Lisbon School of Economics & Management
Universidade de Lisboa

MASTER
ACCOUNTING

MASTER´S FINAL WORK
PROJECT

EQUITY RESEARCH:
COMPAGNIE GÉNÉRALE DES ÉTABLISSEMENTS MICHELIN

GONÇALO FILIPE MARQUES PINHEIRO

JANUARY - 2025

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SUPERVISION:
PROFESSOR BERTA SHINGIRAYI

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ABSTRACT

The primary objective of this equity research project is to estimate the fair value of Compagnie Générale des Établissements Michelin SCA (Michelin) shares as of December 31, 2024, and provide an informed recommendation. The analysis focuses on the global tyre industry, Michelin's market position, and its financial performance, considering the company's response to the growing electric vehicle (EV) market and sustainability trends.

To value Michelin's shares, two methodologies were used: Discounted Cash Flow (DCF) with the Free Cash Flow to Firm (FCFF) approach, and multiples valuation using industry ratios. The FCFF method estimates Michelin's intrinsic value based on its cash generation ability, while the multiples approach (EV/EBITDA and P/E ratios) provides a market comparison view.

The DCF model produced a target price of €38,63, while the multiples valuation suggested a range between €36,56 and €42,43. These values indicate Michelin's stock is slightly undervalued. The valuation was supported by an industry and macroeconomic analysis, considering the company's historical performance, with the DCF model offering a long-term perspective and the multiples approach reflecting market conditions.

A scenario analysis using the variables sales growth and terminal growth rate (TGR) was conducted, showing the stock's value remains stable, with modest upside potential depending on future assumptions.

Additionally, the project underscores strategic considerations for Michelin's management, including adapting to electric vehicle trends through specialized tyre development and advancing sustainability goals by incorporating renewable materials and eco-friendly processes.

Based on the results, the recommendation is to buy Michelin shares, as the current market price is below the estimated fair value, indicating modest upside potential.

Keywords: Equity Research; Valuation; Michelin; Discounted Cash Flow; Free Cash Flow to Firm; Relative Valuation; Multiples.

ACKNOWLEDGMENTS

I would like to express my deepest gratitude to those who supported and guided me throughout this journey.

I would like to thank my parents for their constant support and encouragement throughout this journey.

I am also deeply grateful to my supervisor, Prof. Berta Shingirayi, for her guidance, expertise, and constructive feedback, which have been invaluable in completing this thesis.

GLOSSARY

CAPEX – Capital Expenditures

CAPM – Capital Asset Pricing Model

CDS – Company Default Spread

D&A – Depreciation and Amortization

DOT – Department of Transportation

EBIT – Earnings Before Interest and Taxes

EV – Electric Vehicle

IMF – International Monetary Fund

OE – Original Equipment

R&D – Research and Development

RE – Replacement Equipment

rf – Risk-Free Rate

SITA – Société Internationale de Télécommunications Aéronautiques

SNCF – Société Nationale des Chemins de Fer Français

TGR – Terminal Growth Rate

UNECE - United Nations Economic Commission for Europe

UPTIS - Unique Puncture-proof Tyre System

WACC – Weighted Average Cost of Capital

WCR – Working Capital Requirements

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1. INTRODUCTION

This equity research project aims to estimate the fair value of Compagnie Générale des Établissements Michelin SCA (Michelin) shares as of December 31, 2024, and provide an investment recommendation based on the evaluation of its financial performance, market positioning and growth prospects. Michelin's slight undervaluation is identified with a target price of €38,63, derived using DCF analysis and multiples-based valuation.

The motivation to perform this research is driven by a keen interest in equity research which plays an important role in informing investment decisions. Focus on this specific company aligns with my academic interests and represents a significant step to deepen my understanding of valuation methodologies, industry dynamics, and financial strategies. This study will not only enhance my knowledge and analytical skills but also provide practical insights that will undoubtedly shape my academic and professional journey. Additionally, this study integrates a sustainability dimension by aligning with the United Nations' Sustainable Development Goal 9: Industry, Innovation and Infrastructure. Michelin's ongoing investment in innovative tyre technologies, sustainable materials, and intelligent mobility solutions highlights its strategic alignment with this goal, demonstrating how industrial innovation can contribute to long-term value creation.

This aims to achieve several objectives: firstly, it seeks to analyse the financial statements to assess Michelin's recent performance and the drivers of its growth and profitability; secondly, it endeavours to evaluate the competitive landscape in which the company operates, by determining its strategic positioning and market share; finally, to conduct a comprehensive valuation of Michelin to determine its financial value.

To meet the objectives aforementioned, the research will employ a rigorous methodology that integrates both quantitative and qualitative data. Quantitative analysis will include the examination of financial statements and market metrics, alongside strategic factors impacting the company (qualitative analysis). This combined approach will lead to a robust analysis of Michelin's performance and its market implications.

The importance of this study cannot be overstated. Michelin operates within a competitive landscape marked by rapid technological advances and evolving consumer preferences. Thus, gaining an in-depth understanding of its financial health, competitive position, and growth drivers would be extremely valuable to investors, financial analysts and stakeholders.

This research addresses specific gaps in the existing literature by focusing on tyre industry-specific valuation. While there is substantial literature on general valuation methodologies, few studies offer a detailed examination of how these methods apply to the tyre industry, particularly in the context of evolving market dynamics and technological advancements.

The contributions of this study extend beyond analysis; it aims to offer a sector-specific valuation of Michelin, tailored to the unique characteristics of the tyre and automotive industries. By incorporating industry-relevant factors the research enhances the accuracy and contextual relevance of standard valuation models like DCF and relative valuation. In addition to the technical valuation, the study provides meaningful insights for stakeholders, including investors, analysts, and corporate decision-makers. It identifies key value drivers and strategic considerations, linking financial outcomes with broader market and operational dynamics. The findings and methodologies developed will also serve as valuable resources for future research and scholars, thereby advancing the understanding of financial markets and corporate strategies.

2. COMPANY VALUATION AND ITS IMPORTANCE

Company valuation is a crucial process for determining a business's monetary worth by analysing its assets, liabilities, cash flows, growth prospects, and market conditions. Beyond gathering data, it is crucial to identify and efficiently use pertinent information (Flöstrand, 2006). By prioritizing the understanding and efficient provision of pertinent information, more informed and accurate valuations will be made, thereby enabling better decision-making and maximizing value creation.

Amidst the backdrop of economic growth and globalization, the necessity for business valuation becomes evident. Transactions such as sales,

privatization, mergers, acquisitions, and joint ventures span across diverse countries, underscoring the necessity of understanding the financial worth of a business entity (Miciuła, Kadłubek, and Stepien, 2020). This sentiment is echoed by Damodaran (2012), who emphasizes the crucial role of company valuation in financial decision-making and strategic planning. In this context, company valuation serves as a vital tool for stakeholders involved in these transactions, providing them with a clear understanding of the financial landscape and guiding strategic decisions.[1]

3. LITERATURE REVIEW

3.1. Valuation Methods

In this report, both the Discounted Cash Flow (DCF) method and Relative Valuation will be employed. The DCF method is widely recognized and internationally prevalent due to its practical relevance. However, it is standard practice to not rely solely on this method but to complement it with a multiple-based approach for validation purposes (Weitl, 2016). Ruben van de Sande (2012) supports this by asserting that while the DCF model should be preferred, Relative Valuation should also be utilized due to its simplicity, reflection of market conditions, defensibility, and ease of communication. For the DCF, the Free Cash Flow to Firm (FCFF) model will be selected. The advantage of using the firm valuation approach is that cash flows related to debt do not have to be explicitly considered, as FCFF represents pre-debt cash flow (Damodaran, 2006).

3.1.1. Discounted Cash Flow

The estimation of a company's intrinsic value is a multifaceted process, central to which is the DCF valuation method, which emphasizes the importance of understanding a company's potential to generate cash in the future (Damodaran, 2012). This approach hinges on forecasting the company's future cash flows and discounting them back to present value.[2]

[1] Despite extensive research, specific papers focusing on valuation methodologies tailored to tyre companies were not found.

[2] $\sum_{t=1}^{t=n} \frac{CF_t}{(1+r)^t}$

3.1.2. Free Cash Flow to Firm

FCFF encapsulates the anticipated cash flows available to both shareholders and long-term lenders, who fundamentally shape the company's capital structure (Koseoglu et al, 2020). According to Damodaran (2014), this can be calculated as the firm's cash flows before debt payments but after meeting reinvestment needs.[3] The value of the firm is then obtained by discounting the free cash flow to the firm at the weighted average cost of capital.[4]

3.1.3. Relative Valuation

This method estimates the value of an asset by observing the price of comparable assets relative to a common variable such as earnings, cash flows, book value, or sales. To compare the values of similar firms in the market, standardization of values is necessary. Businesses' values can be standardized relative to earnings generated (Price to Earnings Ratio), book value (Price to Book Value), revenues obtained (Price to Sales Ratio), or sector-specific metrics (Damodaran, 2012).

