
A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

ExxonMobil Equity Research – Adapting to a Transitioning Energy Market

Kristin-Laura Stamatova
51116

A Project carried out on the Master in Finance Program, under the supervision of:

Goncalo Rocha

16.12.2022

Abstract:

This master thesis evaluates ExxonMobil Corporation in a changing energy sector context and provides an in-depth analysis of the corporation's past performance, business, and strategy. The paper provides a company overview, a description of the business model, and current news and developments that will impact the company's future. Furthermore, it includes an industry overview, a competitive analysis, and a list of risks we took into account for our valuation model. By analyzing the company's strengths, weaknesses, opportunities, and threats and conducting a peer comparison, we estimate the company's future success and performance. The goal of the master thesis is to calculate the fair value for ExxonMobil during an extraordinarily volatile economic environment while simultaneously the energy sector is shifting toward sustainable energy generation.

Keywords: ExxonMobil, Energy, Valuation, Oil & Gas

This work used infrastructure and resources funded by Fundação para a Ciência e a Tecnologia (UID/ECO/00124/2013, UID/ECO/00124/2019 and Social Sciences DataLab, Project 22209), POR Lisboa (LISBOA-01-0145-FEDER-007722 and Social Sciences DataLab, Project 22209) and POR Norte (Social Sciences DataLab, Project 22209).

This report is part of the ExxonMobil Equity Research – The oil and gas major in transition report (annexed), developed by Marcelo Lopez Ramos Junior and Kristin-Laura Stamatova and should be read as an integral part of it.

Introduction

In this master thesis, an in-depth analysis is conducted for ExxonMobil Corporation, a major oil and gas company.

The paper provides a broad overview of the company, its business structure, products, operations, and financials and puts the company into context with the current economic environment. The goal of the analysis is to derive the fair value of ExxonMobil. To do so, we will conduct an in-depth valuation model where we will analyze the company's financials, past performance, and performance compared to peers and will conduct estimates based on our research.

My individual report consists of a company overview, in which the company is presented with its business structure, strategic assets, and recent developments and news that could influence its future performance and valuation. Further, it consists of an industry overview in which the context and economic environment are described to better understand what the company is navigating. Then a competitive analysis is conducted, where ExxonMobil is compared to its main peers with regard to its financials. Further, a SWOT analysis is conducted. Both analyses are helping to understand ExxonMobil's advantages and thus help to estimate its future performance. And lastly, the report finishes with an overview of the risks that we are considering in our valuation model.

Apart from this, our report includes an in-depth financial analysis of the company, where we also make a comparison to our peers if reasonable. This will help understand the financial situation and stability of the company. Moreover, we will explain the methodology behind our valuation model and conduct the business valuation. This section serves to explain and justify our decision behind the estimates and the valuation.

Finally, we derived the result that ExxonMobil is currently undervalued despite the currently high commodity prices and the geopolitical environment. The company demonstrates solid financials, promising growth potential, and seems to adjust fairly well to the energy market transition.

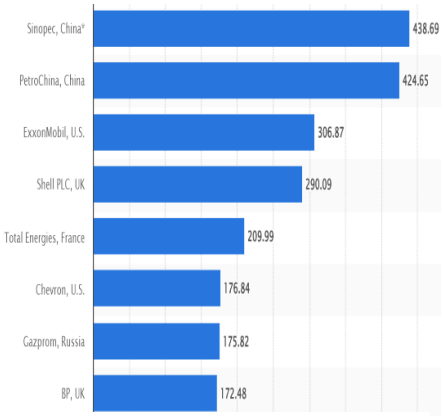
Table of Contents

Figure 1: Market Capitalization

Company Name	MCap ($bn)
Exxon Mobil Corp	438
Chevron Corp	333
Shell PLC	199
Conocophillips	141
BP PLC	105
Marathon Petroleum Corp	52
Phillips 66	48
Valero Energy Corp	46
PBF Energy Inc	5

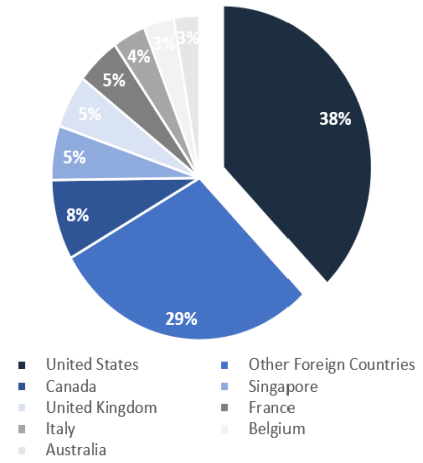
Source: Reuters, as of 15/12/2022

Figure 2: Oil & Gas Majors by Revenue



Source: Statista, as of 01/08/2022

Figure 3: FY2021 Revenue by Geography



Source: Bloomberg, as of 12/10/2020

Company Overview

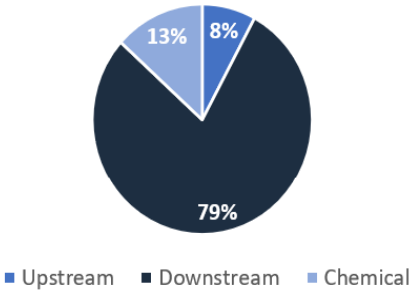
ExxonMobil (XOM), headquartered in Irving, Texas (USA), is the largest non-state-owned publicly traded multinational global (measured by market capitalization: ~$438bn[1]) energy company (Figure 1). It holds an industry-leading portfolio of assets in the oil and gas industry. The company has a long history dating back to the late 1850 and has grown through numerous M&A transactions, the latest most significant one being the merger between Exxon and Mobil in 1999, forming the current ExxonMobil Corporation. ExxonMobil generated operating revenue of $285.6bn (~57% increase vs. 2020) in 2021 and produced 2.3 million barrels of oil and 8.5 billion cubic feet of natural gas per day. At the end of 2021, reserves amounted to 18.5 billion barrels of oil equivalent, with liquids accounting for 66% of the total reserves. Its expertise lies in unconventional (i.e., Deepwater, LNG, heavy-oil) as well as conventional (i.e., land-based well) oil and gas assets. It is also one of the world's largest integrated refiners (capacity of 4.6 million barrels of oil per day), marketers of petroleum products, and chemical manufacturers. The company operates through Upstream, Downstream, and Chemicals segments in the United States, Canada, Africa, Asia, South America, Europe, and Australia/Oceania.

The company's brands include ExxonMobil Chemical, Exxon, Mobil, Esso, and XTO Energy. As of August 2022, ExxonMobil is the third largest energy company after Sinopec and PetroChina[2] and, thus, the largest publicly traded company based on their revenues (Figure 2). Around 38% of total sales and other operating revenue were generated in the U.S., while 62% was generated worldwide, led by Canada, Singapore, and the UK (Figure 3). Lastly, ExxonMobil maintained its growth while shrinking its workforce from 72,000 in 2019 to 63,000 employees in 2022. This corresponds to 84% and 85% fewer employees, respectively, compared to the above-mentioned competitors[3] and shows the company's efforts to reduce its operational cost to maintain or optimize its margins.

Its Upstream business includes crude oil and natural gas exploration and production. In 2021, the company experienced a significant turnaround in operating performance compared to 2020 as the economy recovered from the COVID-19 pandemic, and the demand and, thus, prices for oil and gas increased

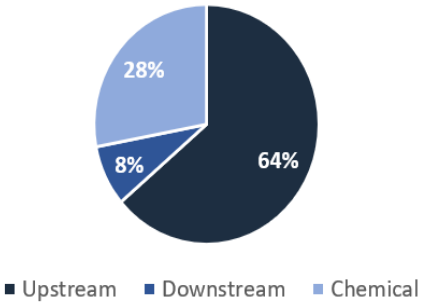
[1] Source: Reuters, as of 15/12/2022
[2] Top oil and gas companies by revenue 2022 | Statista
[3] Top oil and gas companies by employee number 2022 | Statista

Figure 4: Revenue by Business Division



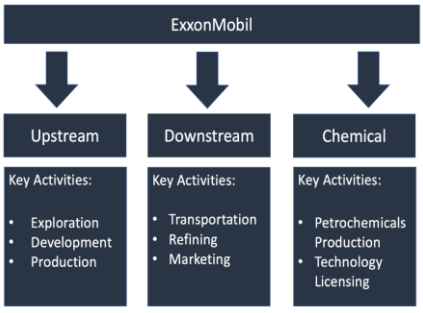
Source: Bloomberg, as of 12/10/2020

Figure 5: Earnings by Business Division



Source: Bloomberg, as of 12/10/2020

Figure 6: Initial Business Structure



significantly. Upstream operations generated revenues of $21.8bn (+50% vs. 2020: $14.6bn), accounting for ~8% of total revenues (Figure 4). The segment generated earnings of $15.8bn in 2021 compared to its loss of $20bn in the previous year (+179%). Its earnings account for ~64% of the company's total earnings of $23bn (Figure 5). Consequently, the Upstream segment represents ExxonMobil's largest profit contributor. However, note that this is also the most cost/investment-intensive division due to the high investment in the exploration of new resources. In 2021, the company invested $1.1bn in research and exploration.

The Downstream segment includes manufacturing, transport, trade, and sale of crude oil, natural gas, and petroleum products. The segment is by far the highest revenue contributor with $218bn (+55% vs. PY ($141bn)), representing 79% of total sales in 2021. However, in terms of earnings, it generated only $2.1bn (+91% vs. 2020: loss of $1.1bn), or 8% of total earnings – being ExxonMobil's least profitable division.

Finally, the Chemicals segment engages in manufacturing and selling petrochemicals, including olefins, polyolefins, aromatics, and other specialty products. Within this segment, ExxonMobil generated in 2021 revenue of $36.9bn (+60% vs. PY), accounting for 13% of total sales and earnings of $7.8bn (+290% vs. 2020: ~$2bn), corresponding to 28% of total earnings. Thus the Chemicals segment has been experiencing the highest growth.

Additionally, ExxonMobil increasingly pursues lower-emission business opportunities like carbon capture and storage (CCS), hydrogen, and biofuels. It is committed to becoming a peer leader in providing sustainable energy and thus is increasing its investment in this segment. Note that the company has over 30 years of experience in this field and has captured more CO_2 than any other firm. With an annual capacity of around 9 million metric tons or the equivalent of about 2 million passenger vehicles, it accounts for about one-fifth of the global carbon capture and storage capacity[4].

Business Model

Until 2Q2022, ExxonMobil operated in three business segments: Upstream, Downstream, and Chemicals (Figure 6). In order to improve the efficiency of its operations, ExxonMobil has reorganized its reporting segmentation in Upstream, Product Solutions, and Low Carbon Solutions starting in April 2022 (Figure 7).

