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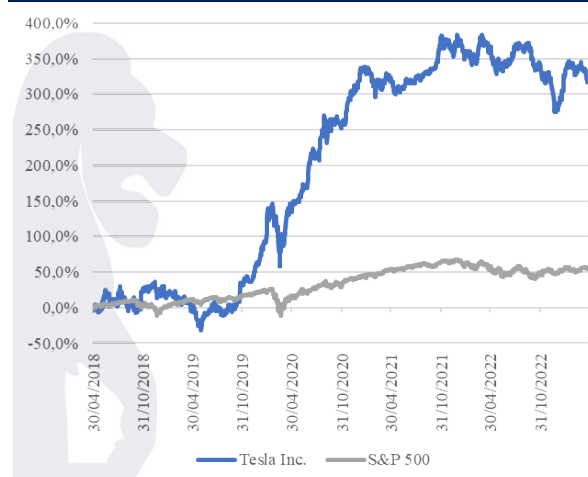
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Basic Information

Last Closing Price	\$ 164.31
Target Price	\$ 57.20
+/- Potential	-65.19%
Bloomberg Ticker	TSLA:US
GICS Sector	Consumer Discretionary
GICS Sub-Industry	Automobiles & Components

5Y Cumulative Returns



Market Cap	570,977
Basic Shares O/S	3,130
52-Wk High	314.67
52-Wk Low	101.81
Fiscal Year End	31 Dec. 2022

(\$million)	FY19A	FY20A	F21A	F22A
Gross profit	4,069	6,630	13,606	20,853
EBITDA	2,234	4,316	9,407	17,579
EBIT	80	1,994	6,496	13,832
Net Income	-775	862	5,644	12,587

Key Executives

Elon Musk	Chief Executive Officer
Zach Kirkhorn	Chief Financial Officer

Company Description

Tesla Inc., based in Austin, Texas, designs, develops, manufactures, sells and leases high-performance fully electric vehicles and energy generation and storage systems, also offering ancillary services. The company generally sells its products directly to customers and continues to grow its customer-facing infrastructure through a global network of vehicle service centers, Mobile Service, body shops, Supercharger stations and Destination Chargers to accelerate the widespread adoption of its products. It emphasizes performance, attractive styling and safety in the design and manufacture of its products, and its continuing to develop full self-driving technology for improved safety.

Tesla's mission is to accelerate the world's transition to sustainable energy, believing that this mission, along with its engineering expertise, vertically integrated business model and focus on user experience differentiate it from other companies.

Summary

Tesla Inc. designs, develops, manufactures and markets high performance, technologically advanced electric cars and solar energy generation and energy storage products. It is a fastly growing company (55.92% Revenue CAGR over the last 5 years). The US customers generate about half of Tesla's sales. Tesla sells more than five fully electric models and has a growing global network of Tesla Superchargers. Moreover, it offers certain advanced driver assist systems under its Autopilot and Full Self-Driving options. From a valuation standpoint, we performed both absolute and relative valuation. For the absolute one, we used FCFF through 2032 plus TV, discounted at a WACC of 9.90%. The final price per share of the company resulting from the analysis is \$60.04. A more pessimistic result is obtained through the relative analysis: using the EV/Sales multiple, we obtained a final price per share of \$48.67. Therefore, our recommendation is a SELL with a final target price of \$57.20.

Company Overview

Tesla is an American multinational automotive and clean energy company, founded in 2003 and controlled since 2004 by Elon Musk. As of 2022, it is the most valuable automaker in the world and retains the largest market share in sales of Battery Electric Vehicles. Through its energy division, although relatively small compared to its auto segment, Tesla installs photovoltaic systems and is one of the largest suppliers of battery storage systems in the United States.

Revenues

Tesla generates revenues from three main sources:

- **Automotive:** making up the largest share of revenues for the company, automotive revenues include proceeds from sales of Tesla's five car models: Model S, Model X, Semi (a work-in progress semi-truck), Model 3, and Model Y.
- **Services:** these revenues are related to after-sales vehicle services and parts, Supercharging revenues (Tesla's charging stations network), sales of used vehicles, merchandise, and vehicle insurance revenue.
- **Energy Generation and Storage:** Tesla's revenues from the clean energy sector come from sales and leasing of solar panels and energy storage products, and services related to such products. These include solar panels, the Tesla Solar Roof, the Tesla Solar Inverter (solar energy systems), the Powerpack, the Powerwall, and the Megapack (energy storage systems).

Tesla's main market is represented by the United States, making up approximately half of Tesla's revenues; the Chinese market follows, representing ca. 23% of sales; the rest of the revenues come from the rest of the world. In Europe, Tesla's market share is not as prominent as the one it retains in its home market, but as it stands, it is the fastest-growing automaker in the region.

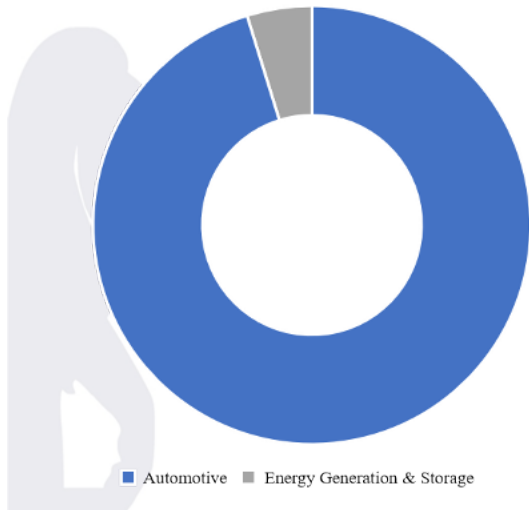
Expenses

Costs are divided into:

- **Cost of automotive sales revenue** includes direct and indirect materials, labor costs, manufacturing overhead, including depreciation costs of tooling and machinery, shipping and logistic costs, vehicle connectivity costs, allocations of electricity and infrastructure costs related to free Supercharging programs and reserves for estimated warranty expenses.
- **Cost of automotive leasing revenue** includes the depreciation of operating lease vehicles, cost of goods sold associated with direct sales-type leases and warranty expense related to leased vehicles.
- **Cost of services and other revenue includes costs** associated with providing non-warranty after-sales services and parts, costs of paid Supercharging, cost of used vehicles including refurbishment costs, costs for retail merchandise, and costs to provide vehicle insurance.