3.2. Industry Overview

The tyre industry plays a crucial role in global transportation, manufacturing tyres for a wide range of vehicles including cars, trucks, buses, motorcycles, bicycles, aircraft, and more. It is broadly divided into two main categories: OE tyres, supplied to vehicle manufacturers for new vehicles, and RE tyres, which are sold in the aftermarket for vehicles already in use. According to Michelin's Annual Report for 2023, the tyre industry experienced significant growth in 2022, with the global market expanding by 5% year-on-year to reach approximately €180 billion. Looking ahead, tyre demand is expected to continue rising, with mature markets forecasted to expand by 0-2% annually, while new markets are projected to grow by 2-4% per year.

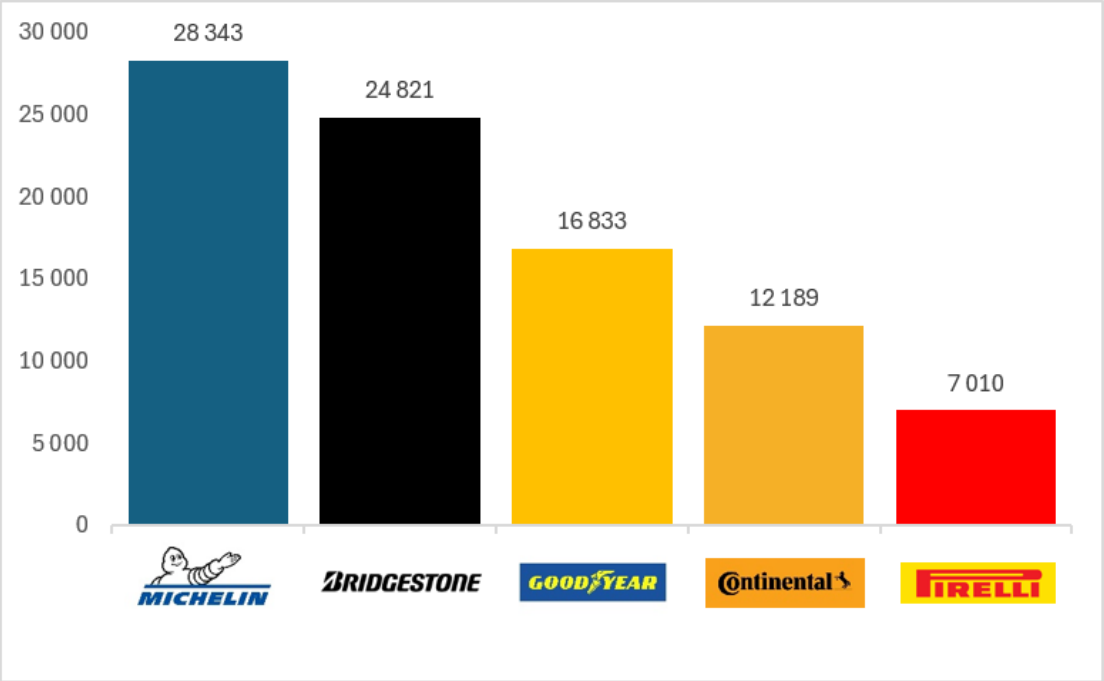
Regarding the key players, the Global Tyre Report 2023 highlights that in fiscal 2022, over 60% of the top 15 sales were attributed to Michelin (France), Bridgestone (Japan), Goodyear (USA), and Continental (Germany), solidifying their status as industry leaders. However, recent years have seen China gaining

[3] $EBIT \times (1 - Tax\ Rate) + D\&A - CAPEX - WCR$

[4] $\frac{FCFF_1}{(WACC - g_n)}$

market share against traditional leaders in the U.S. and Europe, driven by the emergence of new players offering competitive pricing albeit with potential quality concerns and decreased safety standards. This shift in dynamics has not only propelled China's progress but has also facilitated the expansion of Asian groups at the expense of their traditional Western counterparts (Bryan and Garnier, 2017).

Figure 1 – Top 5 of tyre companies by Revenue (in € millions)



Source: Global Tyre Report 2023

The macroeconomic environment plays a significant role in shaping the industry's performance, as economic trends directly impact tyre demand. Global economic growth remains uneven, reflecting varied recovery trajectories across regions. According to the July 2024 IMF World Economic Outlook update (Appendix 3), mature markets such as the United States and Europe are projected to experience moderate growth, estimated at 1,9% and 1,5% respectively for 2025, while emerging economies in Asia anticipate faster growth at around 4,3%. Developed markets face slowed recovery due to aggressive interest rate hikes aimed at controlling inflation, whereas emerging markets contend with challenges in consumer demand and infrastructure investments. Consequently, macroeconomic growth in emerging economies presents

significant opportunities for the tyre industry, as rising income levels drive vehicle ownership and replacement tyre demand.

In Europe, Michelin must navigate significant headwinds. France, one of its key markets, is grappling with political instability and economic fragility. Recent government tensions have heightened uncertainty, compounding structural issues such as high production costs and weak competitiveness in industrial sectors.

Germany, Europe's largest economy, also faces significant challenges. Following contractions in GDP for two consecutive years, the economy remains burdened by weak industrial demand, high energy prices, and subdued investment activity.

Compounding these regional economic concerns is the structural transformation occurring in the automotive industry, a critical sector for tyre companies. Recent crises, including operational challenges at various automotive brands, namely Volkswagen, and intensifying competition from Chinese electric vehicle manufacturers, underscore the pressures facing traditional automakers. This shift has implications for tyre manufacturers, as it demands accelerated innovation in sustainable and EV-specific tyre designs. The broader challenges in the automotive sector could suppress demand for OE tyres and amplify the importance of the replacement market.

The recent re-election of President Donald Trump has also introduced potential challenges for European manufacturers like Michelin. Trump's administration has signalled intentions to impose tariffs on European imports, aiming to reduce the U.S. trade deficit and encourage domestic production. These include a baseline 10% import tariff on all foreign-made goods and a 100% tariff on all imported cars. This scenario may compel European tyre companies to consider strategic adjustments, such as increasing production within the U.S. to mitigate tariff-related costs. However, establishing or expanding manufacturing facilities domestically involves significant investment and time, potentially affecting short- to medium-term profitability.

For Michelin, these dynamics create a complex environment where demand for both RE and OE tyres closely follows broader economic trends. Michelin's

strategy must balance investments in high-growth areas with targeted offerings for premium and sustainable tyres in mature markets. This dual approach helps Michelin adapt to diverse market needs, aligning with the region-specific economic activity to support continued growth and stability.

Supply chain disruptions have also created significant challenges for Michelin, particularly given its extensive production network across 26 countries. Global logistics costs have increased due to rising fuel prices, impacting Michelin's ability to efficiently transport raw materials and finished goods to key markets. Additionally, currency fluctuations, especially between the euro and the U.S. dollar, affect the company's profitability and pricing decisions in international markets. In response to these challenges, Michelin has been investing in local production and distribution infrastructure in key regions like North America and Europe, aiming to reduce reliance on long-distance logistics.

3.2.1. Innovation and Sustainability

In recent years, the tyre industry has undergone significant advancements, largely propelled by technological innovation and the evolving demands of the automotive sector. Analysing the latest literature and annual reports from four major industry players—Bridgestone, Michelin, Goodyear, and Continental—reveals a clear focus across the board on enhancing product performance, safety, and sustainability.

A key development related with product performance is the rise of smart tyres, which integrate sensors to monitor and transmit real-time data on tyre conditions, such as pressure, temperature, and wear. Smart tyre systems can determine tyre contact forces, providing valuable information that, when combined with data from conventional vehicle sensors, improves the accuracy of vehicle state estimations, such as speed and sideslip angle (Mazzilli et al., 2020).

In addition to smart tyres, the rise of EVs is driving the development of specialized tyres tailored to meet their unique needs. Given that EVs are generally heavier and produce more torque than traditional vehicles, tyre manufacturers are creating products with lower rolling resistance to increase battery efficiency, and with enhanced durability to handle the greater wear and tear. Major players have introduced EV-specific tyres that optimize energy use

and improve vehicle range, marking a crucial step in adapting to the increasing global adoption of electric vehicles.