[4] ExxonMobil planning hydrogen production, carbon capture and storage at Baytown complex | ExxonMobil

Figure 7: Updated Business Structure (April 2022)

Source: ExxonMobil Investors Relation Presentation 2021

Whereby Products Solutions is divided into Energy Products, Chemical Products, and Specialty Products and thus incorporates both Downstream and Chemicals. Product Solutions will develop, manufacture, and deliver more sustainable products such as lower-emission fuels, chemical performance products, and next-generation lubricants and plastics. This new integrated business segment is dedicated to high-value products, improving portfolio value, and achieving a leading position in sustainability. The Low Carbon Solutions segment is involved in lower-emission business opportunities such as carbon capture and storage, as well as hydrogen and biofuels. This new segment reflects the company's ambition to lead the energy transition. Furthermore, the corporation centralized its Technology & Engineering and its Operations & Sustainability groups to realize the benefits of scale, technology, and integration. As a reorganization result, the company is on track to reduce annual structural costs by ~$9bn until 2023 compared to 2019.

Note that in this report, we are referring to the initial segmentation structure as this is the relevant one for the past years that we have been using for our analysis and allows for better comparability with peers.

Upstream…

The business model of the Upstream segment is based on exploration, development, extraction, natural gas marketing, and research activities. It is separated into five value chains: Deepwater, Unconventional, LNG, Heavy Oil, and Conventional. Identifying and evaluating new oil and gas resources are at the core of its exploration operations. Once the size and location of potential new oil and gas reservoirs are determined, the development operations begin. Development operations include drilling production wells and constructing the necessary infrastructure, like platforms, processing facilities, field storages, and pipelines or terminals for transportation. Once the development process is completed, ExxonMobil begins to pump the oil and gas to the surface, where it will be extracted, processed, and stored. The company expects to double its Upstream earnings by 2027 versus 2019 as its new strategy is investing mainly (>70%) in high-return and low-cost-of-supply projects. Some of its strategic assets are in the U.S. Permian Basin, Guyana, Brazil, and LNG projects globally.

Downstream…

ExxonMobil's Downstream segment is focused on refining, marketing, and selling various petroleum products such as gasoline, jet fuel, fuel oil, diesel, and propane. Once the crude oil is extracted, it will be transported via pipelines, ships, and railways to one of the 21 company-owned refineries. At the refinery, the oil is processed into gasoline and other petroleum products such as propane, diesel, heating oil, and lubricant base stocks. The company offers a wide range of industrial, commercial, consumer, marine, and aviation lubricants, base stocks, and specialty products.

While Aviation, Chemicals, Marine, Base stocks, and Specialities are marketed under ExxonMobil, its global marketing operations and product sales are supported by its Exxon, Esso, and Mobil brands. Exxon is the leading fuel retailer in the U.S., Esso, for the rest of the world, and Mobil is recognized globally for its advanced technology in fuels and lubricants. ExxonMobil's marketing relies on a global network of more than 21,000 retail stations and commercial channels.

Chemicals…

ExxonMobil Chemical is one of the world's largest chemical producers. The segment produces high-quality chemical products in 16 countries. It supplies olefins, polyolefins, aromatics, and a variety of other petrochemicals. Their clients include industries such as Adhesives, Agriculture, Automotive, Building & Construction, Consumer Products, Healthcare & Medical, Labels, Lubricants, Nonwovens, and Packaging.

Looking at the business model, we notice that the Company's Downstream is a key driver of revenues, followed by the Chemicals segment. However, when it comes to profitability, Upstream is unbeaten (Figure 5). Simultaneously, it is its most capital intense segment as the exploration and development require high initial investments.

Recent News

Discontinues operations in Russia….

Amid the Russian invasion of Ukraine, ExxonMobil decided in March 2022 to discontinue its strategic operations at the Sakhalin-1 project in Russia[5]. The company had developed steps to exit the venture securely. The planned exit from Russia's Sakhalin-1 was highlighted as an unfavorable item in the first quarter's earnings, amounting to $3.4bn. After over half a year of negotiations to transfer ExxonMobil´s assets, the Russian government expropriated these assets in October 2022. Due date, it is still unclear whether ExxonMobil received any reimbursement. However, the company stated that it intends to retain its legal options to claim damages under both its production-sharing agreement and international law[6].

Rise in planned share-repurchase program and dividend…

Earlier this year, the corporation announced to increase in its repurchase program to $50bn from its initially announced $30 billion share-repurchase program through 2024. It raised its annual dividends for the 40th year in a row to $3.55/share (annual dividend). ExxonMobil anticipates distributing around $30 billion to stockholders by the end of 2022, including $15 billion in dividends and $15 billion in share repurchases.

[5] Exxon to exit Russia, leaving $4 bln in assets | Reuters
[6] Exxon fully withdraws from Russia after Putin seizes assets - CBS News

Sustainability

Continues development of lower-emission energy solutions…

ExxonMobil is keen to achieve a leading role in the ongoing energy transition and is therefore conducting major investments in lower-emission solutions. More than $10bn has been spent on research, development, and implementation of lower-emission energy technologies since 2000. From the expected current annual capital expenditures of $20-$23bn, around $17bn (a 15% increase to last year's 5y corporate plan) will be invested in its emission reduction operations and accretive third-party initiatives, including its Low Carbon Solutions business, to reduce emissions throughout 2027. The company expects these investments to generate an overall return of >10% during this timeframe.

2025 GHG emission-reduction plans achieved ahead of schedule…

The corporation already achieved its 2025 greenhouse gas (GHG) emission-reduction goals in 2021 (Upstream: 40-50% reduction in methane intensity and 35-45% in flaring intensity vs. 2016). This is in line with ExxonMobil's 2030 emission reduction plans, which include continuous investment in low-emission solutions and achieving net-zero emissions in the Permian Basin's unconventional operations. Note that the unconventional Permian assets account for 40% of ExxonMobil's net U.S. oil and natural gas production. For its non-operated assets, the company collaborates with its partners to improve GHG emissions. The 2030 emission reduction plans include reductions of 20-30% corporate-wide GHG emissions (absolute reduction is ~20% and corresponds to ~23 million metric tons), 40-50% in upstream (~absolute reduction is ~30% and corresponds to ~15 million metric tons), 70-80% in corporate-wide methane (absolute methane reduction of 70%), and 60-70% in corporate-wide flaring intensity (absolute flaring reduction of ~60%).

Net-zero GHG emission from operations by 2050…

Moreover, the company is planning to achieve net-zero GHG emissions from its operational business by 2050 and thus complies with its Scope 1 and 2 net-zero GHG emission plans. The company's sustainability progress is consistent with the Paris-aligned pathways, the U.S. Methane Emissions Reduction Action Plan, and the U.S. and European Union's Global Methane Pledge. ExxonMobil wants to achieve GHG emission reductions by deploying lower-emission fuels, hydrogen, carbon capture, and storage for its operations and incorporating energy sources. To achieve its sustainability goal, the company will utilize low-carbon electricity for its facilities, optimize its methane emission detection, cut routine flaring, and use innovative equipment. Several renewable fuel projects are advancing. For instance, the company entered a partnership with Global Clean Energy Holdings as it plans to involve in sustainable diesel production and is planning to build a blue hydrogen plant at its refining and petrochemical complex in Baytown, Texas.

Poker Lake natural gas certified with an "A" grade…

And lastly, the non-profit organization MiQ recognized ExxonMobil´s operational methane and emission reduction effort at its Permian Basin as it certified the natural gas produced at Poker Lake, New Mexico, with an "A" grade – the best possible. The company is expecting further operations to achieve this rating in the U.S. In our view, this gives ExxonMobil a significant advantage for its natural gas business as customers prefer products with a lower CO2 footprint.

Strategic Assets

With a vast portfolio of assets that provide significant growth opportunities, ExxonMobil is well-invested. We see further growth potential as the company continues to invest in its Upstream segment. About 70% of its 2022 - 2027 investments are allocated to its four key strategic assets: Guyana, Permian, Brazil, and LNG. These projects are expected to generate returns of >10% at oil prices <$35/bbl. The company advances the development of its flagship project in Guyana while increasing production in the Permian Basin, launching large-scale offshore developments in Brazil, scaling up its LNG business, and optimizing its Baytown operations.

- Guyana

The growth cornerstone…

ExxonMobil is well established in Guyana with numerous exploration and development activities. It includes the offshore blocks Stabroek, Canje, and Kaieteur. In the past year, several new discoveries (five in 2022 alone) were made, increasing the estimated recoverable resource from the Guyana facilities. Currently, the Liza Phase 1, ExxonMobil's first offshore project in Guyana, is producing over 120,000 bbl/d and has a storage capacity of 1.6 million barrels. Liza Phase 2, Stabroek's second oil discovery, the Liza Unity floating production, storage, and offloading vessel ("FPSO"), started production ahead of schedule in February 2022 and is producing up to 220,000 bbl/d. Moreover, in Payara, the company expects its third development to start operating by 2023. A third FPSO vessel will start developing the resources in Payara and Pacora and will supply an estimated production of 220,000 bbl/d. Furthermore, in 2025, ExxonMobil expects its largest project to date, Yellowtail, to begin production of 250,000 bbl/d. The company's operation in Guyana accounted in 2021 for ~70% of ExxonMobil's proven reserves. Furthermore, the operations have a low break-even price at $35/bbl (expected to drop to $25/bbl when Liza Phase 2 begins operations) and is expected to reach a production of 1m barrels a day by 2030[7]. As it is a high-margin asset, we can expect strong cash flow generation in the following years.

[7] As the Company states; with a production of 1mb/d the project alone could be one of the top 20 suppliers worldwide

- Permian Basin

The key growth are for U.S. Upstream…

ExxonMobil continues to improve its Permian Basin production growth and efficiency. In 3Q2022, the facility achieved a record production of almost 560,000 oil-equivalent barrels per day (kboe/d); year-over-year total output increased by 50,000 kboe/d. In total, in 2022, a production increase of 25% is expected compared to 2021. By 2027 the company is planning a production of >800kboe/d, thus generating >$5bn in FCF. In addition, the company increased its production and refining capacity, thereby reducing its capital and operating costs throughout 2021 while simultaneously growing its free cash. Since 2019 ~35% of total cost reduction was achieved in unit lease operating expenses and drilling & completion. Furthermore, the completion efficiency was improved by 75%. All of this was achieved while the Permian Basin was on track with its industry-leading sustainability plans. This shows that ExxonMobil's management is successfully optimizing the facility's potential. It is now able to maintain an investment return of >10% at Brent prices <$35/bbl. Due to high growth potential and ongoing investments to further improve operations, this project is one of ExxonMobil's key assets. We, therefore, expect high future cash flow generations.