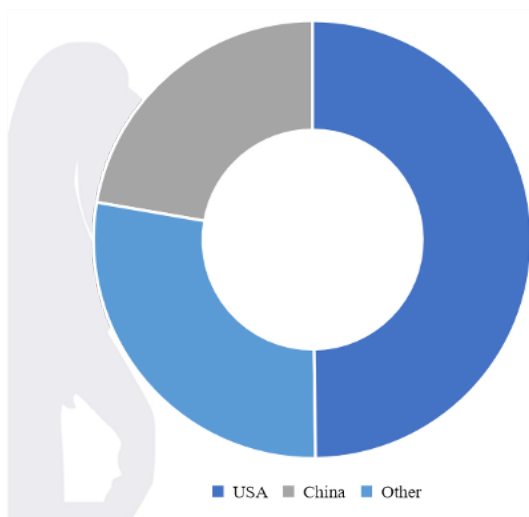
Tesla's Cost of Goods Sold primarily comes from the automotive sector. Tesla's gross margin has slightly increased from 2021 to 2022, not budging in front of a sizable increase in revenues.

Figure 1. Revenue Breakdown by Product



Source: Minerva Investment Society

Figure 2. Revenue Breakdown by Geographic reach



Source: Minerva Investment Society

Specifically, while the margins in the automotive and services segment have slightly decreased, expenses in the energy segment have not increased as much as revenues did (40% vs 24%), allowing Tesla to keep its gross margins far above the industry average.

Industry Outlook

The aim of this industry analysis is to understand the dynamics faced by the companies operating within the field of automotive.

Automotive Industry

The EV market's history is a recent and fascinating one. Analysts expect to see the number of global EV sales doubling by 2030. Such a young industry fits well the description of high growth but high risk, encompassing several opportunities and probably even more challenges. A brief overview of its recent history will help clarify these dynamics. When odds were in favor of electric solutions, the pandemic and the subsequent crisis caused growth to slow down, not to mention the devastating effects supply chain disruption had for these companies. Competition brings advantages for customers who now face relatively cheaper prices and enjoy a wider range of choice, while governments keep incentivizing both companies and private to switch to these sustainable solutions. Environmental awareness has been a key driver in promoting the industry, with countries from the Asia-Pacific taking the lead in sales (50.7%), followed by Europe (approximately 25%) and the US (close to 10%). The percentage of EV over total vehicles sold keeps rising every year in every geographic area, with significant acceleration estimates mainly involving the major European and American areas. New entrants struggled to keep up with investments and established firms in the automotive industry were forced to rapidly act to catch up with this worldwide movement. Catalysts worthy of mentioning are mainly related to the developments in the current macroeconomic situation and upcoming regulations from governments aimed at speeding up the transition. Other big steps taken towards the transition include technological advancements such as fast/smart chargers and improvements in connectivity. Political and regulatory actions include the loosening of caps on units sold eligible for government incentives and new consumer-side encouragements which justify the recent increase in demand.

Porter's 5 Forces

Buyer Power: moderate. Tesla's customers are mainly wealthy individuals who value innovation, technology, luxury, and environmental responsibility. They have high expectations and standards for Tesla's products and services. However, they can easily switch to other brands if they are not satisfied with Tesla's offerings. Brand image, quality, and innovation are crucial to enhance customer loyalty, but Tesla is very well positioned from this perspective. Furthermore, bargaining power is related to geographical drivers such as availability of other luxury electric vehicles brands and government incentives.

Supplier Power: moderate. The company relies on various suppliers for its raw materials, components, and parts. Tesla's suppliers include battery manufacturers, metal producers, software developers, and solar panel makers. These suppliers have moderate bargaining power because of the importance of cost-leadership in the industry. Nonetheless, Tesla has

diversified its supplier base, developing long-term relationships with strategic partners. Another possible strategy could be integrating vertically with some suppliers (exactly what Panasonic did for batteries). Another driver to highlight is learning curves: while in the short run this force is strongly adverse, due to agreement with suppliers, reduced waste in materials and automatization processes, the company can overcome these initial difficulties.

Substitutes: low. Although it is true that Tesla's products can be substituted by conventional vehicles (gasoline or diesel), hybrid vehicles (gasoline-electric) and public transportation, it is also true that EV's are the real substitutes in these markets and not vice-versa. Environmental sustainability makes their product not only different but also more attractive. It is reasonable to assume that their choice of this specific market mainly depends on the weakness of this force, which is actually turned to an advantage: regulations and environmental efforts are slowly devastating all substitutes, allowing a first mover like Tesla to leverage on these changes to grow their market share. Timing is also crucial, as exactly when competitors must fight substitutes such as electric vehicles by implementing new technology and converting their products to more eco-friendly solutions, Tesla already has a foot in this market and can cut expenses to gain competitive advantage.