Another notable trend in the tyre industry is the continuous improvement of existing products. Manufacturers are not only enhancing traditional tyre designs by focusing on durability, performance in diverse weather conditions, and noise reduction but are also advancing specific technologies such as radial and Uptis tyres. Radial technology, widely used in agricultural vehicles, has seen significant enhancements, resulting in reduced fuel consumption and better shock absorption, making rides smoother even on uneven terrain (Chicu et al., 2020). Similarly, the development of the UPTIS technology, in partnership with General Motors, represents a major leap forward. This airless tyre technology replaces the traditional air chamber with a composite structure that absorbs shocks and uneven road surfaces, offering a maintenance-free, durable solution that enhances safety and reliability (Chicu et al., 2020).

Furthermore, another significant development is the industry's increasing shift towards sustainable materials and eco-friendly manufacturing processes. Companies are investing in the use of renewable and recycled materials in tyre production to reduce their environmental footprint. This includes the incorporation of biomaterials, such as natural rubber, recycled rubber, and plant-based oils, to replace petroleum-based materials, aligning with global sustainability goals. The concept of the Green X tyre, first introduced by Michelin in the early 1990s, has gained significant traction in this context. Green tyres are made from sustainable materials and feature low rolling resistance, improved wet grip, and enhanced wear resistance, contributing to reduced CO2 emissions (Bijina et al., 2022). Such innovations are helping manufacturers meet the growing demand for sustainable products while addressing environmental concerns related to rubber production and waste management.

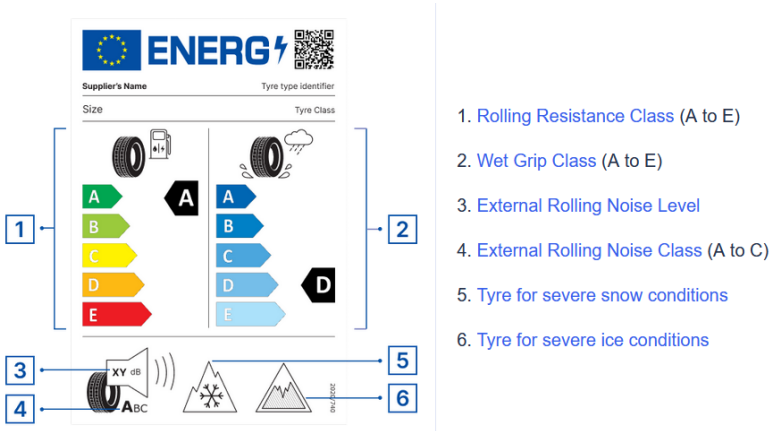
3.2.2. Regulatory Environment

The global regulatory environment of the tyre industry is quite complex, shaped by the need to meet various standards related to safety, performance, sustainability, and international trade. These regulations differ across regional and national markets yet share several key characteristics that govern the sector.

One of the primary areas of regulation is safety and performance. Tyres must adhere to strict technical requirements, which ensure their reliability and efficiency. These requirements include factors such as grip, wear resistance, stability, and braking performance. Regulatory bodies such as the UNECE and national regulators, like the DOT in the United States, set these standards. Additionally, tyres are subject to rigorous quality testing before they are approved for sale.

Labelling and transparency have also become increasingly important in the tyre industry as consumers demand more information about the products they purchase. In the European Union, as well as other markets, tyres must carry labels that provide information on their energy efficiency, wet grip performance, and external noise levels. These labels help consumers make informed decisions about the tyres they choose, promoting safety and environmental sustainability. For exporters, this also means that compliance with each target market's labelling regulations is a crucial part of international trade.

Figure 2 – Tyre Label in the European Union



Source: European Comission

4. COMPANY PRESENTATION

4.1. History

Compagnie Générale des Établissements Michelin, best known as Michelin, was founded in 1889 when Édouard and André Michelin took over a struggling rubber factory in Clermont-Ferrand, France. Initially focused on rubber goods, they soon revolutionized the tyre industry with the invention of the world's first removable pneumatic tyre in 1891, making tyre repairs easier and improving ride quality. This breakthrough launched Michelin as a leader in mobility solutions.

Over the years, Michelin continued to innovate. In 1898, Michelin introduced the Michelin Man, a mascot made of tyres that became a global symbol of quality and reliability. Another landmark came in 1946 with the invention of the radial tyre, which significantly improved durability and fuel efficiency. This innovation cemented Michelin's leadership in the tyre industry, as radial technology was quickly adopted by automakers worldwide.

The company continued to expand internationally by acquiring companies like Uniroyal-Goodrich in 1990, strengthening its presence in North America.

By the late 20th century, Michelin was still an innovator in tyre technology, introducing the Green X tyre in 1992, designed for fuel efficiency and sustainability. This focus on sustainability has become a central pillar of Michelin's strategy, with a goal of producing tyres entirely from renewable or recycled materials by 2050.

Today, Michelin has 121 production facilities in 26 countries[5], employing 132,500 people globally. The company produces tyres for a vast range of vehicles, including passenger cars, trucks, aircraft, and even space exploration vehicles. Michelin has also ventured into sectors like polymer materials and connected mobility solutions, reinforcing its commitment to sustainable growth and innovation.

4.2. Business Segments

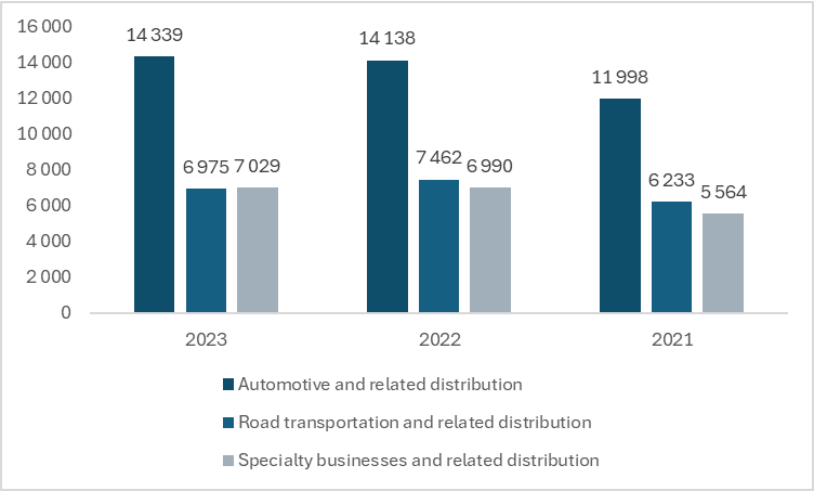
Michelin's operations are divided into three main segments: automotive and related distribution, road transportation and related distribution, and specialty

[5] The specific locations were not disclosed by Michelin.

businesses and related distribution. Each of these segments plays a significant role in driving the company's revenue.

- Automotive and related distribution (50,6% of total revenue): This segment covers tyres for passenger cars, light trucks, and related distribution services. In 2023, it contributed with €14.339 million in sales, representing a 1,4% year-on-year increase. The 2023 Michelin Annual Report mentions that despite a 1,9% decline in volumes sold, driven by a contraction in Replacement Tyres (RE) sales due to dealer inventory drawdowns, the segment benefited from strong Original Equipment (OE) sales and a positive shift towards premium 18-inch and larger tyres. Additionally, price increases introduced in 2022 and early 2023 helped offset rising costs, contributing to overall sales growth.
- Road transportation and related distribution (24,6% of total revenue): This segment includes tyres for trucks, buses, and other commercial road vehicles, along with associated services. Sales in 2023 amounted to €6.975 million, down around 7% from the prior year. According to the 2023 Michelin Annual Report, the decline was primarily driven by reduced demand following two strong post-COVID years of high freight activity, compounded by significant fleet and dealer destocking throughout the year, particularly in Europe. This resulted in an 8,5% decrease in volumes sold, as well as unfavourable comparatives in the second half of the year.
- Specialty businesses and related distribution (24,8% of total revenue): This segment focuses on specialized tyres for industries such as aviation, mining, agriculture, and two-wheel vehicles. It also includes high-tech materials like conveyor belts. Specialty businesses generated €7.029 million in sales in 2023, a modest increase year-on-year. The slight growth was hindered by unfavourable exchange rate movements, particularly the weakening of the US dollar against the euro, which negatively impacted the segment's overall sales performance, as mentioned in the 2023 Michelin Annual Report.

Figure 3 – Evolution of revenue by segment (in € millions)



Source: 2023 Michelin Annual Report

While not directly tied to business segments, Michelin's sales are also categorized by regions, offering a different insight into the company's global performance. As highlighted in the 2023 Annual Report, Michelin's regional sales show strong diversification across key global markets. North America emerges as the company's largest market, contributing 39,2% of total revenue.

Europe follows closely behind, accounting for 34,9% of Michelin's total sales. The European market remains crucial to Michelin's operations, supported by a broad customer base and the company's long-standing presence in the region. Michelin's ability to maintain strong performance in Europe, despite various economic challenges, underscores its strategic significance.