- Brazil

In Brazil, ExxonMobil is one of the biggest global oil companies and operates 17 drilling blocks with over 2.5 million net acres. Its key operations are focused on the Bacalhau development. The production start-up is expected in 2024, and the company will generate ~88,000 kboe/d (ExxonMobil holds a 40% share in the project). Moreover, by 2027 the enterprise estimates to generate +$1bn in cash flow only from its Bacalhau operations.

- LNG

LNG output to double by 2030…

As global LNG demand has risen significantly and is still expected to rise, ExxonMobil is keen to serve this demand. Therefore it continues to expand its LNG business and is planning to achieve a production of 27mt p.a. by 2027. ExxonMobil has several ongoing projects and expects to generate returns of >10% on all LNG developments at natural gas prices of $6/MMBtu (vs. currently $6.9/MMBtu[8]). Its key growth projects include Coral South FLNG (3.4mt p.a.), which started its production in October 2022; Golden Pass LNG (16mt p.a.), which is expected to begin production in 2024; Rovuma LNG (15mt p.a.), which is expected to start its first phase in 2028 and second in 2030; Papua LNG (5mt p.a.), which is expected to start up in 2027, and Qatar's North Field East, which

[8] Natural gas - 2022 Data - 1990-2021 Historical - 2023 Forecast - Price - Quote - Chart (tradingeconomics.com)

ExxonMobil has a stake of 6.25% for 2.1mtpa. As the company is advancing its low-cost and capital-efficient projects, it is planning to double its LNG output by 2030. We see high growth and profit potential resulting from its LNG operations.

- Baytown Texas

The Baytown facility is the largest integrated refining and petrochemical facility in the U.S. and the world's largest ethylene production facility. The company will develop a world-scale blue hydrogen plant at its refining and petrochemical complex in Baytown, Texas, to further support its GHG emission reductions. The plant is expected to generate up to 1 million metric tons of hydrogen per year and includes one of the world's largest carbon capture and storage projects. The CCS project is capable of storing up to 10 million metric tons per year. This will almost double the amount it is currently able to store (9 million metric tons per year).

About 95% of the CO2 emissions associated with hydrogen production will be captured and safely deposited underground. ExxonMobil already has extensive experience with hydrogen. However, the new facility has the potential to boost the production capacity by 65% from its current 1.3 million metric tons per year. The hydrogen will fuel ExxonMobil's facilities in Houston, such as the olefins plant at Baytown. Using hydrogen could reduce the integrated facility's CO_2 emissions by up to 30%.

Industry Overview

In 2021, the economic recovery from the effects of the COVID-19 pandemic led to a rebound in global energy demand. This, combined with supply-side constraints, led to a significant increase in energy prices. This trend was accelerated in the first half of 2022 due to the high energy uncertainties resulting from Russia's invasion of Ukraine. While oil prices reached a 30-year low at the beginning of the pandemic, in May 2022, they rose to their highest level (Brent at $123/bbl[9]) in more than a decade. Electricity prices showed similar volatility, affecting the energy costs of many businesses and households. At the same time, the long-term shift to low-carbon energy continues to gain momentum, and renewable energy growth is accelerating.

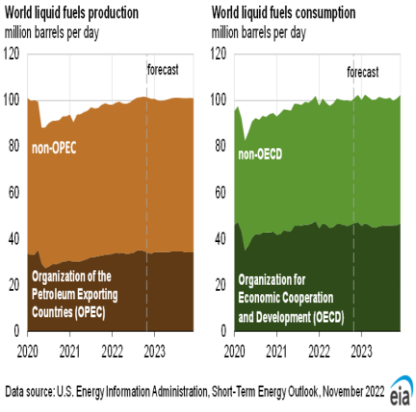
Crude Oil

Amid a downward trend in oil prices due to rising concerns of a global economic slowdown (increasing interest rates in the U.S./EU, inflation, weaker China demand due to COVID, oil price cap on Russian oil), OPEC+ announced a

[9] Crude oil price chart 2022 | Statista

reduction of production targets by 2mmb/d starting in November 2022 until the end of 2023[10]. However, only a decrease of 720,000 bbl/d was achieved in November. This is in line with our expectations that the effective reduction will most likely not exceed ~1mmb/d as many OPEC members are not able to stick to their quotas (3.6mmb/d over-compliance in August). However, due to a slowing Chinese economy and a G7 price cap of $60/b on Russian oil, OPEC stays dedicated to reducing production in order to keep prices up.

Figure 8: World liquid fuel production & consumption

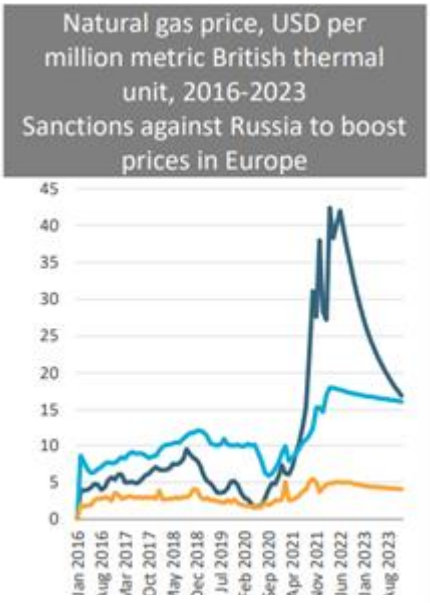


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Despite the concerns around a global economic downturn, we expect that global oil consumption will outpace global oil production in 2023, which is in line with the consensus (Figure 8). Furthermore, we believe that oil prices have most likely already reached their peak in 2022 [$100/bbl - $130/bbl], will stay above pre-pandemic levels until the end of 2023, and then gradually normalize [$60/bbl - $80/bbl]. We are estimating a year-over-year price range of $60/bbl - $103/bbl (note that this is relatively conservative compared to the company's expected range of $50/bbl - $120/bbl) for 2022-2030, which corresponds to an average price for the period 2022-2030 of $74/bbl (average of the year average price estimate). In a downside scenario, we we anticipate that prices will not fall below the mark of ~$45/bbl, while in an upside scenario, prices will not surpass $105/bbl.

In the current high oil price environment, ExxonMobil is achieving strong profitability in light of a break-even price of its Upstream/production portfolio at $41/bbl. The company is expecting to improve this break-even price to ~$30/bbl.

Figure 9: Natural Gas Price



Source: Passport; Global Overview of the Energy Industry, as of May 2022

Natural Gas

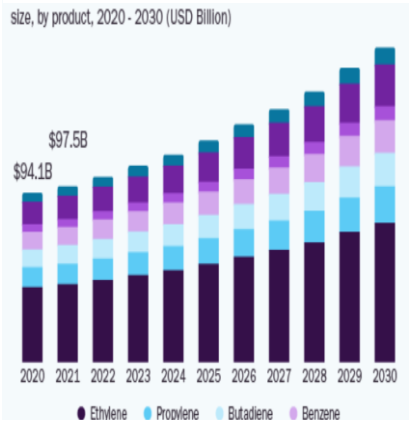
During the COVID pandemic in 2020 and H1/2021, natural gas demand has decreased globally, leading to lower production and inventory levels. In light of the easing of the pandemic's adverse impact on most Western countries from H2/2021 onwards, economic activity and, thus, gas consumption and prices (amplified by low inventory levels) have increased significantly. In the peak, in H2/2021, natural gas prices were five times higher in Europe (339€/MWh ~117$/MMBtu[11])[12] and two times higher in the U.S. ($9.7/MMBtu)[13] compared to 2020. In 2022, the Russian invasion of Ukraine led to significant supply-side uncertainty in the EU. based on lower import volumes from Russia and limited alternative gas supplies, which boosted natural gas prices. In order to compensate for missing Russian gas imports (~40% of total EU imports), the EU

[10] OPEC announces big cut in oil production despite US pressure | CNN Business
[11] Calculation based on EUR/USD exchange rate as of 26/08/2021
[12] EU Natural Gas - 2022 Data - 2010-2021 Historical - 2023 Forecast - Price - Quote (tradingeconomics.com)
[13] Natural gas - 2022 Data - 1990-2021 Historical - 2023 Forecast - Price - Quote - Chart (tradingeconomics.com)

has tapped the U.S. liquefied natural gas (LNG) market – thereby pushing gas prices up on a global basis. In light of limited alternative natural gas suppliers, we deem that Europe will continue to rely heavily on U.S. natural gas and thus significantly increase the global LNG demand. With regard to the ongoing energy transition, natural gas is a resource that will increase in demand as its Levelized cost of energy is much lower than conventional fuels like coal and thus is more economical and ecological. In our forecast, we expect average natural gas prices to range from $2/MMBtu to $6.7/MMBtu for 2023 – 2030. We believe that energy companies like ExxonMobil, which have a solid resource portfolio and an established business, are well positioned to profit and grow due to the expected demand increase for natural gas and LNG.

Petrochemicals

Figure 10: U.S. Petrochemicals Growth



Source: Grandviewresearch, as of December 2022

The petrochemical sector transforms gas processing and oil refining's basic materials into a variety of goods. These consist of artificial fertilizers, plastics, synthetic textiles, adhesives, dyes, detergents, and paints & coatings. However, since the COVID-19 pandemic, this sector has had problems recovering its strength, facing unprecedented challenges.

Petrochemical demand grew in 2020 due to rising demand for consumer staples like personal care products and household goods and falling demand for durables like automobiles and appliances[14]. Thus the price of oil significantly determined how much money the industry made. As a result, petrochemical businesses reported a revenue decline in 2021.

Due to the extensive Consumer and Packaging exposure of the Chemicals industry, it experienced considerable demand growth, particularly for Integrated Polyethylene and Polypropylene, which are frequently used in household goods and food packaging.

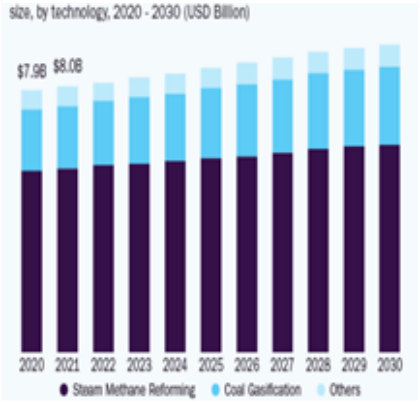
Nearly 2.3 billion metric tons of chemicals were produced globally in 2021. The market value in 2021 reached $556bn and is expected to grow with a $CAGR_{2022-2030}$ of 6.2%. Growth in demand for products from several end-use industries, including the construction, pharmaceutical, and automotive sectors, is primarily driving the market[15].