Threat of New Entrants: low. Barriers to entry include high capital requirements, economies of scale, technological complexity, brand reputation, customer loyalty, and regulatory compliance. These barriers make it difficult for new entrants to enter and compete with Tesla in these markets. The main threat comes from big players in the automotive industry, who have the means and the resources to expand in these emerging markets, but the latter can't be deemed as new players as they represent existing competitors. Therefore, new entrants mainly include smaller eastern companies (especially Chinese) that have aggressively targeted these markets in the past years. The main difference lies in the markets themselves, as the two rarely operate in the same areas and, due to obvious factors, they aren't therefore comparable. As a matter of fact, the number of eastern companies that have already begun to sell their products in the US or in Europe is extremely low and often associated with disappointing results caused by brand weakness.

Rivalry among Existing Competitors: high. Tesla competes with many established traditional automakers as well as other EV producers in the global market, such as NIO, Toyota, Li Auto, Volkswagen, Ford, GM, BMW, and Nissan. These competitors have more resources, experience, brand recognition, and customer loyalty. They also offer a wider range of products and services, including hybrid and conventional vehicles. Tesla's competitive advantage lies in its innovation, quality, design and environmental sustainability. Key drivers to outperform the market are cost-leadership and differentiation. Nonetheless, we should consider that Tesla operates in a peculiar market: it does not target traditional automotive customers, neither those looking for luxury cars or the simple EV customer but rather a combination of the above: its price and design make it part of the elite segment, especially if adding autonomous drive as a niche feature. On top of that, it is among the only western companies only dealing with fully electric vehicles, making its product unique.

SWOT Analysis

Strengths:

- Tesla is a leader in the electric vehicle (EV) market, with a strong brand image, loyal customer base, and innovative products that offer high performance, safety, and design.
- Tesla's portfolio and products are very diverse.
- Tesla has a strong research and development (R&D) capability that enables it to constantly innovate and improve its products and technologies, such as bringing battery production in-house, introducing new models (Cybertruck, Semi), and developing autonomous driving features.

Weaknesses

- Some challenges are faced in production and delivery processes, such as mechanical complications, supply chain disruptions, and high costs that affect its profitability.
- Tesla has a reputation for being involved in legal disputes, regulatory issues, and ethical controversies that damage its public image and trustworthiness. For example, Tesla faces lawsuits over sexual misconduct, employee safety concerns, product liability claims, and product defects.
- Tesla relies heavily on the charismatic leadership of Elon Musk, who is also the CEO of SpaceX and Neuralink. This poses a risk of losing focus, direction, and vision for Tesla if Musk is targeted by the media (think of the recent acquisition of Twitter).

Opportunities

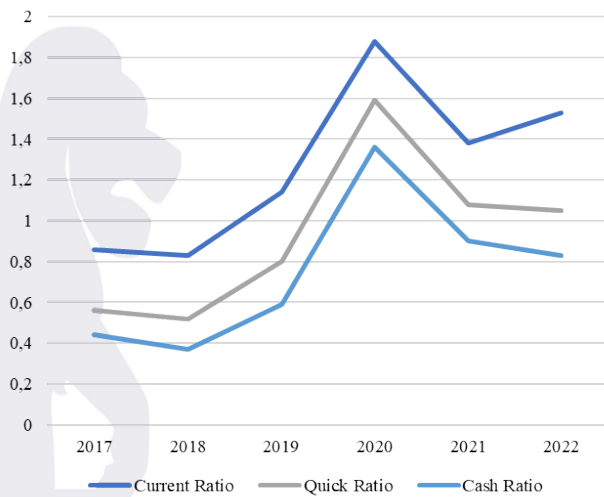
- Tesla has an opportunity to expand its sales and presence in untapped or emerging markets, such as China, India, Europe, and Africa.
- Tesla can leverage its market confidence and customer loyalty to increase its revenue streams and profitability by offering more value-added services, such as subscription plans, software updates, insurance products, and maintenance packages.
- Tesla can collaborate with other players in the EV charging stations industry to create a more standardized and interoperable network that can benefit all EV users and providers.

Threats

- Tesla faces intense competition from other established automakers that are entering or expanding in the EV market.
- Tesla also faces competition from other emerging players in the EV charging stations industry that offer alternative or cheaper solutions to Superchargers: ChargePoint is Tesla's main rival in the US.
- Changes in consumer preferences or behaviors can reduce the demand for EVs or Tesla products. These could also be caused by changes in government policies or regulations that affect the EV market or Tesla operations.
- Changes in economic conditions or exchange rates affect the cost of production or sales of EVs or Tesla products.
- Changes in technological innovations or disruptions can render Tesla products obsolete or inferior.