Moreover, Michelin's global reach is underscored by the fact that over a quarter of its sales come from regions outside North America and Europe. Michelin's robust performance in these regions not only provides a balanced revenue stream but also reinforces its status as a global leader in the tyre industry.

Table 1 – Revenue by Regions

(in € millions)	Weight in %	2023	Weight in %	2022
Europe	34,90%	9 891	35,47%	10 140
of which France	8,83%	2 502	8,69%	2 484
North America (incl. Mexico)	39,16%	11 098	38,20%	10 920
Other Regions	25,95%	7 354	26,34%	7 530

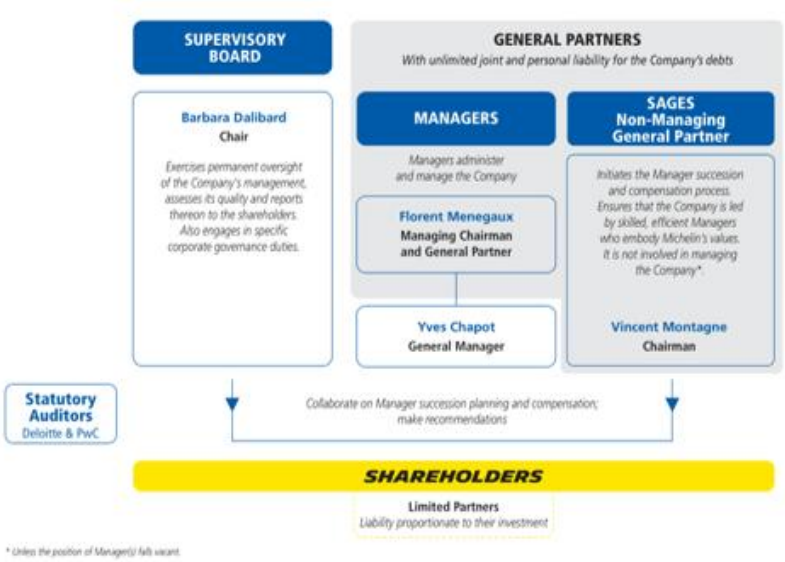
Source: 2023 Michelin Annual Report

4.3. Corporate Governance

Michelin operates under a unique governance model as a partnership limited by shares (société en commandite par actions or S.C.A.). The management of the company is divided between the General Partners and the Supervisory Board. The General Partners include the Managing Chairman, currently Florent Menegaux, who joined Michelin in 1997 and has held various leadership roles within the company, including overseeing the Truck Tyres division and serving as Chief Operating Officer before becoming Managing Chairman in 2019. The Non-Managing General Partner is Société Auxiliaire de Gestion (SAGES), chaired by Vincent Montagne, a prominent figure in the French business community, known for his leadership at Média-Participations, a major publishing group.

The Supervisory Board, chaired by Barbara Dalibard, a former CEO of SITA (a global IT provider for the air transport industry) and SNCF Voyageurs (a division of the French national railway company), oversees the management of the company, ensuring accountability and transparency. The board consists of 11 members, including two employee representatives, and benefits from Dalibard's extensive experience in both the technology and transportation sectors.

Figure 4 – Governance Structure



Source: 2023 Michelin Annual Report

4.4. Share Price Analysis

Michelin's share price has shown some fluctuations from 2019 onwards, with a slight upwards trend, reflecting the company's resilience and adaptability to a dynamic industry and changing global economic conditions. Over the years, Michelin has navigated through various highs and lows, driven by both internal strategic decisions and external market factors. Key highlights during this period include:

- Early 2020 Decline: The onset of the COVID-19 pandemic led to a sharp decline in Michelin's stock price. The company's economic performance was impacted by reduced demand. However, the recovery was quicker than expected, driven by a rebound in demand in the second half of the year. Instead of the estimated 35% drop, demand for light passenger vehicles only decreased by 13%, and truck tyres by 7%, as reflected in the 2020 Annual Report.
- Early 2022 Decline: The start of the Russia-Ukraine war caused another significant decline in Michelin's stock price. The war led to supply chain disruptions and rising raw material costs. Additionally, Michelin, the first international tyre company with its own production in Russia, suspended its operations and exports in the country, affecting over 1,000 workers. This decision further impacted the company’s performance during the period.
- Stock Split (June 2022): On May 13, 2022, shareholders approved a stock split to make shares more accessible and broaden the shareholder base. This followed a sharp 66% increase in share price from €86.70 at the end of 2018 to €144.15 by December 31, 2021. The split, effective June 16, 2022, resulted in a proportional adjustment in share price while maintaining the overall market capitalization and individual holdings' value. Historical stock prices were restated to reflect the split, ensuring easier comparison.
- 2024 Nine-Month Results: A 3.4% decline in sales at constant exchange rates led to a stock price drop. Despite challenges from a downcycle in OE markets and headwinds in Specialties, Michelin maintained its target of

exceeding €3.5 billion in segment operating income and €1.5 billion in free cash flow, signalling confidence in its long-term strategy.

Figure 5 – Share Price Evolution (2020 – 2025)

Source: Bloomberg

4.5. Dividend Policy

Michelin is committed to a clear and shareholder-friendly dividend policy that balances rewarding shareholders with reinvesting in the company's future growth. Over the years, the company has adopted a progressive approach to dividends.

According to the 2023 Annual Report, the company has set a goal to gradually increase its dividend payout ratio to 50% of consolidated net income by 2030. This target marks a significant increase from the 35% ratio observed before 2021, underscoring Michelin's commitment to sharing its financial success with shareholders.

The dividend policy also reflects Michelin's confidence in its financial health and ability to generate substantial cash flow. In 2023, the company achieved record levels of free cash flow before acquisitions, amounting to €3.009 million. This robust financial performance enables Michelin to support both shareholder returns and strategic investments. Furthermore, the company's prudent financial management, demonstrated by its strong credit rating (A3 with stable outlook by Moody's), ensures the sustainability of its dividend payouts over the long term.

5. STRATEGIC ANALYSIS

The strategic analysis of Michelin provides a comprehensive evaluation of the key factors influencing the company's position in the global tyre industry. Using Porter's Five Forces and a SWOT analysis, it is possible to explore Michelin's competitive environment.

5.1. Five Forces of Porter

- Threat of new entrants

The threat of new entrants into the tyre industry is relatively low, particularly in the premium tyre segment where Michelin operates. One of the main reasons for this to happen is the significant capital investment required to create and establish a tyre manufacturing facility. The industry is highly capital-intensive, as specialized equipment and extensive Research & Development (R&D) are necessary to produce high-quality tyres that meet all the mandatory safety and performance standards.

Furthermore, the most popular tyre companies have built a strong brand reputation and usually have a solid base of clients. This brand equity makes it difficult for new entrants to gain traction in the market, particularly in the premium segment.

However, the threat of new entrants from emerging markets could pose a competitive threat to established players like Michelin, particularly in price-sensitive regions or during periods of economic downturn. Companies based in countries like China, India and Southeast Asia have been increasingly expanding their presence in the global tyre market, leveraging lower production costs, such as cheaper labour and raw materials. While these companies have typically focused on the mid- and lower-tier segments, they are gradually investing in R&D in order to penetrate higher-value premium markets.

Despite this progress, the overall threat posed by new entrants remains low. One of the main reasons for this is that, while a few Chinese tyre manufacturers have expanded, the majority have seen a drop in sales, primarily due to a weak domestic market and the continued presence of trade barriers in various international markets. These barriers, such as tariffs and stricter regulatory

requirements, have limited the ability of these companies to compete successfully on a global scale, especially within the premium segment.

- Bargaining power of suppliers

Michelin, being a large and established player in the tyre industry, has high leverage over its suppliers. The tyre manufacturing process relies on several key raw materials, including both natural and synthetic rubber, steel and various chemical compounds. While the availability of these materials is largely abundant, fluctuations in the cost of raw materials, particularly rubber and oil (which affects synthetic rubber price), can impact Michelin's profitability. However, Michelin's scale gives it some ability to negotiate favourable terms with suppliers, mitigating the bargaining power of these raw material suppliers to some extent.

Another factor that reduces supplier power is Michelin's commitment to sustainability and innovation. The company has been investing in sustainable sourcing of rubber and developing alternative materials, which reduces its reliance on traditional suppliers. This move towards diversification of supply chains and development of in-house capabilities weakens the power that suppliers can exert over Michelin.

- Bargaining power of buyers

The bargaining power of buyers in the tyre industry can vary depending on the customer segment. Michelin serves a diverse customer base, including OE manufacturers, individual consumers, and fleet operators. For large OE manufacturers, such as car manufacturers, the bargaining power tends to be higher due to the large volume of tyres purchased and the ability to switch between suppliers. OE manufacturers typically demand competitive pricing and high-quality products, and they have the leverage to negotiate terms due to their scale.