[14] Petrochemicals 2020: Resilience and the road to recovery | McKinsey
[15] Petrochemicals Market Size & Share Report, 2022-2030 (grandviewresearch.com)

Carbon Capture and Storage, Hydrogen and Biofuels

The carbon capture and storage (CCS) market is projected to grow with a $CAGR_{2021-2028}$ of 19.5% and reach a market size of $7bn[16]. The expansion of the industry's major alliances and growing competition to complete large-scale production facilities are some of the drivers that are responsible for the market growth. Increasing pressure to reduce carbon emissions will also promote growth. In 2018, North America accounted for a sizeable portion of the global market for CCS. Due to the presence of highly developed research and development facilities in Canada and the U.S., it is expected that the captured and stored amount of carbon in this region will increase significantly, supporting the world's zero GHG emission goals. We see significant growth potential for companies that already have experience with CCS.

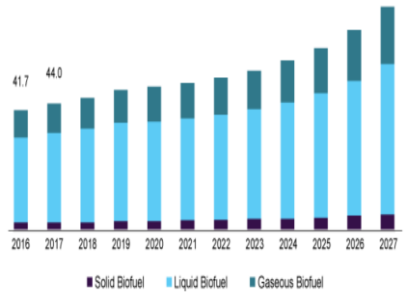
Figure 11: U.S. Hydrogen Generation



Source: Grandviewresearch, as of December 2022

The size of the global hydrogen generation market was estimated at ~$130bn in 2021, and it is anticipated to increase at a $CAGR_{2022-2030}$ of 6.4%[17]. The need for low-carbon fuels and the expansion of regulatory rules requiring the desulfurization of petroleum products is projected to be the main drivers of the global market for hydrogen generation. Since hydrogen is a powerful energy source, its continued market penetration is anticipated to benefit greatly from this.

Figure 12: U.S. Biofuels Market Size in $bn



Source: Grandviewresearch, as of December 2022

The size of the worldwide biofuels market, which was ~$155bn in 2021, is anticipated to grow at a 7% $CAGR_{2022-2030}$ in terms of revenue[18]. Expanding demand for biofuels in automobiles to reduce carbon emissions and rising R&D activities by governments of various nations are the main drivers propelling the growth of the global biofuel industry.

Competitive Positioning

The energy industry is a highly competitive one. It is an industry where companies experience domestic and international competition from private and state-owned companies worldwide. However, established large multinational companies like ExxonMobil are facing mainly international competition from other major integrated oil companies as the global sector is dominated by a small number of very big incumbents (e.g., BP, Chevron, ExxonMobil, Shell, and others). These majors are benefiting from resilient and profitable business models based on vertical integration across the full value chain (Upstream to Downstream operations), well-capitalized balance sheets with cost-efficient

[16] Carbon Capture and Sequestration Market Size to Grow Worth (globenewswire.com)
[17] Global Hydrogen Generation Market Size Report, 2030 (grandviewresearch.com)
[18] Biofuels Market Trend | Industry Forecast 2021-2030 (emergenresearch.com)

access to capital based on strong Investment Grade financials/credit profiles, and strong economies of scale reducing the risk of new market entrants.

Progressing energy transition from conventional fuels towards renewables has intensified competitive behaviour among energy majors. This has resulted in companies transforming the way they operate and shifting their product spectrum towards more sustainable energy sources, such as hydrogen and biofuels, as well as engaging in the carbon capture and storage business. The ongoing investments and success rate in this area will undoubtedly determine the companies' future and market share. Thus investments in renewables, technological advances, and digitalization are key to securing a competitive advantage.

Peer Analysis

ExxonMobil's key competitors include US-based Chevron Corp. (CVX), as well as UK-based Shell PLC (SHEL) and BP PLC (BP), which are all major integrated oil companies operating on a global scale and are private / not state-owned companies. The chosen peers have similar business models, product segments, as well as geographic footprints.

In terms of size defined by market capitalization, ExxonMobil is clearly the largest player within the peer group, followed by Chevron and Shell. When comparing based on sales, ExxonMobil is still leading peers, with Shell and BP in second and third place (Appendix Peer Overview Table). We note, in this context, the significant valuation gap between U.S. and European players (XOM: EV/Sales LTM: 1.2x vs. SHEL: 0.6x vs. BP: 0.6x). Several drivers are explaining this finding. First, oil and gas companies have been generating significantly higher earnings since 2021 due to the high oil and gas prices, which the Russo-Ukrainian conflict this year has further boosted. However, European oil and gas companies are facing windfall taxes and thus lower profitability, while the likelihood of windfall taxes on U.S. companies decreased after the U.S. Midterm Election results in November 2022. This is driven by the fact that the House of Representatives and Senate are opposed in their windfall tax opinions. The Republicans have stated that they are against windfall taxes, which makes passing this legislation very unlikely in the near future. The second significant reason lies in carbon taxation. While the European Union, the U.K., and other European countries are already implementing carbon taxes, for the U.S., this is not the case. In general, European companies are facing harsher regulatory pressure and costs in terms of ESG than their U.S. counterparts.

In 2021, peers experienced significant sales growth based on increasing oil and gas prices vs. 2020 – a year marked by lower demand and prices due to the COVID pandemic. Growth rates year-over-year ranged between ~45-65%, with ExxonMobil growing its top line by ~55% (#2 within peer group). Based on a 5-years historical perspective, U.S. peers clearly outperformed European players, with both ExxonMobil and Chevron generating a $CAGR_{2017-21}$ of ~3.7 - 3.9% vs. negative rates at BP and Shell.

ExxonMobil´s profitability in terms of EBITDA margin is in line with BP and Shell, with Chevron beating ExxonMobil on this metric. It seems that Chevron is more profitable; however, ExxonMobil's operational structure differs from Chevron´s in a way that ExxonMobil is more engaged in Deepwater exploration than Chevron. Thus ExxonMobil is facing much higher exploration expenses related to this operation. All of this slims down their net margins and thus makes them appear less profitable compared to Chevron.

In terms of balance sheet strength, ExxonMobil and Chevron offer very similar financial profiles with low net leverage at 1.0xEBITDA and strong equity ratios of 74% and 80%, respectively. Both companies are rated strong Investment Grade AA - by S&P securing access to cost-efficient debt funding. European peers SHEL and BP were lagging both in terms of leverage and equity ratios, with BP's higher leverage affected by the Deepwater Horizon accident and related multibillion-dollar (debt-financed) penalties.

From a trading multiples valuation perspective, ExxonMobil trades at a slight discount to its U.S. peer Chevron across all metrics. We deem the valuation gap largely explained by the stronger top-line growth and profitability evident at Chevron. Based on EV/EBITDA multiples, ExxonMobil trades at 4.4x - 4.6x (NTM vs. LTM), i.e., a 0.4x - 0.8x discount to Chevron. Trading valuations of European peers are significantly lower vs. U.S. peers with EV/EBITDA valuations in the area of 2.8x - 3.2x (i.e., 1.6 - 2.2x discount to U.S. peers) due to the reasons explained earlier in this section.

SWOT Analysis

The company's main advantages include a diverse geographic revenue stream, large and profitable upstream and downstream operations, a strong asset base, and strong production capabilities, yet, an increase in liabilities continues to be a source of concern, especially as ExxonMobil's net debt is at an upper end compared to its peers.

- Strengths

Geographically diverse, solid Up- and Downstream with growth potential…

ExxonMobil is broadly present in many different locations. Geographically, the company's revenue source is diverse. The geographic segments are divided into U.S. and non-U.S., Canada, the United Kingdom, Belgium, Italy, France, Singapore, Germany, and others. In 2021, the company's total revenue from the U.S. was 37.7%, and from non-U.S. regions, 62.3%. Its global operations and regional brand awareness provide it with a competitive edge and show that it has further potential to use its global presence to boost revenues.

Additionally, because of its global reach, it is less exposed to any country's political stability or economic circumstances. The company has substantial Upstream and Downstream activities, which give the business a sizable competitive advantage over its rivals. In 2021, ExxonMobil supplied 5.2 million barrels of petroleum products daily, and its refineries produced 3.9 million barrels of crude oil daily. And lastly, the company's significant size and the current increase in revenue due to high oil/gas prices boost the company's capacity to set aside capital to fund the expansion of its future operations.

- Weaknesses

More debt sounds concerning, but strong cash flow generation mitigates…

The company has continued to increase its debt during 2021 (+0.5% vs. 2020). A significant gross debt position increases risk in times of cyclical downturn / lower profitability, potentially leading to a credit rating deterioration and, thus, higher funding costs or refinancing risk. In light of strong cash generation [2021: FCF ~$36bn], net leverage as per year-end 2021 at 1.0x (in line with CVX), and strong AA- Investment Grade rating, we consider funding cost/refinancing risk as rather remote.

- Opportunities

Strong strategic partnerships to boost growth potential…

We believe that ExxonMobil's strong partnerships with other corporations in the energy sector are an opportunity that can support revenue and market share growth. For instance, in June 2022, the enterprise signed a deal with Whitecap Resources Inc. to sell XTO Energy Canada. The transaction is anticipated to complement its strategy of concentrating upstream resources on low-cost, high-profit assets in order to provide shareholders with long-term value. Furthermore, ExxonMobil's continued focus on expansion in its operations, such as in Guyana or in its Permian Basin, yields significant future growth potential.

- Threats

Commodity price fluctuations, unforeseen operation complications, and economic stability…

As the Company is operating within the commodities business, fluctuations in the price of oil, gas, and petrochemicals and changes in the margins on refined

products may substantially impact operations and earnings. Another risk ExxonMobil is exposed to is that successful exploration and development are not guaranteed. Some projects might turn out to have more cost for technology and recovery than revenue from production. Furthermore, drilling hazards or environmental circumstances might affect the success of the Company's projects. And lastly, macroeconomic downturns/cycles can also have a big impact on the Company's performance, as we saw in 2020.

Risks

The current market environment is facing many uncertainties due to the war between Russia and Ukraine and recession fears. In our valuation, we are considering the following five main risks.

Commodity Price Volatility… Commodity prices are volatile and dependent on a number of variables, such as shifts in supply and demand, the state of the economy, weather, the amount of inventories, the ability of the OPEC cartel to keep their quotas and thus exerts market power, governmental policy regulations, and the global political situation.

Energy Transition Acceleration… A faster-than-anticipated energy transition that focuses on essential areas outside of XOM´s portfolio, including renewable power generation, might confront the business with significant difficulties as it threatens their traditional business. Furthermore, ExxonMobil will be subject to hard competition from companies that have more experience in renewable energy generation.

Exploration Uncertainties… Oil and natural gas exploration are risky as it involves high operational costs, and success is hardly predictable. There is no guarantee that drilling activities will yield commercial quantities of oil or gas, and the company may not be able to replenish its produced reserves in a given year, which would probably have a detrimental effect on the company's share price. The success or failure of ExxonMobil's big drilling program will affect the performance of its relative share price.

Resource Nationalism and Scarcity… Besides the risk of resource scarcity, which is making exploration more difficult, some countries might restrict foreign developers' access to their resource reservoirs. Especially in periods of high commodity prices, when national governments may not require as much foreign private capital, restrictions on foreign investment in the oil and gas sector tend to grow.