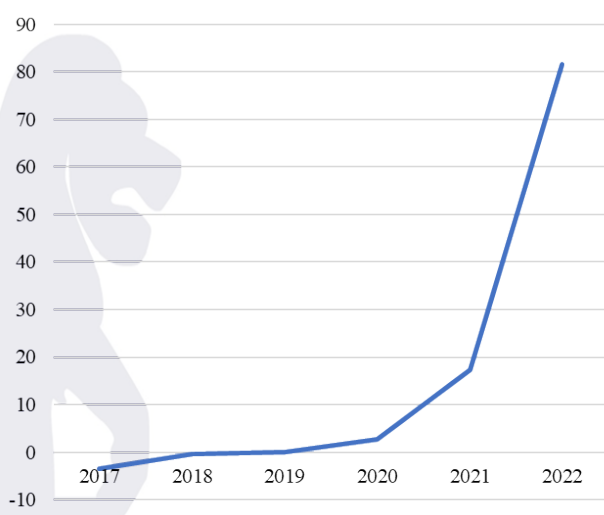


Figure 3. Liquidity Ratios



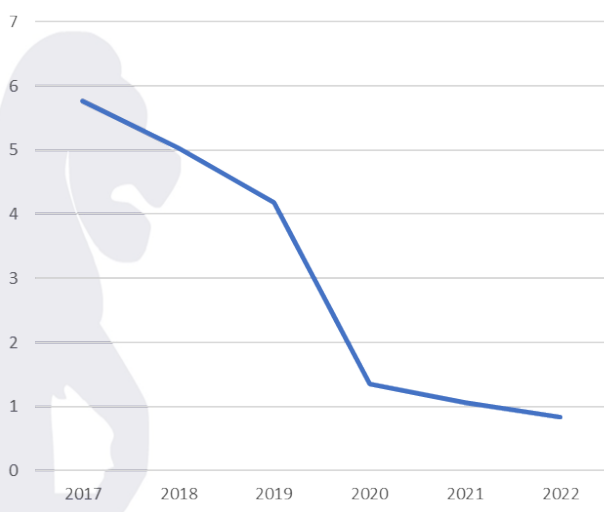
Source: Minerva Investment Society

Figure 4. Interest Coverage Ratio



Source: Minerva Investment Society

Figure 5. D/E Ratio



Source: Minerva Investment Society

Financial Analysis

Liquidity

In order to analyze Tesla's liquidity, we used three ratios: current, quick, and cash ratio. There has been a peak in 2020, and afterwards, the liquidity metrics of the company started to decrease. Although its cash flow from operating activities has been consistently positive and increasing over the 5-year period, the cash balance of the company has been decreasing since 2020 due to CAPEX (that almost tripled since 2020 up to 2022), and an important stock buyback in 2022 (while in 2020 a massive issue of stocks occurred).

Solvency

In order to assess Tesla's ability to sustain its activity in the long term, we decided to look at its Interest Coverage Ratio and D/E ratio. We notice the company has decreased its financial leverage over time, especially from 2020 on, passing from 5.76x in 2017 to 0.84x in 2022 (Debt/Book Equity). At the same time, the Interest Coverage Ratio, which has been negative for many years, meaning that the debt position of Tesla would not have been sustainable, reached a peak of 81.61 in 2022, a huge result that allows to say that the current financial position of Tesla is by far under control.

Profitability

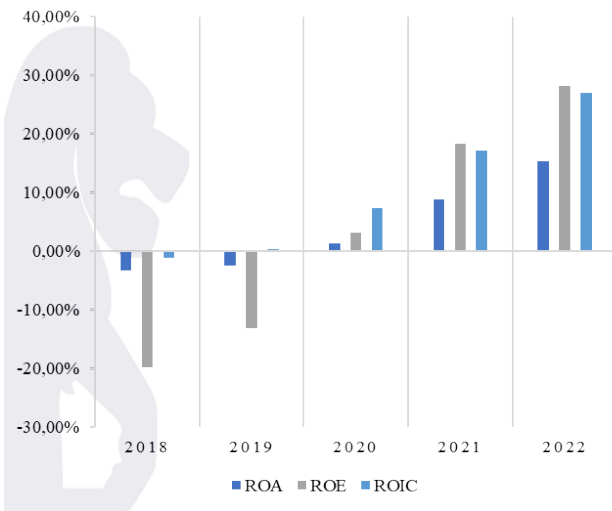
Regarding the analysis of the profitability margins, revenue growth rate has always been positive, reaching the peak in 2021; in particular, CAGR has declined in the last 5 years but overall it is still impressive, with a figure of 55.92%.

Gross margin stands at constant values of around 30%, with a slightly increasing trend, while EBITDA margin has a strong uptrend, ranging from 7.68% in 2018 to 21.51% in 2022, with a 5-year annual increase on average of 36%. This is not surprising given that Tesla is a growth car manufacturing company, and a huge growth in revenues, in comparison to a less than proportional growth of COGS, led to this increasing margins.

Moreover, there has been a substantial increase in the quality of ROE, ROIC and ROA in the last 5 years, passing from a negative situation to positive margins; a quick comparison between Tesla and its main competitors shows the quality of the profitability ratios of the company; only Ferrari come closer to this achievement, respectively with 15.73% of ROA, 35.84% of ROE and 24.34% of ROIC.

It may be useful to investigate which are the main variables that impact on shareholder profitability through the 5-step Dupont model. Asset turnover settled in the period 2018-2022 at values that were mostly constant until 2020 but with an increase up to 0.99x in 2022. The Operating Profit Margin has increased in all historical years considered, in particular from 2020 to 2022, and this justifies the positivity of the Return on Equity. Moreover, the positivity of this indicator was amplified above all in the 5-year period 2018-2022 by the financial leverage, but with a declining trend, passing from 4.71x in 2018 to 1.79x in 2022.

Figure 6. Profitability Ratios



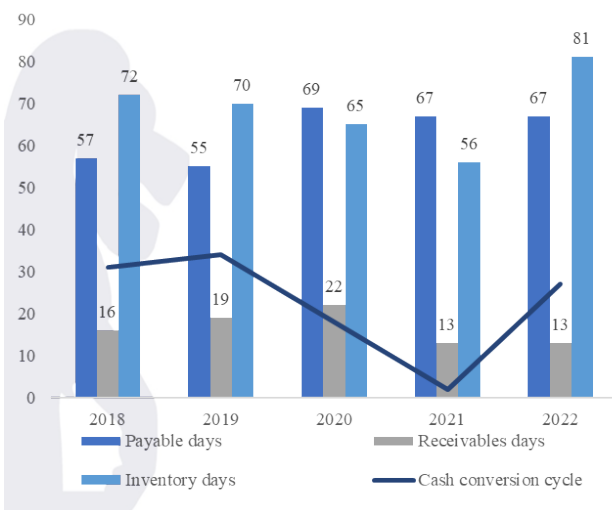
Source: Minerva Investment Society

Figure 7. 5-Step Dupont

	2018	2019	2020	2021	2022
Tax Burden	0,97	1,30	0,62	0,87	0,92
Interest Burden	3,99	2,94	0,55	0,98	1,00
Operating Profit Margin	-0,01	0,01	0,07	0,12	0,17
Asset turnover	0,72	0,72	0,60	0,87	0,99
Leverage ratio	4,71	4,23	2,20	1,97	1,79