In the RE market, individual consumers and fleet operators have less bargaining power due to the fragmented nature of the buyer base. In this case, Michelin's brand equity plays a crucial role, as consumers are often willing to pay a premium for trusted, high-quality tyres. However, the availability of numerous

competitors in the mid- and low-tier segments gives some buyers, especially price-sensitive ones, more power to negotiate or switch to alternative brands.

- Threat of substitutes

The threat of substitutes for Michelin's products is low. There are no direct substitutes for tyres, as they are an essential component of vehicles. However, there are some potential indirect substitutes that could affect Michelin's business in the future. For example, advancements in transportation technology, such as EVs and autonomous vehicles, may reduce the demand for certain types of tyres or change consumer preferences toward more specialized tyres. Michelin has been proactive in addressing this potential threat by investing heavily in innovation, particularly in the development of tyres specifically designed for electric and autonomous vehicles, which are lighter and more durable.

Another emerging factor could be the long-term impact of flying light vehicles, which, although not yet mainstream, could reduce demand for traditional tyres if they become viable in the distant future.

Additionally, the emergence of ride-sharing services and urban mobility solutions, which could decrease individual vehicle ownership and, consequently, the demand for tyres. However, the growth of delivery services and e-commerce has created a demand for commercial tyres used in fleets, which may offset this situation. Michelin's focus on diversifying its portfolio to include specialty tyres for other sectors like aviation or agriculture also helps mitigate the threat of substitutes.

- Industry rivalry

The intensity of rivalry in the tyre industry is high, particularly among the top-tier players, which include Michelin, Bridgestone, Goodyear, Continental, and Pirelli. These rivals compete for market share in both the OE and RE markets. Price competition is significant, especially in the mid- and low-tier segments, where consumers are typically more price-sensitive. However, in the premium segment, where Michelin mainly operates, the competition is more focused on product differentiation through technology, innovation, and brand reputation.

The company has maintained a competitive edge through its consistent investment in R&D, which has resulted in the launch of various innovative

products. Michelin also has a strong presence in the specialty tyre market, such as agricultural and industrial tyres, where competition is less intense but still present. Additionally, Michelin's global footprint and wide distribution network allow it to maintain a dominant position in multiple regions, reducing the threat from regional players.

5.2. SWOT Analysis

Figure 6 – SWOT Analysis of Michelin

	Beneficial	Harmful
Internal	Strengths • Strong brand reputation. • Leading global market position. • High quality products. • Robust R&D with a focus on innovation. • Commitment to sustainability. • Consistently profitable operations	Weaknesses • Heavy reliance on automotive industry. • Weak presence in emerging markets.
External	Opportunities • Expansion into emerging markets. • Rising demand for EV and autonomous vehicle tyres. • Growth in connected tyres and digital services.	Threats • Intense competition. • Vulnerability to supply chain disruptions. • Exposure to raw material price fluctuations. • Strict global regulations and compliance costs.

Source: Author

6. VALUATION

6.1. Free Cash Flow to Firm

In order to perform a comprehensive FCFF analysis, it is essential to establish a set of assumptions regarding key variables that will impact the valuation. These assumptions form the basis for projecting future cash flows and determining the company's value. The specific assumptions used in this analysis will be outlined below.

6.1.1. Earnings Before Interest and Taxes

To forecast EBIT accurately, it is essential to understand how Michelin's revenue and expenses function and to establish several key assumptions accordingly.

Regarding revenue, global forecasts for both the automotive and tyre markets provide a solid foundation for growth assumptions. Michelin's revenue is closely linked to automotive production trends as well as demand for RE and OE tyres. Together, these factors support steady growth potential in the coming years.

According to recent projections from S&P Global Ratings, the global automotive market is expected to grow moderately in the near term, with estimated growth rates of 2-4% in 2025 and 1-3% in 2026. Although the growth rate is anticipated to taper slightly, demand in key markets remains solid, and the continued recovery in production capacity is expected to support overall sales. Additionally, while the growth in EV sales may slow somewhat, it remains strong, creating substantial opportunities for tyre manufacturers like Michelin. The shift toward EVs introduces new demands in tyre specifications, and Michelin is well-positioned to capitalize on this trend through its investments in high-performance and EV-compatible tyres. This demand allows Michelin the potential to grow its sales slightly above general market estimates as it captures a larger share of the evolving EV segment.

Complementing the automotive market outlook, forecasts specific to the tyre industry indicate consistent growth, driven by rising replacement tyre demand and increased interest in high-performance and specialty tyres. The global tyre market is expected to expand at an annual rate of approximately 4-6%, spurred by higher vehicle ownership in emerging markets and steady demand for premium, high-performance tyres in developed regions.

Additionally, Michelin's 2023 annual report includes a sales growth target of 5% per year between 2023 and 2030, as projected by Yves Chapot, General Manager and Chief Financial Officer. This target aligns well with broader market forecasts, lending support to a 5% annual growth assumption. While this target

is helpful for long-term growth projections, for 2024, the sales value estimate was adjusted based on the actual sales data available for the first half of the year. By extrapolating the first semester's sales figures for the remaining months of 2024, it is possible to derive a more accurate projection for the full year, ensuring that the forecast is aligned with current performance trends.

In terms of expenses, the primary focus is on General and Administrative Expenses and Sales and Marketing Expenses. To project these expenses accurately, their historical percentage of sales over the past several years was analysed and then calculated an average. Using historical averages as a percentage of sales provides a reliable basis for estimating future costs because it accounts for Michelin's established expense patterns in relation to revenue, creating a more accurate projection aligned with past performance.

6.1.2. Capital Expenditures

For Michelin, CAPEX consists of investments in both tangible and intangible assets that are critical for supporting and expanding its operations and technological capabilities. This includes expenditures on machinery, manufacturing facilities, and other physical assets essential for the production of Michelin's products, as well as intangible investments such as technology and software development.

Recent CAPEX investments reflect Michelin's strategic focus on high-demand segments and emerging technologies. One of the most significant recent investments has been the expansion of the company's high-performance car tyre production facility in Shanghai, China. This project is intended to boost the plant's annual capacity by one million units, reaching a total production capacity of 9.5 million tyres annually. This expansion not only addresses the growing demand in the Chinese market but also focuses on various issues such as automation and decarbonization, which align with Michelin's commitment to sustainability and technological leadership.

To forecast future CAPEX, Michelin's historical figures as a percentage of sales were examined. By calculating the CAPEX-to-sales ratio over the last five years and then averaging these values, it is possible to establish a reliable and consistent percentage to project future spending based on expected sales

growth. This method keeps CAPEX projections in line with Michelin's historical spending patterns and ensures that investment levels remain proportional to anticipated revenue.

For D&A, expenses have been relatively stable year-over-year. Given this consistency, the average annual growth rate of D&A over recent years was considered. This approach allows for a slight increase in line with past growth trends, providing a realistic projection that reflects Michelin's steady asset base while accounting for minor increments in depreciation and amortization over time.

6.1.3. Working Capital Requirement

WCR represents the capital needed to support a company's daily operations.[6]

For this calculation, focus was on four key accounts: trade receivables, inventories, trade payables and trade payables under reverse factoring agreements. To forecast these accounts, their historical relationship to sales was analysed, calculating their percentage of revenue over five years. By averaging these percentages, a stable and reliable basis for projecting future values is established. This approach leverages historical trends while smoothing out year-to-year fluctuations, ensuring that the forecasts remain proportional to anticipated sales growth. The table below presents the results of these calculations.

Table 2 - WCR Calculations

			FORECAST				
(in € millions)	2022	2023	2024	2025	2026	2027	2028
Trade Receivables	4 205	3 850	3 920	4 116	4 322	4 538	4 765
Inventories	6 318	5 447	5 808	6 098	6 403	6 723	7 059
TOTAL	10 523	9 297	9 728	10 214	10 725	11 261	11 824
Trade Payables	3 416	3 075	3 139	3 296	3 461	3 634	3 816
Trade Payables under Reverse Factoring Agreements	595	530	572	601	631	662	695
TOTAL	4 011	3 605	3 711	3 897	4 092	4 296	4 511
WCR	6 512	5 692	6 017	6 317	6 633	6 965	7 313
ΔWCR		**-820**	**325**	**301**	**316**	**332**	**348**

Source: Author

[6] $WCR = Operating\ Current\ Assets - Operating\ Current\ Liabilities$

6.1.4. Weighted Average Cost of Capital

To determine Michelin's Weighted Average Cost of Capital (WACC), which serves as the discount rate for valuing its future cash flows, the calculation takes into account the market values of equity and debt, as well as the costs associated with each.[7]

To estimate Michelin's cost of equity, the Capital Asset Pricing Model (CAPM) was applied.[8] The CAPM is a widely used tool for estimating the cost of equity and understanding the relationship between risk and return. According to Rossi (2016), it quantifies the required return on an asset by considering the risk-free rate, the asset's systematic risk (measured by its beta), and the equity risk premium. By explaining the trade-off between risk and return, CAPM provides a framework to evaluate the returns investors expect for bearing additional risk.