Operational Delays… ExxonMobil´s operations are concentrated on Deepwater exploration and development, which have historically experienced project delays due to the complexity of the operation. Capital availability, weather conditions, and equipment availability may be some potential delay factors. Moreover, not all of

the business's exploration blocks are operated by it, which gives other producers authority over the timetable of development and anticipated cash flows for the company.

Appendix

Peer Overview

Peer Overview (2021A figures)	ExxonMobil	BP	Chevron	Shell
Company				
Headquarter				
Market Capitalization (9-Dec-2022)	426.408			
Operating Metrics				
Sales (USD mn)	**276.692**	**157.739**	**155.606**	**261.461**
Sales growth (vs. Prior Year)	*54,9%*	*48,9%*	*64,7%*	*44,9%*
Sales growth (CAGR2017-21)	*3,9%*	*-10,0%*	*3,7%*	*-3,8%*
EBITDA (USD mn)	**46.187**	**23.545**	**33.405**	**45.627**
EBITDA margin	*16,7%*	*14,9%*	*21,5%*	*17,5%*
Balance Sheet Metrics				
Net Debt (USD mn)	46.227	39.063	29.197	52.116
Net Leverage	1,0x	1,7x	0,9x	1,1x
Gearing (Debt/Equity)	31,5%	92,5%	25,1%	51,8%
Equity Ratio	73,7%	47,1%	79,6%	65,0%
Credit Rating (S&P)	AA-	A-	AA-	A+
Valuation Metrics*				
EV/Sales Last Twelve Months (30.09.22)	1,2x	0,6x	1,5x	0,6x
EV/Sales Next Twelve Months (30.09.22)	1,2x	0,7x	1,5x	0,7x
EV/EBITDA Last Twelve Months (30.09.22)	4,6x	3,1x	5,4x	2,8x
EV/EBITDA Next Twelve Months	4,4x	2,8x	5,0x	3,2x
P/E Last Twelve Months	8,5x	n.m.	9,5x	4,4x
P/E Next Twelve Months	8,9x	n.m.	9,6x	5,3x

** Accounting Data based on 30.09.2022 financial statements; in LTM / NTM case: last / next twelve months until 30.09.22 / 30.09.23*
** Source: Capital Iq, as of 09.12.2022*

EXXONMOBIL CORPORATION

COMPANY REPORT

ENERGY

16 DECEMBER 2022

KRISTIN-LAURA STAMATOVA

51116@novasbe.pt

The oil and gas major in transition

Is ExxonMobil an energy pioneer?

- Based on a DCF valuation, we derive an FY2023 target price of $126.40. This represents an upside potential of 18.73% to the reference share price. Therefore, we issue a BUY recommendation.
- The company continues to improve its operational key indicators, such as ROIC, from 5% in 2017 to 8.6% in 2021.
- ExxonMobil continues to deleverage its business and targets a D/E ratio of 25% by the end of FY2024.
- ExxonMobil is adjusting and expanding its vast product portfolio amid the ongoing energy transition. The company is keen to become a leader in the current transition and is dedicating $15bn through 2027 to its operational CO_2 emission reduction.
- For the 40th consecutive year, the company is increasing its annual dividend payments to $3.55 in FY2022.
- Further increased their share repurchase program to $50bn. The company will distribute around $30 billion to stockholders by the end of 2022, including $15 billion in dividends and $15 billion in share repurchases.

Company description

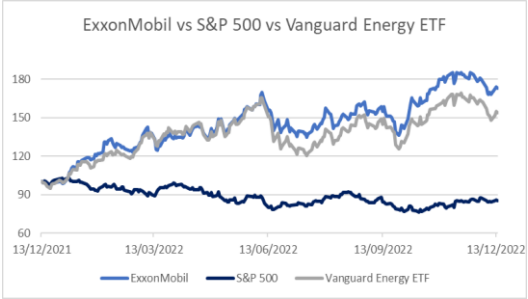
ExxonMobil Corporation is a global energy company headquartered in Irving, Texas. The company generates revenue mainly through exploration, production, manufacture, transportation, and sale of crude oil, natural gas, petroleum, and chemical products. Until April 2022, ExxonMobil operated in three business segments; Upstream, Downstream, and Chemicals. Now it changed its structure to Upstream, Product Solutions, and Low Carbon Solutions.

Recommendation:	**BUY**
Price Target FY23:	**126.40 $**
Upside	*+18.73%*
Price (as of 27-Feb-23)	**106.46 $**

Reuters: XOM, Bloomberg: XOM US Equity

52-week range ($)	57.96 - 114.66
Market Cap ($m)	438,433.5
Outstanding Shares (m)	4,118.3

Source: Bloomberg, as of 14/12/2022



Source: Bloomberg, as of 14/12/2022

(Values in $ millions)	2021	2022E	2023F
Revenues	276,692	281,010	288,893
EBITDA	60,198	51,388	52,409
Net Margin	8.5%	7%	8%
EV/EBITDA	4.6x	3.5x	4x
P/E	8.5	9.6	11
D/E	28%	23%	25%
ROIC	8.6%	13%	10%
EBITDA Margin	15.7%	17%	16%

Source: Reuters, as of 13/12/2022

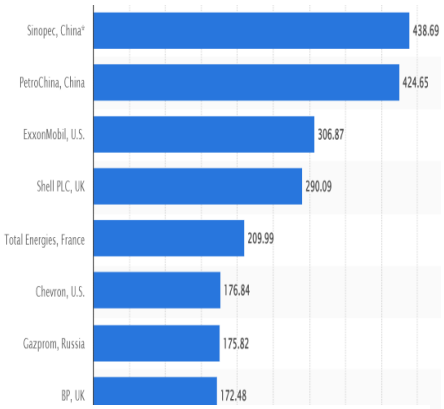
Table of Contents

Figure 1: Market Capitalization

Company Name	MCap ($bn)
Exxon Mobil Corp	438
Chevron Corp	333
Shell PLC	199
Conocophillips	141
BP PLC	105
Marathon Petroleum Corp	52
Phillips 66	48
Valero Energy Corp	46
PBF Energy Inc	5

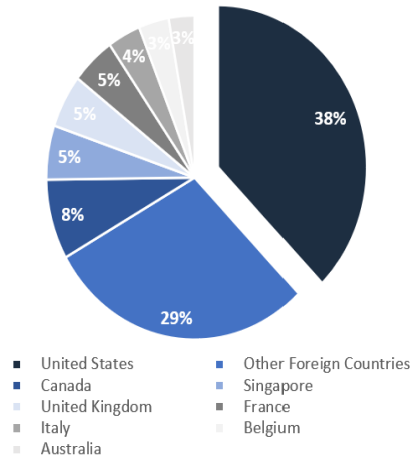
Source: Reuters, as of 15/12/2022

Figure 2: Oil & Gas Majors by Revenue



Source: Statista, as of 01/08/2022

Figure 3: FY2021 Revenue by Geography



Source: Bloomberg, as of 12/10/2020

Company Overview

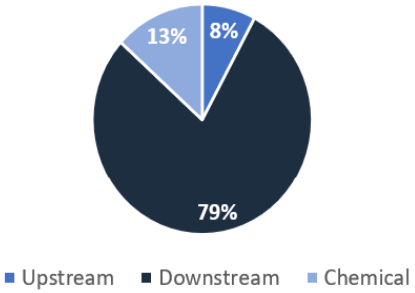
ExxonMobil (XOM), headquartered in Irving, Texas (USA), is the largest non-state-owned publicly traded multinational global (measured by market capitalization: ~$438bn[1]) energy company (Figure 1). It holds an industry-leading portfolio of assets in the oil and gas industry. The company has a long history dating back to the late 1850 and has grown through numerous M&A transactions, the latest most significant one being the merger between Exxon and Mobil in 1999, forming the current ExxonMobil Corporation. ExxonMobil generated operating revenue of $285.6bn (~57% increase vs. 2020) in 2021 and produced 2.3 million barrels of oil and 8.5 billion cubic feet of natural gas per day. At the end of 2021, reserves amounted to 18.5 billion barrels of oil equivalent, with liquids accounting for 66% of the total reserves. Its expertise lies in unconventional (i.e., Deepwater, LNG, heavy-oil) as well as conventional (i.e., land-based well) oil and gas assets. It is also one of the world's largest integrated refiners (capacity of 4.6 million barrels of oil per day), marketers of petroleum products, and chemical manufacturers. The company operates through Upstream, Downstream, and Chemicals segments in the United States, Canada, Africa, Asia, South America, Europe, and Australia/Oceania.

The company's brands include ExxonMobil Chemical, Exxon, Mobil, Esso, and XTO Energy. As of August 2022, ExxonMobil is the third largest energy company after Sinopec and PetroChina[2] and, thus, the largest publicly traded company based on their revenues (Figure 2). Around 38% of total sales and other operating revenue were generated in the U.S., while 62% was generated worldwide, led by Canada, Singapore, and the UK (Figure 3). Lastly, ExxonMobil maintained its growth while shrinking its workforce from 72,000 in 2019 to 63,000 employees in 2022. This corresponds to 84% and 85% fewer employees, respectively, compared to the above-mentioned competitors[3] and shows the company's efforts to reduce its operational cost to maintain or optimize its margins.

Its Upstream business includes crude oil and natural gas exploration and production. In 2021, the company experienced a significant turnaround in operating performance compared to 2020 as the economy recovered from the COVID-19 pandemic, and the demand and, thus, prices for oil and gas increased

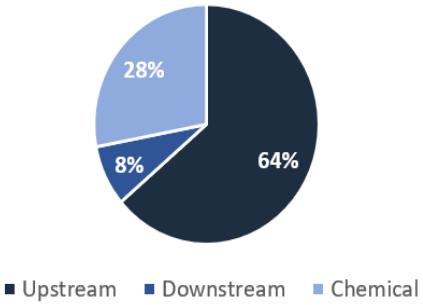
[1] Source: Reuters, as of 15/12/2022
[2] Top oil and gas companies by revenue 2022 | Statista
[3] Top oil and gas companies by employee number 2022 | Statista

Figure 4: Revenue by Business Division



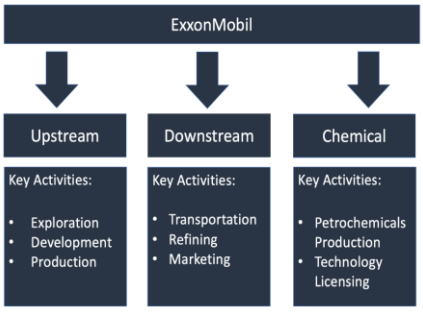
Source: Bloomberg, as of 12/10/2020

Figure 5: Earnings by Business Division



Source: Bloomberg, as of 12/10/2020

Figure 6: Initial Business Structure



significantly. Upstream operations generated revenues of $21.8bn (+50% vs. 2020: $14.6bn), accounting for ~8% of total revenues (Figure 4). The segment generated earnings of $15.8bn in 2021 compared to its loss of $20bn in the previous year (+179%). Its earnings account for ~64% of the company's total earnings of $23bn (Figure 5). Consequently, the Upstream segment represents ExxonMobil's largest profit contributor. However, note that this is also the most cost/investment-intensive division due to the high investment in the exploration of new resources. In 2021, the company invested $1.1bn in research and exploration.