Source: Minerva Investment Society

Figure 8. Cash Conversion Cycle



Source: Minerva Investment Society

Cash Conversion Cycle

The Cash Conversion Cycle (CCC) for Tesla is determined by Day Sales Outstanding (DSO), Days of Inventory Outstanding (DIO), and Day Payables Outstanding (DPO). The CCC formula is used to understand how efficiently a company is managing its working capital: the shorter the cash conversion cycle is, the better the company is at selling inventories and recovering cash from these sales while paying suppliers. Furthermore, a short CCC has a positive impact on the investment flows of the company thanks to the faster and greater availability of cash. Tesla had a stable DPO and DSO, respectively around 67 and 13 in 2022. The DIO, instead, had a decreasing trend until 2021, underlining the ability to sell its inventory, but in 2022 DIO increased +44.6% YoY. Consequently, the CCC after a strong decreasing trend faced a dramatic increase in 2022, passing from 2 to 27. This fact weakened the liquidity availability of the company for FY2022. The rising inflation, the intense competition and the problems in supply chain were the main sources of this slow down, and neither the tactic move of cutting down the retail price of the best-selling vehicles like Tesla Model 3 in the fourth quarter helped to increase the turnover of inventory. Moreover, the company showed a rise in working capital over the past 5 years. This is mainly due to the increase in inventories and accounts receivable that were more than proportional with respect to the increase in accounts payable (in particular 2022 inventory).

Valuation

Our analysis followed two main approaches:

- Intrinsic valuation regarding the DCF model (FCFF).
- Relative valuation using comparable company analysis

Cost of Capital

Throughout the whole analysis, we used a constant cost of capital. We can therefore start looking at how we computed it through its different components.

Risk-free rate

The risk-free rate has been assumed to be equal to the 10-year Treasury bond yield (3.40%).

ERP

To compute the ERP, we followed a bottom-up approach. Differently from the computations carried out to get the measurement of beta, we used, instead of a business-segment division, a geographic division of revenues, as we concluded that this would be a better proxy of risk premium. We divided Tesla's revenues in three main geographic sources: the United States, China, and the rest of the world. By computing the weighted average of the single ERPs (Damodaran) with the proportional share of revenues, the ERP resulted to be equal to 6.70%.

$$ERP = \sum_{i=1}^n \frac{Rev_i}{Total Rev} \cdot ERP_i$$

Figure 9. DCF Analysis

Assumptions	
Final period in forecast horizon	FY2033
Terminal growth rate	3.4%
Tax rate	23.01%
WACC	9.90%
Calculations	
Final forecast FCFF	31,412.70
Terminal value	483,031.33
Present value of forecast cash flows	22,198.75
Present value of terminal value	187,875.52
Enterprise value	210,074.27
Less: debt & other capital claims	5,624.75
Add: cash & cash equivalents	16,253.00
Less: Pension provisions	-
Less: other debt-like items	-
Add: Non-operating assets	-
Less: Minority Interests	-
Less: Value of options (Damodaran approach)	32,790.00
Equity value	187,912.52
Weighted average basic shares outstanding	3130
Value per share	
Current value per share	149.02
Premium (discount to last close)	-59.71%

Source: Minerva Investment Society

Beta

To compute the beta of Tesla, we used the bottom-up approach as well. In particular, we first divided Tesla's business into two main segments: Auto (95% of revenues) and Green and Renewable Energy (5% of revenues). Then, we took the unlevered beta for each segment (Damodaran), applied the Bloom adjustment, and computed a weighted average by the estimated value of business. The estimated value of business was in turn computed by multiplying sales per segment by the EV/sales factor for each segment (Damodaran). The unlevered beta, as a result, is equal to 0.9716.

$$\text{Estimated value of business} = EVB = \text{Revenues} \cdot \frac{EV}{\text{Sales}}$$

$$\beta_{U(Company)} = \left(\beta_{U(Auto)} \cdot \frac{2}{3} + \frac{1}{3} \right) \cdot \frac{EVB_{Auto}}{EVB_{Company}} + \left(\beta_{U(G\&R)} \cdot \frac{2}{3} + \frac{1}{3} \right) \cdot \frac{EVB_{G\&R}}{EVB_{Company}}$$

To compute the levered beta, we used the Hamada formula and a marginal tax rate of 23.01%, and the levered beta is therefore equal to 0.9804.

Cost of Equity

The cost of equity, therefore, is equal to:

$$\text{Cost of equity} = k_e = r_f + \beta_L \cdot ERP = 9.97\%$$

Cost of Debt

To compute the cost of debt, we added the risk-free rate to the spread of Tesla's debt:

$$\text{Pre-tax cost of debt} = rf \text{ rate} + \text{debt spread}$$

To compute Tesla's debt spread, we assumed that due to a very high level of interest coverage (which would put its synthetic rating at AAA/Aaa), the spread should be lower than the one commanded by its current debt rating (BBB-/Baa3); therefore, we assumed the correct spread was 1.42%, which corresponds to a debt rating of A/A2. Therefore, with the pre-tax cost of debt equaling 4.82%, using a marginal tax rate of 23.01%, we estimated that the cost of debt would be equal to 4.10%.

$$\text{Cost of debt} = k_d = \text{Pre-tax cost of debt} \cdot (1 - t)$$

Market Value of Debt

To estimate the market value of debt, we first added up all of the interest-bearing debt Tesla was holding, which is approximately equal to \$5,748 million. Then, we took last year's interest expense, \$191 million, and computed the present value of the interest expense and of Tesla's current debt, using an average maturity of 3 years. As a result, the market value of debt is equal to \$5,624.75 million.