For the risk-free rate, an average of the 10-year government bond yields from Germany and the United States was selected. This choice reflects Michelin's significant operations in both Europe and North America. Germany's bond yield provides a stable and widely accepted benchmark for European valuations, given its position as the Eurozone's largest and most stable economy. At the same time, incorporating the US bond yield ensures that the risk-free rate appropriately captures Michelin's exposure to the North American market.

The equity risk premium used in the CAPM formula reflects the additional return investors expect from equities over the risk-free rate in France, where Michelin is established. To determine this, by referencing Aswath Damodaran's latest data on country-specific equity risk premiums, the figure he provided for France was used.

The beta value used in the CAPM formula, which measures Michelin's sensitivity to market movements, was calculated through a regression analysis (Appendix 4). This regression compared Michelin's historical stock price against the CAC 40 index over the past two years, yielding a levered beta of 0,796. A beta lower than 1 suggests that Michelin's stock is less volatile than the overall market. This lower sensitivity to market fluctuations reflects the relatively stable

[7] $\left(\frac{E}{V} \times Re\right) + (\frac{D}{V} \times Rd \times (1\text{-Tc}))$

[8] $Risk\ Free\ Rate + \beta \times Equity\ Risk\ Premium$

nature of Michelin's business in the tyre and mobility solutions sector, which tends to be less affected by short-term economic cycles. It indicates that Michelin's stock price generally moves more moderately than the market, making it potentially more resilient during periods of market turbulence. This beta was used directly in the CAPM formula to calculate the cost of equity, which resulted in a value of 7,63%.

Table 3 – Cost of Equity Computation

Risk Free Rate	3,39%
Equity Risk Premium	5,32%
Beta	0,796
Cost of Equity	**7,63%**

Source: Author

The cost of debt was calculated using the weighted average of German and United States 10-year bond yields as the risk-free rate. Michelin's credit rating, assigned by Moody's as A3, reflects the level of credit risk associated with the company's debt. According to Damodaran's default spread data, an A3 rating corresponds to a default spread of 1,21%. Additionally, the country risk premium for France, estimated at 0,72% using Damodaran's data, was incorporated. Combining these factors results in a final cost of debt of 5,32%.

Table 4 – Cost of Debt Computation

Risk Free Rate	3,39%
Company CDS	1,21%
Country Risk Premium	0,72%
Cost of Debt	**5,32%**

Source: Author

Finally, the WACC was determined by combining the cost of equity and the after-tax cost of debt using Michelin's target capital structure and corporate tax rate, resulting on a WACC of 6,68%.

Table 5 – WACC Computation

Equity	17 958 M€
Debt	6 242 M€
Cost of Equity	7,63%
Cost of Debt	5,32%
t	26%
WACC	**6,68%**

Source: Author

6.1.5. Terminal Growth Rate

The terminal growth rate is a critical assumption in valuation, reflecting the expected long-term growth of a company's cash flows beyond the forecast period. It represents the steady, perpetual growth rate that aligns with the company's current profile and future performance.

In determining TGR of 0,5% for Michelin's FCFF analysis, several factors were considered that suggest a cautious approach to long-term growth. While long-term GDP growth projections for major economies, such as 1,8% for the U.S. (according to the Federal Reserve) and 1,1-1,4% for Germany, which is considered the anchor economy for Europe, (according to the Bundesbank), indicate moderate growth, there are several uncertainties that suggest a more conservative terminal growth assumption.

Firstly, the global economy remains unstable, with various risks, including geopolitical tensions, inflationary pressures, supply chain disruptions, and the potential for economic slowdowns in key regions. These factors can limit the growth prospects for many industries, including automotive and tyre manufacturing, which are sensitive to broader economic cycles. Such instability in the global economy may hurt consumer demand and slow down the long-term growth trajectory of established players like Michelin.

Secondly, increasing protectionism is another significant factor that could impact Michelin's long-term growth prospects. Trade barriers, tariffs and stricter regulations on imports and exports are becoming more prevalent in many regions, particularly as countries seek to safeguard their domestic industries. This trend towards protectionism can delay Michelin's ability to operate freely in global

markets, limiting its access to emerging economies where growth opportunities exist. Moreover, protectionist policies could lead to higher costs for raw materials and components, further squeezing profit margins. As Michelin relies on international supply chains and global markets, the rise in protectionism poses an additional risk to the company's ability to maintain growth in the long term.

Additionally, the rise of Asian tyre companies, particularly from China and India, introduces competitive pressures on Michelin. These companies have become increasingly prominent in the global tyre market due to their cost advantages and growing brand recognition. Their presence could cap market share growth for established players like Michelin, particularly in emerging markets where these Asian brands are gaining traction due to their competitive pricing and expanding product portfolios.

Given these factors, a 0.5% terminal growth rate reflects a cautious and conservative approach, acknowledging the potential risks to Michelin's future growth.

6.1.6. Results

With all the necessary assumptions established, the stock price of Michelin was calculated using the FCFF approach. The present value of the FCFF for each forecasted year (2024–2028) was determined, summing up to a total of €8.114 million. Additionally, the present value of the terminal value, which represents the value of Michelin beyond the forecast period, was calculated at €24.666 million.

Table 6 – FCFF Forecasts Calculation

		1	2	3	4	5
(in € millions)		Forecast				
	12.2023	12.2024	12.2025	12.2026	12.2027	12.2028
EBIT	2 652	2 829	2 991	3 161	3 339	3 526
EBIT*(1-t)	1 969	2 100	2 220	2 346	2 478	2 617
+ D&A	1 917	1 961	2 006	2 052	2 100	2 148
- ΔWCR	-820	325	301	316	332	348
- CAPEX	2 268	1 910	2 006	2 106	2 212	2 322
FCFF	2 438	1 826	1 920	1 976	2 035	2 095
PV FCFF		1 712	1 687	1 628	1 571	1 516
Terminal Value						34 078
PV Terminal Value						24 666

Source: Author

The Enterprise Value of Michelin was estimated at €32.780 million by summing the present value of the forecasted FCFF and the present value of the terminal value. Using fiscal year 2023 actual data, the equity value was then calculated by subtracting net debt (€6.242 million) from the enterprise value and adding the company's cash position (€2.515 million), resulting in an equity value of €29.053 million. Finally, with 752 million shares outstanding, as reported by Euronext, the estimated stock price was calculated to be €38,63.

6.2. Scenario Analysis

Through scenario analysis, it is possible to evaluate how variations in key parameters affect the estimated value of a company (Berk et al, 2018). For Michelin, the analysis focuses on two critical variables: sales growth and the TGR. Both are fundamental for determining the company's intrinsic stock price, as they significantly influence the valuation. Furthermore, these variables are inherently connected: sales growth drives revenue and operational performance during the forecast period, which subsequently shapes the long-term growth potential reflected in the TGR.

An in-depth analysis highlights the critical importance of these two variables. Sales growth is a fundamental driver of Michelin's projected cash flows, directly impacting revenue and operational performance. In a DCF analysis, changes in sales growth have a significant effect on EBIT, free cash flow, and the overall valuation. In Michelin's sector, revenue is shaped by global demand for vehicles, the growing EV market, and the company's ability to innovate and sustain competitive market share. Factors such as these make sales growth a core variable in assessing Michelin's value.

As for the terminal growth rate, it often represents a substantial portion of the total enterprise value, especially for a mature company in a stable but slow-growth industry like automotive tyres. Even small changes in the TGR can have a significant impact on the overall valuation, reflecting the long-term expectations for Michelin's growth beyond the forecast period. This is particularly important for a company like Michelin, where future success depends on navigating market challenges while leveraging opportunities in sustainability and high-performance tyre segments.

Table 7 – Scenario Analysis of Michelin Stock Price

		TGR					
	38,63	0,2%	0,4%	0,6%	0,8%	1,0%	1,2%
Rev. Growth	-4%	21,70	22,31	22,97	23,67	24,42	25,22
	-2%	24,77	25,48	26,23	27,03	27,88	28,80
	2%	31,48	32,37	33,33	34,35	35,44	36,61
	4%	35,12	36,12	37,19	38,33	39,56	40,87
	6%	38,97	40,09	41,27	42,54	43,90	45,36
	8%	43,04	44,27	45,58	46,99	48,49	50,10

Source: Author

By analysing the results from Table 7, revenue growth has the largest influence, as higher growth drives increased cash flows, leading to higher valuations. For example, at a TGR of 0,6%, the stock price rises from €33,33 with 2% revenue growth to €45,58 with 8% growth.