The Downstream segment includes manufacturing, transport, trade, and sale of crude oil, natural gas, and petroleum products. The segment is by far the highest revenue contributor with $218bn (+55% vs. PY ($141bn)), representing 79% of total sales in 2021. However, in terms of earnings, it generated only $2.1bn (+91% vs. 2020: loss of $1.1bn), or 8% of total earnings – being ExxonMobil's least profitable division.

Finally, the Chemicals segment engages in manufacturing and selling petrochemicals, including olefins, polyolefins, aromatics, and other specialty products. Within this segment, ExxonMobil generated in 2021 revenue of $36.9bn (+60% vs. PY), accounting for 13% of total sales and earnings of $7.8bn (+290% vs. 2020: ~$2bn), corresponding to 28% of total earnings. Thus the Chemicals segment has been experiencing the highest growth.

Additionally, ExxonMobil increasingly pursues lower-emission business opportunities like carbon capture and storage (CCS), hydrogen, and biofuels. It is committed to becoming a peer leader in providing sustainable energy and thus is increasing its investment in this segment. Note that the company has over 30 years of experience in this field and has captured more CO_2 than any other firm. With an annual capacity of around 9 million metric tons or the equivalent of about 2 million passenger vehicles, it accounts for about one-fifth of the global carbon capture and storage capacity[4].

Business Model

Until 2Q2022, ExxonMobil operated in three business segments: Upstream, Downstream, and Chemicals (Figure 6). In order to improve the efficiency of its operations, ExxonMobil has reorganized its reporting segmentation in Upstream, Product Solutions, and Low Carbon Solutions starting in April 2022 (Figure 7).

[4] ExxonMobil planning hydrogen production, carbon capture and storage at Baytown complex | ExxonMobil

Figure 7: Updated Business Structure (April 2022)

Source: ExxonMobil Investors Relation Presentation 2021

Whereby Products Solutions is divided into Energy Products, Chemical Products, and Specialty Products and thus incorporates both Downstream and Chemicals. Product Solutions will develop, manufacture, and deliver more sustainable products such as lower-emission fuels, chemical performance products, and next-generation lubricants and plastics. This new integrated business segment is dedicated to high-value products, improving portfolio value, and achieving a leading position in sustainability. The Low Carbon Solutions segment is involved in lower-emission business opportunities such as carbon capture and storage, as well as hydrogen and biofuels. This new segment reflects the company's ambition to lead the energy transition. Furthermore, the corporation centralized its Technology & Engineering and its Operations & Sustainability groups to realize the benefits of scale, technology, and integration. As a reorganization result, the company is on track to reduce annual structural costs by ~$9bn until 2023 compared to 2019.

Note that in this report, we are referring to the initial segmentation structure as this is the relevant one for the past years that we have been using for our analysis and allows for better comparability with peers.

Upstream…

The business model of the Upstream segment is based on exploration, development, extraction, natural gas marketing, and research activities. It is separated into five value chains: Deepwater, Unconventional, LNG, Heavy Oil, and Conventional. Identifying and evaluating new oil and gas resources are at the core of its exploration operations. Once the size and location of potential new oil and gas reservoirs are determined, the development operations begin. Development operations include drilling production wells and constructing the necessary infrastructure, like platforms, processing facilities, field storages, and pipelines or terminals for transportation. Once the development process is completed, ExxonMobil begins to pump the oil and gas to the surface, where it will be extracted, processed, and stored. The company expects to double its Upstream earnings by 2027 versus 2019 as its new strategy is investing mainly (>70%) in high-return and low-cost-of-supply projects. Some of its strategic assets are in the U.S. Permian Basin, Guyana, Brazil, and LNG projects globally.

Downstream…

ExxonMobil's Downstream segment is focused on refining, marketing, and selling various petroleum products such as gasoline, jet fuel, fuel oil, diesel, and propane. Once the crude oil is extracted, it will be transported via pipelines, ships, and railways to one of the 21 company-owned refineries. At the refinery, the oil is processed into gasoline and other petroleum products such as propane, diesel, heating oil, and lubricant base stocks. The company offers a wide range of industrial, commercial, consumer, marine, and aviation lubricants, base stocks, and specialty products.

While Aviation, Chemicals, Marine, Base stocks, and Specialities are marketed under ExxonMobil, its global marketing operations and product sales are supported by its Exxon, Esso, and Mobil brands. Exxon is the leading fuel retailer in the U.S., Esso, for the rest of the world, and Mobil is recognized globally for its advanced technology in fuels and lubricants. ExxonMobil's marketing relies on a global network of more than 21,000 retail stations and commercial channels.

Chemicals…

ExxonMobil Chemical is one of the world's largest chemical producers. The segment produces high-quality chemical products in 16 countries. It supplies olefins, polyolefins, aromatics, and a variety of other petrochemicals. Their clients include industries such as Adhesives, Agriculture, Automotive, Building & Construction, Consumer Products, Healthcare & Medical, Labels, Lubricants, Nonwovens, and Packaging.

Looking at the business model, we notice that the Company's Downstream is a key driver of revenues, followed by the Chemicals segment. However, when it comes to profitability, Upstream is unbeaten (Figure 5). Simultaneously, it is its most capital intense segment as the exploration and development require high initial investments.

Recent News

Discontinues operations in Russia….

Amid the Russian invasion of Ukraine, ExxonMobil decided in March 2022 to discontinue its strategic operations at the Sakhalin-1 project in Russia[5]. The company had developed steps to exit the venture securely. The planned exit from Russia's Sakhalin-1 was highlighted as an unfavorable item in the first quarter's earnings, amounting to $3.4bn. After over half a year of negotiations to transfer ExxonMobil´s assets, the Russian government expropriated these assets in October 2022. Due date, it is still unclear whether ExxonMobil received any reimbursement. However, the company stated that it intends to retain its legal options to claim damages under both its production-sharing agreement and international law[6].

Rise in planned share-repurchase program and dividend…

Earlier this year, the corporation announced to increase in its repurchase program to $50bn from its initially announced $30 billion share-repurchase program through 2024. It raised its annual dividends for the 40th year in a row to $3.55/share (annual dividend). ExxonMobil anticipates distributing around $30 billion to stockholders by the end of 2022, including $15 billion in dividends and $15 billion in share repurchases.

[5] Exxon to exit Russia, leaving $4 bln in assets | Reuters
[6] Exxon fully withdraws from Russia after Putin seizes assets - CBS News

Sustainability

Continues development of lower-emission energy solutions…

ExxonMobil is keen to achieve a leading role in the ongoing energy transition and is therefore conducting major investments in lower-emission solutions. More than $10bn has been spent on research, development, and implementation of lower-emission energy technologies since 2000. From the expected current annual capital expenditures of $20-$23bn, around $17bn (a 15% increase to last year's 5y corporate plan) will be invested in its emission reduction operations and accretive third-party initiatives, including its Low Carbon Solutions business, to reduce emissions throughout 2027. The company expects these investments to generate an overall return of >10% during this timeframe.

2025 GHG emission-reduction plans achieved ahead of schedule…

The corporation already achieved its 2025 greenhouse gas (GHG) emission-reduction goals in 2021 (Upstream: 40-50% reduction in methane intensity and 35-45% in flaring intensity vs. 2016). This is in line with ExxonMobil's 2030 emission reduction plans, which include continuous investment in low-emission solutions and achieving net-zero emissions in the Permian Basin's unconventional operations. Note that the unconventional Permian assets account for 40% of ExxonMobil's net U.S. oil and natural gas production. For its non-operated assets, the company collaborates with its partners to improve GHG emissions. The 2030 emission reduction plans include reductions of 20-30% corporate-wide GHG emissions (absolute reduction is ~20% and corresponds to ~23 million metric tons), 40-50% in upstream (~absolute reduction is ~30% and corresponds to ~15 million metric tons), 70-80% in corporate-wide methane (absolute methane reduction of 70%), and 60-70% in corporate-wide flaring intensity (absolute flaring reduction of ~60%).

Net-zero GHG emission from operations by 2050…

Moreover, the company is planning to achieve net-zero GHG emissions from its operational business by 2050 and thus complies with its Scope 1 and 2 net-zero GHG emission plans. The company's sustainability progress is consistent with the Paris-aligned pathways, the U.S. Methane Emissions Reduction Action Plan, and the U.S. and European Union's Global Methane Pledge. ExxonMobil wants to achieve GHG emission reductions by deploying lower-emission fuels, hydrogen, carbon capture, and storage for its operations and incorporating energy sources. To achieve its sustainability goal, the company will utilize low-carbon electricity for its facilities, optimize its methane emission detection, cut routine flaring, and use innovative equipment. Several renewable fuel projects are advancing. For instance, the company entered a partnership with Global Clean Energy Holdings as it plans to involve in sustainable diesel production and is planning to build a blue hydrogen plant at its refining and petrochemical complex in Baytown, Texas.

Poker Lake natural gas certified with an "A" grade…

And lastly, the non-profit organization MiQ recognized ExxonMobil´s operational methane and emission reduction effort at its Permian Basin as it certified the natural gas produced at Poker Lake, New Mexico, with an "A" grade – the best possible. The company is expecting further operations to achieve this rating in the U.S. In our view, this gives ExxonMobil a significant advantage for its natural gas business as customers prefer products with a lower CO2 footprint.

Strategic Assets

With a vast portfolio of assets that provide significant growth opportunities, ExxonMobil is well-invested. We see further growth potential as the company continues to invest in its Upstream segment. About 70% of its 2022 - 2027 investments are allocated to its four key strategic assets: Guyana, Permian, Brazil, and LNG. These projects are expected to generate returns of >10% at oil prices <$35/bbl. The company advances the development of its flagship project in Guyana while increasing production in the Permian Basin, launching large-scale offshore developments in Brazil, scaling up its LNG business, and optimizing its Baytown operations.