WACC

We estimated the WACC using the following formula:

$$WACC = \frac{E}{D + E} * \text{Cost of Equity} + \frac{D}{D + E} * \text{Cost of Debt}$$

Figure 10. Sensitivity Analysis

WACC	Sensitivity analysis					
	TGR					
	2,00%	2,50%	3,00%	3,40%	4,00%	4,50%
9%	\$ 55,78	\$ 60,07	\$ 65,07	\$ 69,72	\$ 78,08	\$ 86,76
9,50%	\$ 52,06	\$ 55,78	\$ 60,07	\$ 64,00	\$ 70,98	\$ 78,08
9,90%	\$ 49,40	\$ 52,74	\$ 56,56	\$ 60,04	\$ 66,14	\$ 72,26
10,50%	\$ 45,94	\$ 48,81	\$ 52,06	\$ 54,99	\$ 60,07	\$ 65,07
11%	\$ 43,38	\$ 45,94	\$ 48,81	\$ 51,37	\$ 55,78	\$ 60,07
11,50%	\$ 41,10	\$ 43,38	\$ 45,94	\$ 48,20	\$ 52,06	\$ 55,78

Source: Minerva Investment Society

Figure 11. Multiple Analysis

Company	Region	Industry	EV/Sales	EV/EBITDA	EV/EBIT	P/E
Li Auto	China	Electric Vehicles	2.54	-47.08	-31.45	-73.23
NIO	China	Electric Vehicles	1.53	-33.62	-16.03	-5.88
Toyota Motor	Japan	Automotive	1.41	10.99	19.93	10.01
Nissan	Japan	Automotive	0.14	1.31	4.08	14.36
General Motors	US	Automotive	0.27	2.01	4.11	4.94
Ford Motor Co	US	Automotive	2.43	5.38	5.38	-23.04
BMW AG	Europe	Automotive	0.85	5.37	8.67	3.88
Average			1.23	-6.14	0.76	7.59
Median			1.13	3.69	4.75	4.41

Source: Minerva Investment Society

Figure 12. Final Valuation

DCF	\$	60,04	0,75
Multiples	\$	48,67	0,25
	\$	57,20	

Source: Minerva Investment Society

Terminal Value

The Terminal Value was computed by applying Gordon's growth model, assuming a long-term growth rate equal to the risk-free rate (3.40%):

$$Terminal\ value = \frac{Terminal\ CF}{WACC - r_f}$$

DCF Valuation and Sensitivity Analysis

We calculated the estimated value per share by summing the present value of FCFF over the 10 years and the present value of the terminal value:

$$Enterprise\ value = PV(Terminal\ value) + PV(FCFF)$$

We then added cash, subtracted the market value of debt and the value of options, and divided the resulting Equity Value by the number of shares outstanding.

The target price we derived is therefore equal to \$60.04, with a downside of ca. 60% compared to the last closing price of \$164.31 (28/04). This target price was derived forecasting revenues of 386 billion dollars in the terminal year (we should note that this implies that Tesla will generate almost 50% more revenues than what Toyota, the biggest carmaker in the world, did in 2022). At the same time, we expect margins to reach more than 13% in the terminal year, much higher than the automotive industry average (6%) and more similar to the software industry one, taking into account the possible expansion of the revenues deriving from the full self-driving technology.

According to our sensitivity analysis, which we carried out by estimating the value per share by varying the terminal growth rate (range 2-4.5%) and the WACC (range 9-11.5%), the target price is almost symmetrically influenced by variations in TGR and WACC, with 50 bps variations in both variables approximately resulting in a 5-7% variation in share price.

Multiples Analysis

Tesla operates both in the electric vehicles and automotive industries. For the electric vehicles industry, the comparable companies selected are mainly located in China. However, after evaluating the multiples, we observed the incompatibility of most of them, given their negative values, and thus far from the Tesla target. Finally, we decided to consider 5 core comps operating in the automotive industry and mainly located in US and Japan, including BMW in Europe, and 2 comps operating in the electric vehicles industry. In order to check the results obtained through the DCF model, we have performed a market multiple analysis. The average EV/EBITDA and P/E multiples of the 7 companies were -6,14x and 7,59x respectively. However, these values could be compromised by the fact that some comps have negative EPS and EBITDA. Given the multiples, for the valuation of the final price we used average EV/Sales of the industry multiplied by the estimated sales of Tesla in the fifth year of our forecast.

Final Valuation Methodology

For deriving the price target, we computed a weighted average of the values obtained from the two analyses, attributing a higher

weight to the DCF result because it captures both top-line revenue growth and profitability. This leads to a target price of \$57.20/share, implying a 65.19% decrease from the last close price (28/04/2023).

Investment Risks

Competition and Margins Compression

The latest news from Tesla's price list show continuous cutting prices, in order to increase the turnover of the inventory and to compete with a stronger competition environment. From January to April 2023 there have been a total of 6 cuts, with a decline in prices of Tesla Model 3 by a cumulative 11% and Model Y by a cumulative 20% since the start of the year. But this hasn't led to the hoped growth on sales: This week Tesla reported Q1 deliveries of almost 423,000 vehicles, up just 4% from the Q4 2022 after price cuts in the United States, China and other markets aiming to spur demand. Moreover, to reach out the target of 2 Million deliveries for 2023, a further reduction in prices appears inevitable, leading to an important compression in profit margins for the next quarters and compromising future stock prices performance.