The TGR, representing long-term growth potential, also plays a key role. At a revenue growth rate of 6%, the stock price increases from €38,97 at a 0,2% TGR to €43,90 at 1,0%, highlighting how long-term assumptions affect valuation. The highest valuation, €50,10, combines 8% revenue growth and a 1,2% TGR, while the lowest, €21,70, assumes -4% growth and a 0,2% TGR.

6.3. Multiples Valuation

For the valuation of Michelin, two key valuation multiples were considered: the EV/EBITDA multiple and the P/E ratio. These were chosen because they capture different but complementary aspects of Michelin's business performance. The EV/EBITDA multiple is particularly relevant for capital-intensive industries like Michelin's, as it measures value before the impact of capital structure, making it ideal for comparing companies with varying debt levels. The P/E ratio, on the other hand, reflects how the market values a company's earnings, serving as a widely used metric for assessing investor sentiment and profitability.

The analysis produced a stock price of €42,43 using the EV/EBITDA method and €36,56 with the P/E ratio. The EV/EBITDA method places more weight on operating cash flow and profitability, which results in a higher stock price for Michelin, reflecting its strong operational efficiency and EBITDA performance.

On the other hand, the P/E ratio resulted in a lower stock price. This is typical for companies in mature, cyclical industries like automotive and tyre manufacturing, where growth is generally slower and more stable compared to

high-growth sectors like technology. Investors in these industries are often less willing to pay a premium for earnings, reflecting the less dynamic growth prospects compared to faster-growing industries. As a result, the P/E ratio tends to provide a more realistic estimate of Michelin's stock price.

These multiples-based valuations were compared to the €38,63 stock price derived from the FCFF model. The FCFF model lies between the two multiples-based estimates, reflecting Michelin's intrinsic value based on projected cash flows. The differences can be attributed to the nature of the methods: the FCFF model incorporates detailed forecasts of future cash flow generation, while the multiples approach is more influenced by current market trends and comparable company valuations.

Table 8 – Multiples Valuation Calculations

	EV/EBITDA	P/E Ratio
Continental	4,93	13,06
Pirelli	5,95	10,42
Goodyear	12,03	-
Bridgestone	4,95	11,21
Sumitomo	4,60	18,11
Average	6,49	13,20
Michelin EPS		2,77
Michelin EBITDA	5 489 M€	
Calculated EV	35 635 M€	
Stock Price	**42,43**	**36,56**

Source: Author

7. CONCLUSION

Equity research has become an indispensable tool in modern financial markets, offering investors a structured approach to understanding the intrinsic value of companies. However, conducting accurate and reliable financial forecasting has grown increasingly challenging in today's fast-paced and interconnected global economy. Various occurrences such as economic volatility, technological advancements or the rapid evolution of industries like automotive manufacturing have created additional layers of complexity. The ability to integrate multiple valuation methodologies and account for both quantitative and qualitative factors is now more critical than ever. This work sought to address these complexities by evaluating Michelin's market value using robust financial models and a qualitative analysis, offering insights into the company's long-term potential and strategic direction.

Michelin stands out as a global leader in the tyre industry, benefiting from a legacy of innovation and a strong brand presence. Its global operations and diversified product portfolio provide resilience, enabling the company to remain a significant player in both mature and emerging markets. However, Michelin faces numerous challenges that could affect its performance in the years ahead. The ongoing transition to EVs represents a significant shift in the automotive sector, requiring investment in new technologies and tyre designs tailored to EV specifications. At the same time, the company must contend with increasing competition from manufacturers in emerging markets, where lower production costs pose a threat to established players. On a macroeconomic level, the possibility of an economic slowdown in Europe and disruptions in the global automotive market could further pressure the company's growth trajectory. Adapting to these challenges will be crucial for Michelin to sustain its market leadership and unlock future growth opportunities.

Regarding the valuation results, by combining intrinsic valuation methods like the DCF with multiples-based valuation, both methodologies converge to suggest that Michelin's stock is slightly undervalued, with modest upside potential. The scenario analysis underscores the importance of key assumptions, such as sales growth and terminal growth rates, in determining the company's intrinsic value.

Investors should recognize that while the valuation provides a solid baseline, external factors such as economic conditions and technological developments can significantly impact Michelin’s financial performance.

Ultimately, the recommendation to "buy" reflects confidence in Michelin's ability to cross market challenges and leverage its strengths in innovation, sustainability and premium product offerings. Nonetheless, investors should approach with caution, monitoring developments regarding the global economy and technological advancements in order to ensure their investment aligns with long-term market trends.

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APPENDICES

Appendix 1 – Forecasted Balance Sheet

						FORECAST				
Balance Sheet (in € millions)	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Goodwill	2 388	2 136	2 286	2 430	2 982	3 221	3 478	3 652	3 835	3 911
Intangible assets	2 280	1 980	1 811	1 803	1 794	2 280	1 980	1 911	1 903	1 894
Property, plant and equipment	12 042	10 821	11 231	12 136	12 260	12 260	12 628	13 007	13 397	13 799
Right-of-use assets	1 127	1 083	1 034	1 010	1 082	1 127	1 161	1 196	1 232	1 268
Non-current financial assets and other non-current assets	796	865	1 404	1 161	1 605	1 390	1 390	1 537	1 526	1 646
Investments in equity-accounted companies	1 087	941	1 103	1 102	871	1 098	1 109	1 120	1 131	1 142
Deferred tax assets	814	729	751	630	932	771	771	771	771	771
Non-current assets	20 534	18 555	19 620	20 272	21 526	22 147	22 517	23 194	23 794	24 432
Inventories	4 694	3 959	5 115	6 318	5 447	5 808	6 098	6 403	6 723	7 059
Trade receivables	3 532	3 018	3 576	4 205	3 850	3 920	4 116	4 322	4 538	4 765
Current financial assets	396	429	713	652	512	584	651	540	540	540
Other current assets	1 055	929	1 038	1 315	1 345	1 345	1 358	1 373	1 386	1 400
Cash and cash equivalents	1 466	4 747	4 482	2 584	2 515	2 641	2 873	3 016	3 167	3 326
Current assets	11 143	13 082	14 924	15 074	13 669	14 298	15 097	15 654	16 355	17 090
TOTAL ASSETS	31 677	31 637	34 544	35 346	35 195	36 445	37 614	38 848	40 149	41 522
Share capital	357	357	357	357	357	357	357	357	357	357
Share premiums	2 789	2 746	2 746	2 702	2 702	2 702	2 702	2 702	2 702	2 702
Reserves	10 080	9 530	11 871	14 051	14 896	15 700	16 552	17 454	18 409	19 420
Non-controlling interests	3	-2	-3	6	3	0	0	0	0	0
Total equity	13 229	12 631	14 971	17 116	17 958	18 759	19 611	20 513	21 468	22 479
Non-current financial liabilities	5 026	6 169	5 360	4 705	4 672	5 186	5 186	5 186	5 186	5 186
Non-current lease liabilities	897	801	731	690	738	771	771	771	771	771
Provisions for employee benefit obligations	3 873	3 700	3 362	2 561	2 726	2 781	2 836	2 893	2 951	3 010
Provisions and other non-current liabilities	1 104	775	759	695	860	903	948	996	1 045	1 098
Deferred tax liabilities	455	425	503	541	497	500	500	500	500	500
Non-current liabilities	11 355	11 870	10 715	9 192	9 493	10 141	10 242	10 346	10 454	10 565
Current financial liabilities	932	1 546	1 682	1 826	591	621	652	684	718	754
Current lease liabilities	226	222	229	233	241	230	230	230	230	230
Trade payables	2 627	2 291	3 174	3 416	3 075	3 139	3 296	3 461	3 634	3 816
Trade payables under reverse factoring agreements	470	437	613	595	530	572	601	631	662	695
Provisions and other current liabilities	2 838	2 640	3 160	2 968	3 307	2 983	2 983	2 983	2 983	2 983
Current liabilities	7 093	7 136	8 858	9 038	7 744	7 545	7 761	7 989	8 227	8 478
TOTAL EQUITY AND LIABILITIES	31 677	31 637	34 544	35 346	35 195	36 445	37 614	38 848	40 149	41 522