- Guyana

The growth cornerstone…

ExxonMobil is well established in Guyana with numerous exploration and development activities. It includes the offshore blocks Stabroek, Canje, and Kaieteur. In the past year, several new discoveries (five in 2022 alone) were made, increasing the estimated recoverable resource from the Guyana facilities. Currently, the Liza Phase 1, ExxonMobil's first offshore project in Guyana, is producing over 120,000 bbl/d and has a storage capacity of 1.6 million barrels. Liza Phase 2, Stabroek's second oil discovery, the Liza Unity floating production, storage, and offloading vessel ("FPSO"), started production ahead of schedule in February 2022 and is producing up to 220,000 bbl/d. Moreover, in Payara, the company expects its third development to start operating by 2023. A third FPSO vessel will start developing the resources in Payara and Pacora and will supply an estimated production of 220,000 bbl/d. Furthermore, in 2025, ExxonMobil expects its largest project to date, Yellowtail, to begin production of 250,000 bbl/d. The company's operation in Guyana accounted in 2021 for ~70% of ExxonMobil's proven reserves. Furthermore, the operations have a low break-even price at $35/bbl (expected to drop to $25/bbl when Liza Phase 2 begins operations) and is expected to reach a production of 1m barrels a day by 2030[7]. As it is a high-margin asset, we can expect strong cash flow generation in the following years.

[7] As the Company states; with a production of 1mb/d the project alone could be one of the top 20 suppliers worldwide

- Permian Basin

The key growth are for U.S. Upstream…

ExxonMobil continues to improve its Permian Basin production growth and efficiency. In 3Q2022, the facility achieved a record production of almost 560,000 oil-equivalent barrels per day (kboe/d); year-over-year total output increased by 50,000 kboe/d. In total, in 2022, a production increase of 25% is expected compared to 2021. By 2027 the company is planning a production of >800kboe/d, thus generating >$5bn in FCF. In addition, the company increased its production and refining capacity, thereby reducing its capital and operating costs throughout 2021 while simultaneously growing its free cash. Since 2019 ~35% of total cost reduction was achieved in unit lease operating expenses and drilling & completion. Furthermore, the completion efficiency was improved by 75%. All of this was achieved while the Permian Basin was on track with its industry-leading sustainability plans. This shows that ExxonMobil's management is successfully optimizing the facility's potential. It is now able to maintain an investment return of >10% at Brent prices <$35/bbl. Due to high growth potential and ongoing investments to further improve operations, this project is one of ExxonMobil's key assets. We, therefore, expect high future cash flow generations.

- Brazil

In Brazil, ExxonMobil is one of the biggest global oil companies and operates 17 drilling blocks with over 2.5 million net acres. Its key operations are focused on the Bacalhau development. The production start-up is expected in 2024, and the company will generate ~88,000 kboe/d (ExxonMobil holds a 40% share in the project). Moreover, by 2027 the enterprise estimates to generate +$1bn in cash flow only from its Bacalhau operations.

- LNG

LNG output to double by 2030…

As global LNG demand has risen significantly and is still expected to rise, ExxonMobil is keen to serve this demand. Therefore it continues to expand its LNG business and is planning to achieve a production of 27mt p.a. by 2027. ExxonMobil has several ongoing projects and expects to generate returns of >10% on all LNG developments at natural gas prices of $6/MMBtu (vs. currently $6.9/MMBtu[8]). Its key growth projects include Coral South FLNG (3.4mt p.a.), which started its production in October 2022; Golden Pass LNG (16mt p.a.), which is expected to begin production in 2024; Rovuma LNG (15mt p.a.), which is expected to start its first phase in 2028 and second in 2030; Papua LNG (5mt p.a.), which is expected to start up in 2027, and Qatar's North Field East, which

[8] Natural gas - 2022 Data - 1990-2021 Historical - 2023 Forecast - Price - Quote - Chart (tradingeconomics.com)

ExxonMobil has a stake of 6.25% for 2.1mtpa. As the company is advancing its low-cost and capital-efficient projects, it is planning to double its LNG output by 2030. We see high growth and profit potential resulting from its LNG operations.

- Baytown Texas

The Baytown facility is the largest integrated refining and petrochemical facility in the U.S. and the world's largest ethylene production facility. The company will develop a world-scale blue hydrogen plant at its refining and petrochemical complex in Baytown, Texas, to further support its GHG emission reductions. The plant is expected to generate up to 1 million metric tons of hydrogen per year and includes one of the world's largest carbon capture and storage projects. The CCS project is capable of storing up to 10 million metric tons per year. This will almost double the amount it is currently able to store (9 million metric tons per year).

About 95% of the CO2 emissions associated with hydrogen production will be captured and safely deposited underground. ExxonMobil already has extensive experience with hydrogen. However, the new facility has the potential to boost the production capacity by 65% from its current 1.3 million metric tons per year. The hydrogen will fuel ExxonMobil's facilities in Houston, such as the olefins plant at Baytown. Using hydrogen could reduce the integrated facility's CO_2 emissions by up to 30%.

Industry Overview

In 2021, the economic recovery from the effects of the COVID-19 pandemic led to a rebound in global energy demand. This, combined with supply-side constraints, led to a significant increase in energy prices. This trend was accelerated in the first half of 2022 due to the high energy uncertainties resulting from Russia's invasion of Ukraine. While oil prices reached a 30-year low at the beginning of the pandemic, in May 2022, they rose to their highest level (Brent at $123/bbl[9]) in more than a decade. Electricity prices showed similar volatility, affecting the energy costs of many businesses and households. At the same time, the long-term shift to low-carbon energy continues to gain momentum, and renewable energy growth is accelerating.

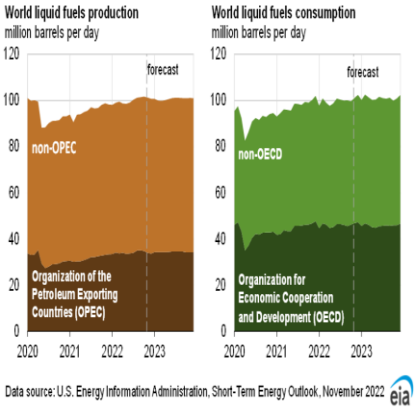
Crude Oil

Amid a downward trend in oil prices due to rising concerns of a global economic slowdown (increasing interest rates in the U.S./EU, inflation, weaker China demand due to COVID, oil price cap on Russian oil), OPEC+ announced a

[9] Crude oil price chart 2022 | Statista

reduction of production targets by 2mmb/d starting in November 2022 until the end of 2023[10]. However, only a decrease of 720,000 bbl/d was achieved in November. This is in line with our expectations that the effective reduction will most likely not exceed ~1mmb/d as many OPEC members are not able to stick to their quotas (3.6mmb/d over-compliance in August). However, due to a slowing Chinese economy and a G7 price cap of $60/b on Russian oil, OPEC stays dedicated to reducing production in order to keep prices up.

Figure 8: World liquid fuel production & consumption

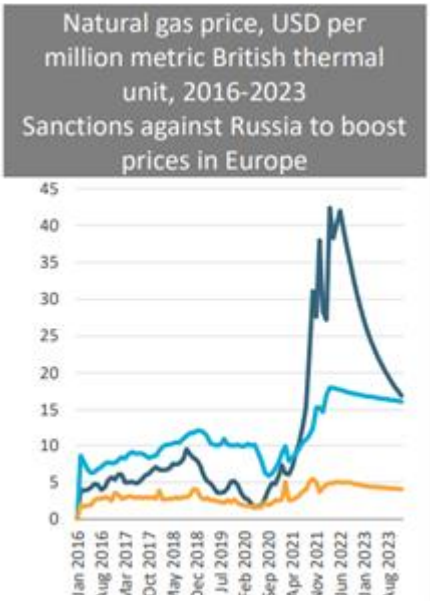


Source: U.S. Energy Information Administration, Short-Term Energy Outlook, November 2022

Despite the concerns around a global economic downturn, we expect that global oil consumption will outpace global oil production in 2023, which is in line with the consensus (Figure 8). Furthermore, we believe that oil prices have most likely already reached their peak in 2022 [$100/bbl - $130/bbl], will stay above pre-pandemic levels until the end of 2023, and then gradually normalize [$60/bbl - $80/bbl]. We are estimating a year-over-year price range of $60/bbl - $103/bbl (note that this is relatively conservative compared to the company's expected range of $50/bbl - $120/bbl) for 2022-2030, which corresponds to an average price for the period 2022-2030 of $74/bbl (average of the year average price estimate). In a downside scenario, we we anticipate that prices will not fall below the mark of ~$45/bbl, while in an upside scenario, prices will not surpass $105/bbl.

In the current high oil price environment, ExxonMobil is achieving strong profitability in light of a break-even price of its Upstream/production portfolio at $41/bbl. The company is expecting to improve this break-even price to ~$30/bbl.

Figure 9: Natural Gas Price



Source: Passport; Global Overview of the Energy Industry, as of May 2022

Natural Gas

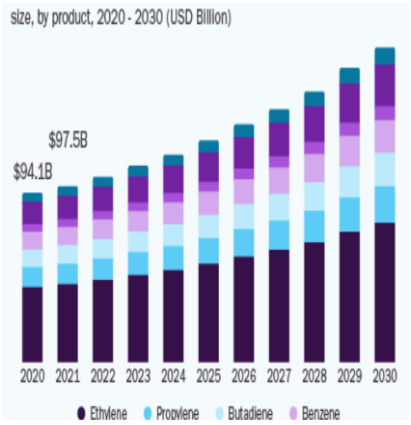
During the COVID pandemic in 2020 and H1/2021, natural gas demand has decreased globally, leading to lower production and inventory levels. In light of the easing of the pandemic's adverse impact on most Western countries from H2/2021 onwards, economic activity and, thus, gas consumption and prices (amplified by low inventory levels) have increased significantly. In the peak, in H2/2021, natural gas prices were five times higher in Europe (339€/MWh ~117$/MMBtu[11])[12] and two times higher in the U.S. ($9.7/MMBtu)[13] compared to 2020. In 2022, the Russian invasion of Ukraine led to significant supply-side uncertainty in the EU. based on lower import volumes from Russia and limited alternative gas supplies, which boosted natural gas prices. In order to compensate for missing Russian gas imports (~40% of total EU imports), the EU

[10] OPEC announces big cut in oil production despite US pressure | CNN Business
[11] Calculation based on EUR/USD exchange rate as of 26/08/2021
[12] EU Natural Gas - 2022 Data - 2010-2021 Historical - 2023 Forecast - Price - Quote (tradingeconomics.com)
[13] Natural gas - 2022 Data - 1990-2021 Historical - 2023 Forecast - Price - Quote - Chart (tradingeconomics.com)

has tapped the U.S. liquefied natural gas (LNG) market – thereby pushing gas prices up on a global basis. In light of limited alternative natural gas suppliers, we deem that Europe will continue to rely heavily on U.S. natural gas and thus significantly increase the global LNG demand. With regard to the ongoing energy transition, natural gas is a resource that will increase in demand as its Levelized cost of energy is much lower than conventional fuels like coal and thus is more economical and ecological. In our forecast, we expect average natural gas prices to range from $2/MMBtu to $6.7/MMBtu for 2023 – 2030. We believe that energy companies like ExxonMobil, which have a solid resource portfolio and an established business, are well positioned to profit and grow due to the expected demand increase for natural gas and LNG.