Restricted Model Range

The range of Tesla models, at the moment, is limited to 4: Model S, Model X, Model 3 and Model Y. The Model Y was the latest model of Tesla since 2020, and from then no models came out. There was huge "hype" back in 2020 for the "Cybertruck", a pick-up vehicle, but its availability has continuously pushed back and might start in 2023. Analysts expect a start of full-scale production only in 2024, also considering that it would be mostly a vehicle for North America. Tesla also announced future release of the Semi, but the production year is still unclear. In comparison, Tesla's competitors continuously announce new models with a higher frequency, so the risk is that Tesla's model range will soon become obsolete.

Political and Governance Risk Factors

Tesla is affected by worldwide political factors, that differs from country to country, that can either boost or prevent its sales. For example, latest changes in Inflation Reduction Act (IRA), that provided a tax credit of 7.500\$ under certain conditions, made Tesla Model 3 base model not eligible because the battery pack is produced and assembled in China (and not in USA as the IRA requires), while the previous drafts of the IRA boosted the sales of all Tesla models 3 versions, including the base version, in 2022. Other problems may come from the trade tensions between USA and China, as recently the Chinese Government banned the use of Teslas in certain parts of the country, and Chinese officials are concerned about the data gathering from Tesla's software. Regarding governance, a 2020 quarterly filing included a note about Tesla's reliance on Elon Musk. Tesla is "highly dependent on the services of Elon Musk, Technoking of Tesla and our Chief Executive Officer," the company said. 2 years later, after the acquisition of Twitter, the correlation between Tesla's stock price performance and its CEO actions has been proven, and recently a shareholder of Tesla has submitted a resolution for Tesla investors to vote in May on whether the board should prepare and maintain a key-person risk report. Tesla lack a clear public succession plan or strategy to ameliorate the impacts of a charismatic leader's possible loss, without anyone challenging them.

Appendix

Income statement						
Figures in \$ (millions)	2022	2021	2020	2019	2018	2017
Sales						
Automotive	71.462	47.232	27.236	20.821	18.515	9.642
<i>YoY growth</i>	51,30%	73,42%	30,81%	12,45%	92,02%	
Energy generation	3.909	2.789	1.994	1.531	1.555	1.116
<i>YoY growth</i>	40,16%	39,87%	30,24%	-1,54%	39,34%	
Services and other	6.091	3.802	2.306	2.226	1.391	1.001
<i>YoY growth</i>	60,21%	64,87%	3,59%	60,03%	38,96%	
Total net sales	81.462	53.823	31.536	24.578	21.461	11.759
<i>YoY growth</i>	51,35%	70,67%	28,31%	14,52%	82,51%	
Cost of Goods Sold						
Automotive	51.108	33.393	20.259	16.398	14.174	7.433
<i>Automotive as a % of net sales</i>	62,74%	62,04%	64,24%	66,72%	66,05%	
Energy generation and storage	3.621	2.918	1.976	1.341	1.365	874
<i>Energy generation and storage as a % of sales</i>	4,45%	5,42%	6,27%	5,46%	6,36%	
Services excluding energy generation and storage	5.880	3.906	2.671	2.770	1.880	1.229
<i>Services excluding energy generation and storage as a % of sale</i>	7,22%	7,26%	8,47%	11,27%	8,76%	
Total cost of goods sold	60.609	40.217	24.906	20.509	17.419	9.536
<i>COGS as a % of net sales</i>	74,40%	74,72%	78,98%	83,44%	81,17%	
Gross profit	20.853	13.606	6.630	4.069	4.042	
Gross profit margin	25,60%	25,28%	21,02%	16,56%	18,83%	
Operating expenses						
Research and development	3.075	2.593	1.491	1.343	1.460	1.378
<i>As a % of net sales</i>	3,77%	4,82%	4,73%	5,46%	6,80%	
SG&A	3.946	4.517	3.145	2.646	2.835	2.477
<i>As a % of net sales</i>	4,84%	8,39%	9,97%	10,77%	13,21%	
Total operating expenses	7.021	7.110	4.636	3.989	4.295	
Plus: Depreciation and Amortization	3.747	2.911	2.322	2.154	1.901	1.636
EBITDA	17.579	9.407	4.316	2.234	1.648	
<i>EBITDA margin</i>	21,58%	17,48%	13,69%	9,09%	7,68%	
Minus: Depreciation and Amortization	3.747	2.911	2.322	2.154	1.901	
EBIT	13.832	6.496	1.994	80	253	
<i>EBIT margin</i>	16,98%	12,07%	6,32%	0,33%	-1,18%	
Net interest expense	-106	315	718	641	639	
Other income expense, net	43	-135	122	-45	-22	125
Restructuring and other	176	27	-	149	135	-
Income before taxes	13.719	6.343	1.154	665	1.005	
Tax expense	1.132	699	292	110	58	32
Net loss attributable to non-controlling interests	31	125	141	87	-87	-279
Net income	12.587	5.644	862	775	1.063	