Appendix 2 – Forecasted Income Statement

						FORECAST				
Income Statement (in € millions)	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
Sales	24 135	20 469	23 795	28 590	28 343	26 962	28 310	29 726	31 212	32 772
Cost of sales	-17 053	-14 754	-16 810	-21 052	-20 395	-19 357	-20 325	-21 341	-22 408	-23 529
Gross income	7 082	5 715	6 985	7 538	7 948	7 605	7 985	8 384	8 803	9 244
Sales and marketing expenses	-1 380	-1 070	-1 133	-1 174	-1 210	-1 299	-1 364	-1 432	-1 503	-1 578
Research and development expenses	-687	-646	-682	-698	-756	-754	-791	-831	-873	-916
General and administrative expenses	-1 987	-1 994	-2 137	-2 244	-2 336	-2 321	-2 437	-2 559	-2 687	-2 821
Segment other income and expenses	-19	-127	-67	-26	-74	-63	-63	-63	-63	-63
Segment operating income	3 009	1 878	2 966	3 396	3 572	3 169	3 330	3 500	3 678	3 865
Other operating income and expenses	-318	-475	-189	-375	-920	-339	-339	-339	-339	-339
Operating income	2 691	1 403	2 777	3 021	2 652	2 829	2 991	3 161	3 339	3 526
Cost of net debt	-330	-242	-192	-239	-198	-20	-20	-20	-20	-20
Other financial income and expenses	-5	-14	-4	-22	2	-9	-9	-9	-9	-9
Net interest on employee benefit obligations	-98	-56	-41	-45	-94	-67	-67	-67	-67	-67
Share of profit/(loss) from equity-accounted companies	-22	-112	-69	-59	128	-27	-27	-27	-27	-27
Income before taxes	2 236	979	2 471	2 656	2 490	2 707	2 869	3 038	3 217	3 404
Income tax	-506	-354	-626	-647	-507	-698	-739	-783	-829	-877
NET INCOME	1 730	625	1 845	2 009	1 983	2 010	2 130	2 256	2 388	2 527

Appendix 3 – IMF World Economic Outlook Projections

Table 1. Overview of the *World Economic Outlook* Projections

(Percent change, unless noted otherwise)

	Year over Year						Q4 over Q4 2/		
			Projections		Difference from April 2024 WEO Projections 1/			Projections	
	2022	2023	2024	2025	2024	2025	2023	2024	2025
World Output	**3.5**	**3.3**	**3.2**	**3.3**	**0.0**	**0.1**	**3.3**	**3.2**	**3.2**
Advanced Economies	**2.6**	**1.7**	**1.7**	**1.8**	**0.0**	**0.0**	**1.7**	**1.8**	**1.8**
United States	1.9	2.5	2.6	1.9	–0.1	0.0	3.1	2.0	1.8
Euro Area	3.4	0.5	0.9	1.5	0.1	0.0	0.2	1.5	1.5
Germany	1.8	–0.2	0.2	1.3	0.0	0.0	–0.2	0.8	1.7
France	2.6	1.1	0.9	1.3	0.2	–0.1	1.2	0.8	1.5
Italy	4.0	0.9	0.7	0.9	0.0	0.2	0.7	0.5	1.3
Spain	5.8	2.5	2.4	2.1	0.5	0.0	2.1	2.3	2.1
Japan	1.0	1.9	0.7	1.0	–0.2	0.0	1.2	1.6	0.3
United Kingdom	4.3	0.1	0.7	1.5	0.2	0.0	–0.2	1.5	1.6
Canada	3.8	1.2	1.3	2.4	0.1	0.1	1.0	2.2	2.2
Other Advanced Economies 3/	2.7	1.8	2.0	2.2	0.0	–0.2	1.7	1.9	2.8
Emerging Market and Developing Economies	**4.1**	**4.4**	**4.3**	**4.3**	**0.1**	**0.1**	**4.7**	**4.3**	**4.4**
Emerging and Developing Asia	4.4	5.7	5.4	5.1	0.2	0.2	5.9	5.3	5.0
China	3.0	5.2	5.0	4.5	0.4	0.4	5.4	4.6	4.9
India 4/	7.0	8.2	7.0	6.5	0.2	0.0	7.8	6.5	6.5
Emerging and Developing Europe	1.2	3.2	3.2	2.6	0.1	–0.2	4.1	2.3	3.7
Russia	–1.2	3.6	3.2	1.5	0.0	–0.3	4.8	1.8	1.7
Latin America and the Caribbean	4.2	2.3	1.9	2.7	–0.1	0.2	1.5	2.5	2.5
Brazil	3.0	2.9	2.1	2.4	–0.1	0.3	2.2	2.9	2.0
Mexico	3.7	3.2	2.2	1.6	–0.2	0.2	2.3	3.0	1.1
Middle East and Central Asia	5.4	2.0	2.4	4.0	–0.4	–0.2	. . .	. . .	. . .
Saudi Arabia	7.5	–0.8	1.7	4.7	–0.9	–1.3	–4.3	2.6	4.3
Sub-Saharan Africa	4.0	3.4	3.7	4.1	–0.1	0.1	. . .	. . .	. . .
Nigeria	3.3	2.9	3.1	3.0	–0.2	0.0	2.8	3.3	2.7
South Africa	1.9	0.7	0.9	1.2	0.0	0.0	1.3	1.3	0.9
Memorandum									
World Growth Based on Market Exchange Rates	3.0	2.7	2.7	2.8	0.0	0.1	2.8	2.7	2.8
European Union	3.7	0.6	1.2	1.8	0.1	0.0	0.5	1.7	1.8
ASEAN-5 5/	5.5	4.1	4.5	4.6	0.0	0.0	4.2	5.5	2.9
Middle East and North Africa	5.4	1.8	2.2	4.0	–0.5	–0.2	. . .	. . .	. . .
Emerging Market and Middle-Income Economies	4.0	4.4	4.2	4.2	0.1	0.1	4.7	4.3	4.4
Low-Income Developing Countries	4.2	3.9	4.4	5.3	–0.3	0.1	. . .	. . .	. . .
World Trade Volume (goods and services) 6/	**5.6**	**0.8**	**3.1**	**3.4**	**0.1**	**0.1**	**. . .**	**. . .**	**. . .**
Advanced Economies	6.2	0.1	2.5	2.8	0.3	–0.1	. . .	. . .	. . .
Emerging Market and Developing Economies	4.5	2.0	4.2	4.5	–0.1	0.5	. . .	. . .	. . .
Commodity Prices									
Oil 7/	39.2	–16.4	0.8	–6.0	3.3	0.3	–4.4	–2.4	–5.7
Nonfuel (average based on world commodity import weights)	7.9	–5.7	5.0	1.6	4.9	2.0	–0.2	7.7	0.5
World Consumer Prices 8/	**8.7**	**6.7**	**5.9**	**4.4**	**0.0**	**–0.1**	**5.8**	**5.5**	**3.6**
Advanced Economies 9/	7.3	4.6	2.7	2.1	0.1	0.1	3.1	2.5	1.9
Emerging Market and Developing Economies 8/	9.8	8.3	8.2	6.0	–0.1	–0.2	8.0	8.0	4.9

Note: Real effective exchange rates are assumed to remain constant at the levels prevailing during April 22–May 20, 2024. Economies are listed on the basis of economic size. The aggregated quarterly data are seasonally adjusted. WEO = *World Economic Outlook*.

1/ Difference based on rounded figures for the current and April 2024 WEO forecasts. Countries for which forecasts have been updated relative to April 2024 WEO forecasts account for approximately 90 percent of world GDP measured at purchasing-power-parity weights.

2/ For World Output (Emerging Market and Developing Economies), the quarterly estimates and projections account for approximately 90 percent (80 percent) of annual world (emerging market and developing economies) output at purchasing-power-parity weights.

3/ Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

4/ For India, data and projections are presented on a fiscal year (FY) basis, with FY 2022/23 (starting in April 2022) shown in the 2022 column. India's growth projections are 7.3 percent in 2024 and 6.5 percent in 2025 based on calendar year.

5/ Indonesia, Malaysia, Philippines, Singapore, Thailand.

6/ Simple average of growth rates for export and import volumes (goods and services).

7/ Simple average of prices of UK Brent, Dubai Fateh, and West Texas Intermediate crude oil. The average assumed price of oil in US dollars a barrel, based on futures markets (as of May 20, 2024), is $81.26 in 2024 and $76.38 in 2025.

8/ Excludes Venezuela.

9/ The assumed inflation rate for the euro area is 2.4% in 2024 and 2.1% in 2025, that for Japan is 2.4% in 2024 and 2.0% in 2025, and that for the United States is 3.1% in 2024 and 2.0% in 2025.

Appendix 4 – Beta Linear Regression

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,536044035
R Square	0,287343207
Adjusted R Square	0,285943095
Standard Error	0,010772403
Observations	511

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0,023815707	0,023815707	205,2287915	2,37221E-39
Residual	509	0,059066737	0,000116045		
Total	510	0,082882444			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	-0,00017485	0,000476906	-0,366634125	0,714044307	-0,001111797	0,000762097	-0,001111797	0,000762097
X Variable 1	0,79559556	0,055535822	14,32580858	2,37221E-39	0,686487909	0,904703211	0,686487909	0,904703211