the terminal growth rate of 4% was given in the question, the Gordon growth or perpetuity method where the grow rate is considered is used. This is given as follows:

Terminal value (TV)= FCF5*(1+G)/(WACC-G) **(Eq.6)**

In equation 6, FCFF5 denotes the discounted operating cash flow for the fifth (5^{th}) year, while WACC represents the weighted average cost of capital, and G denotes the growth rate. Based on the formula, the computation for the terminal value is presented as follows;

TV=42577*(1+4)/ (7.2-4) = US$ 66526.5625. The terminal value therefore is US$ 66526.5625.

The WACC of 7.2 used in computing the terminal value is shown in equation 9.

Computation of enterprise value

The enterprise value of a firm denotes what a firm is worth from the dimension of the market plus the book value of net debt. Mathematically, this is represented as follows:

Enterprise Value (EV)= Market capitalization + book value of net debt. **(Eq.7)**

In equation 7, market capital is the product of outstanding common shares and the price per share. As of 31 January, 2022, the outstanding shares of Tesla's common stockholders was 1, 033, 507, 611 (see page 1 of Tesla inc.'s annual report for 2021), while the price per its share as at that date was US$ 312.24. The net debt of the firm as at 31 December 2021 was 5245 (see balance sheet on page 49 of Tesla inc.'s 2021 annual report). The enterprise value is given as follows;

EV= (1,033,507,611*312.24) + 5245= US$ 322,702,421,704

Computation of implied share price

In computing the implied share price, the outstanding shares and the net earnings available to shareholders is considered. Mathematically, this is given as follows;

Implied share price= Net income to common stockholders/ outstanding common shares. From the forgone formula, the implied share price of Tesla using outstanding common shares as at 31 January 2022 is calculated as follows;

Implied share price= 5519/1, 033, 507, 611= US$ 5.34006710861. From the foregone computation, the implied share price of Tesla using the outstanding common shares of 1, 033, 507, 611 as at 31 January 2022 and the net income of 5519000000 attributable to common shareholders (see consolidated statement of operations, page 50 of Tesla Inc.'s annual report for 2021).

Conclusion

The computations and revelations above show that before any proper investment decision can be done by a firm, it is imperative that long term planning be done. This is achieved through proper forecasting which can be achieved through cashflow projections. Additionally, per the measures adopted by Tesla in dealing with issues of agency cost, the indication is that firms will have to adopt mechanisms that suites its operations and can minimize agency problems and costs. Overall, the computations show that before a firm does any form of investment it has to do a number of analyses of its financial and non-financial results including its market indicators, and these indicators are also important for individual and institutional investors for purposes of investment decision making.

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