Balance sheet

Figures in \$ (millions)	2022	2021	2020	2019	2018	2017
Assets						
Current assets						
Cash and cash equivalents	16.253	17.576	19.384	6.268	3.686	3.368
Short-term marketable securities	5.932	131	-	-	-	-
Accounts receivable	2.952	1.913	1.886	1.324	949	515
Inventory	12.839	5.757	4.101	3.552	3.113	2.264
Prepaid expenses and other current assets	2.941	1.723	1.346	959	559	424
Total current assets	40.917	27.100	26.717	12.103	8.307	
Noncurrent assets						
Operating lease vehicles, net	5.035	4.511	3.091	2.447	2.090	4.117
Solar energy systems, leased and to be leased, net	5.489	5.765	5.979	6.138	6.271	6.347
Property, plant and equipment, net	23.548	18.884	12.747	10.396	11.330	10.028
Operating lease right-of-use assets	2.563	2.016	1.558	1.218	-	-
Digital assets, net	184	1.260	-	-	-	-
Intangibles and goodwill	409	457	520	537	350	422
Other noncurrent assets	4.193	2138	1536	1470	1392	1171,50
Total noncurrent assets	41.421	35.031	25.431	22.206	21.433	
Total assets	82.338	62.131	52.148	34.309	29.740	
Liabilities						
Current liabilities						
Accounts payable	15.255	10.025	6.051	3.771	3.405	2.390
Accrued liabilities	7.142	5.719	3.855	3.222	2.094	1.731
Deferred revenue	1.747	1.447	1.458	1.163	630	1.015
Resale value guarantees	-	-	-	-	503	787
Customer deposits	1.063	925	752	726	793	854
Current portion of long-term debt and capital leases	1.502	1.589	2.132	1.785	2.568	897
Total current liabilities	26.709	19.705	14.248	10.667	9.993	7.675
Long-term liabilities						
Long-term debt and capital leases, net of current portion	1.597	5.245	9.556	11.634	9.404	9.418
Deferred revenue, less current portion	2.804	2.052	1.284	1.207	991	1.178
Other long-term liabilities	5.330	3.546	3.330	2.691	3.039	4.752
Total Long-term liabilities	9.731	10.843	14.170	15.532	13.434	15.348
Total liabilities	36.440	30.548	28.418	26.199	23.427	23.023
Shareholders' equity						
Common stock	3	3	1	1	-	0
Additional paid-in capital	32.177	29.803	27.260	12.736	10.249	9.178
Retained earnings	12.524	383	5.036	6.119	5.326	4.941
Total Shareholders' equity	44.704	30.189	22.225	6.618	4.923	4.237

Figures in \$ (millions)			1	2	3	4	5	6	7	8	9	10	
Years	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	Terminal year	
Revenue	\$ 81.462,00	\$ 100.035,34	\$ 122.843,39	\$ 150.851,69	\$ 185.245,87	\$ 227.481,93	\$ 270.521,51	\$ 311.207,95	\$ 341.108,80	\$ 360.647,52	\$ 372.909,53	\$ 385.588,46	
Revenue growth rate		22,80%	22,80%	22,80%	22,80%	22,80%	18,92%	15,04%	9,61%	5,73%	3,40%	3,40%	
EBIT	\$ 13.832,00	\$ 14.658,31	\$ 15.142,37	\$ 15.085,17	\$ 20.641,68	\$ 27.947,78	\$ 36.327,17	\$ 41.790,78	\$ 45.806,04	\$ 48.429,81	\$ 50.076,42	\$ 51.779,02	
EBIT margin	16,98%	14,65%	12,33%	10%	11,14%	12,29%	13,43%	13,43%	13,43%	13,43%	13,43%	13,43%	
Tax rate	8,00%	11,00%	14,00%	17,01%	20,01%	23,01%	23,01%	23,01%	23,01%	23,01%	23,01%	23,01%	
EBIT(1-t)	\$ 12.725,44	\$ 13.045,64	\$ 13.021,91	\$ 12.519,90	\$ 16.511,90	\$ 21.517,35	\$ 27.968,75	\$ 32.175,25	\$ 35.266,65	\$ 37.286,72	\$ 38.554,47	\$ 39.865,32	
EBIT (1-t) growth rate		2,52%	-0,18%	-3,86%	31,89%	30,31%	29,98%	15,04%	9,61%	5,73%	3,40%	3,40%	
Sales to capital ratio	1,35	1,42	1,49	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	1,50	
Invested capital	\$ 60.153,00	\$ 70.350,37	\$ 82.276,43	\$ 100.567,79	\$ 123.497,25	\$ 151.654,62	\$ 180.347,67	\$ 207.471,96	\$ 227.405,87	\$ 240.431,68	\$ 248.606,35	\$ 257.058,97	
Reinvestment rate		78,17%	91,58%	146,10%	138,87%	130,86%	102,59%	84,30%	56,52%	34,93%	21,20%	21,20%	
(-) Reinvestment		\$ 10.197,37	\$ 11.926,06	\$ 18.291,36	\$ 22.929,46	\$ 28.157,37	\$ 28.693,05	\$ 27.124,29	\$ 19.933,91	\$ 13.025,81	\$ 8.174,68	\$ 8.452,62	
FCFF	-	\$ 2.848,27	\$ 1.095,85	\$ -5.771,46	\$ -6.417,55	\$ -6.640,02	\$ -724,30	\$ 5.050,96	\$ 15.332,74	\$ 24.260,91	\$ 30.379,79	\$ 31.412,70	
Cost of capital	-	9,90%	9,90%	9,90%	9,90%	9,90%	9,90%	9,90%	9,90%	9,90%	9,90%	9,90%	
Cumulated discount factor	-	0,909891	0,827902	0,753301	0,685422	0,623659	0,567462	0,516329	0,469803	0,427470	0,388951	0,353903	
PV	-	\$ 2.591,62	\$ 907,25	\$ -4.347,65	\$ -4.398,73	\$ -4.141,11	\$ -411,02	\$ 2.607,96	\$ 7.203,37	\$ 10.370,81	\$ 11.816,25		

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