Petrochemicals

Figure 10: U.S. Petrochemicals Growth



Source: Grandviewresearch, as of December 2022

The petrochemical sector transforms gas processing and oil refining's basic materials into a variety of goods. These consist of artificial fertilizers, plastics, synthetic textiles, adhesives, dyes, detergents, and paints & coatings. However, since the COVID-19 pandemic, this sector has had problems recovering its strength, facing unprecedented challenges.

Petrochemical demand grew in 2020 due to rising demand for consumer staples like personal care products and household goods and falling demand for durables like automobiles and appliances[14]. Thus the price of oil significantly determined how much money the industry made. As a result, petrochemical businesses reported a revenue decline in 2021.

Due to the extensive Consumer and Packaging exposure of the Chemicals industry, it experienced considerable demand growth, particularly for Integrated Polyethylene and Polypropylene, which are frequently used in household goods and food packaging.

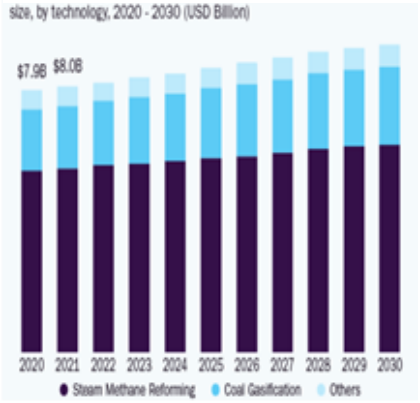
Nearly 2.3 billion metric tons of chemicals were produced globally in 2021. The market value in 2021 reached $556bn and is expected to grow with a $CAGR_{2022-2030}$ of 6.2%. Growth in demand for products from several end-use industries, including the construction, pharmaceutical, and automotive sectors, is primarily driving the market[15].

[14] Petrochemicals 2020: Resilience and the road to recovery | McKinsey
[15] Petrochemicals Market Size & Share Report, 2022-2030 (grandviewresearch.com)

Carbon Capture and Storage, Hydrogen and Biofuels

The carbon capture and storage (CCS) market is projected to grow with a $CAGR_{2021-2028}$ of 19.5% and reach a market size of $7bn[16]. The expansion of the industry's major alliances and growing competition to complete large-scale production facilities are some of the drivers that are responsible for the market growth. Increasing pressure to reduce carbon emissions will also promote growth. In 2018, North America accounted for a sizeable portion of the global market for CCS. Due to the presence of highly developed research and development facilities in Canada and the U.S., it is expected that the captured and stored amount of carbon in this region will increase significantly, supporting the world's zero GHG emission goals. We see significant growth potential for companies that already have experience with CCS.

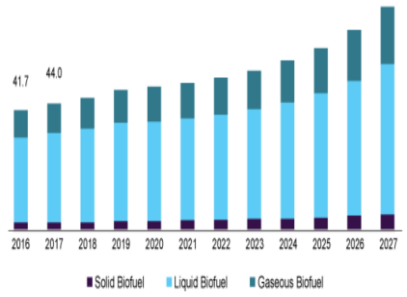
Figure 11: U.S. Hydrogen Generation



Source: Grandviewresearch, as of December 2022

The size of the global hydrogen generation market was estimated at ~$130bn in 2021, and it is anticipated to increase at a $CAGR_{2022-2030}$ of 6.4%[17]. The need for low-carbon fuels and the expansion of regulatory rules requiring the desulfurization of petroleum products is projected to be the main drivers of the global market for hydrogen generation. Since hydrogen is a powerful energy source, its continued market penetration is anticipated to benefit greatly from this.

Figure 12: U.S. Biofuels Market Size in $bn



Source: Grandviewresearch, as of December 2022

The size of the worldwide biofuels market, which was ~$155bn in 2021, is anticipated to grow at a 7% $CAGR_{2022-2030}$ in terms of revenue[18]. Expanding demand for biofuels in automobiles to reduce carbon emissions and rising R&D activities by governments of various nations are the main drivers propelling the growth of the global biofuel industry.

Competitive Positioning

The energy industry is a highly competitive one. It is an industry where companies experience domestic and international competition from private and state-owned companies worldwide. However, established large multinational companies like ExxonMobil are facing mainly international competition from other major integrated oil companies as the global sector is dominated by a small number of very big incumbents (e.g., BP, Chevron, ExxonMobil, Shell, and others). These majors are benefiting from resilient and profitable business models based on vertical integration across the full value chain (Upstream to Downstream operations), well-capitalized balance sheets with cost-efficient

[16] Carbon Capture and Sequestration Market Size to Grow Worth (globenewswire.com)
[17] Global Hydrogen Generation Market Size Report, 2030 (grandviewresearch.com)
[18] Biofuels Market Trend | Industry Forecast 2021-2030 (emergenresearch.com)

access to capital based on strong Investment Grade financials/credit profiles, and strong economies of scale reducing the risk of new market entrants.

Progressing energy transition from conventional fuels towards renewables has intensified competitive behaviour among energy majors. This has resulted in companies transforming the way they operate and shifting their product spectrum towards more sustainable energy sources, such as hydrogen and biofuels, as well as engaging in the carbon capture and storage business. The ongoing investments and success rate in this area will undoubtedly determine the companies' future and market share. Thus investments in renewables, technological advances, and digitalization are key to securing a competitive advantage.

Peer Analysis

ExxonMobil's key competitors include US-based Chevron Corp. (CVX), as well as UK-based Shell PLC (SHEL) and BP PLC (BP), which are all major integrated oil companies operating on a global scale and are private / not state-owned companies. The chosen peers have similar business models, product segments, as well as geographic footprints.

In terms of size defined by market capitalization, ExxonMobil is clearly the largest player within the peer group, followed by Chevron and Shell. When comparing based on sales, ExxonMobil is still leading peers, with Shell and BP in second and third place (Appendix Peer Overview Table). We note, in this context, the significant valuation gap between U.S. and European players (XOM: EV/Sales LTM: 1.2x vs. SHEL: 0.6x vs. BP: 0.6x). Several drivers are explaining this finding. First, oil and gas companies have been generating significantly higher earnings since 2021 due to the high oil and gas prices, which the Russo-Ukrainian conflict this year has further boosted. However, European oil and gas companies are facing windfall taxes and thus lower profitability, while the likelihood of windfall taxes on U.S. companies decreased after the U.S. Midterm Election results in November 2022. This is driven by the fact that the House of Representatives and Senate are opposed in their windfall tax opinions. The Republicans have stated that they are against windfall taxes, which makes passing this legislation very unlikely in the near future. The second significant reason lies in carbon taxation. While the European Union, the U.K., and other European countries are already implementing carbon taxes, for the U.S., this is not the case. In general, European companies are facing harsher regulatory pressure and costs in terms of ESG than their U.S. counterparts.

In 2021, peers experienced significant sales growth based on increasing oil and gas prices vs. 2020 – a year marked by lower demand and prices due to the COVID pandemic. Growth rates year-over-year ranged between ~45-65%, with ExxonMobil growing its top line by ~55% (#2 within peer group). Based on a 5-years historical perspective, U.S. peers clearly outperformed European players, with both ExxonMobil and Chevron generating a $CAGR_{2017-21}$ of ~3.7 - 3.9% vs. negative rates at BP and Shell.

ExxonMobil´s profitability in terms of EBITDA margin is in line with BP and Shell, with Chevron beating ExxonMobil on this metric. It seems that Chevron is more profitable; however, ExxonMobil's operational structure differs from Chevron´s in a way that ExxonMobil is more engaged in Deepwater exploration than Chevron. Thus ExxonMobil is facing much higher exploration expenses related to this operation. All of this slims down their net margins and thus makes them appear less profitable compared to Chevron.

In terms of balance sheet strength, ExxonMobil and Chevron offer very similar financial profiles with low net leverage at 1.0xEBITDA and strong equity ratios of 74% and 80%, respectively. Both companies are rated strong Investment Grade AA - by S&P securing access to cost-efficient debt funding. European peers SHEL and BP were lagging both in terms of leverage and equity ratios, with BP's higher leverage affected by the Deepwater Horizon accident and related multibillion-dollar (debt-financed) penalties.

From a trading multiples valuation perspective, ExxonMobil trades at a slight discount to its U.S. peer Chevron across all metrics. We deem the valuation gap largely explained by the stronger top-line growth and profitability evident at Chevron. Based on EV/EBITDA multiples, ExxonMobil trades at 4.4x - 4.6x (NTM vs. LTM), i.e., a 0.4x - 0.8x discount to Chevron. Trading valuations of European peers are significantly lower vs. U.S. peers with EV/EBITDA valuations in the area of 2.8x - 3.2x (i.e., 1.6 - 2.2x discount to U.S. peers) due to the reasons explained earlier in this section.

SWOT Analysis

The company's main advantages include a diverse geographic revenue stream, large and profitable upstream and downstream operations, a strong asset base, and strong production capabilities, yet, an increase in liabilities continues to be a source of concern, especially as ExxonMobil's net debt is at an upper end compared to its peers.

- Strengths

ExxonMobil is broadly present in many different locations. Geographically, the company's revenue source is diverse. The geographic segments are divided into U.S. and non-U.S., Canada, the United Kingdom, Belgium, Italy, France, Singapore, Germany, and others. In 2021, the company's total revenue from the U.S. was 37.7%, and from non-U.S. regions, 62.3%. Its global operations and regional brand awareness provide it with a competitive edge and show that it has further potential to use its global presence to boost revenues.

Additionally, because of its global reach, it is less exposed to any country's political stability or economic circumstances. The company has substantial Upstream and Downstream activities, which give the business a sizable competitive advantage over its rivals. In 2021, ExxonMobil supplied 5.2 million barrels of petroleum products daily, and its refineries produced 3.9 million barrels of crude oil daily. And lastly, the company's significant size and the current increase in revenue due to high oil/gas prices boost the company's capacity to set aside capital to fund the expansion of its future operations.

- Weaknesses

More debt sounds concerning, but strong cash flow generation mitigates…

The company has continued to increase its debt during 2021 (+0.5% vs. 2020). A significant gross debt position increases risk in times of cyclical downturn / lower profitability, potentially leading to a credit rating deterioration and, thus, higher funding costs or refinancing risk. In light of strong cash generation [2021: FCF ~$36bn], net leverage as per year-end 2021 at 1.0x (in line with CVX), and strong AA- Investment Grade rating, we consider funding cost/refinancing risk as rather remote.

- Opportunities

Strong strategic partnerships to boost growth potential…

We believe that ExxonMobil's strong partnerships with other corporations in the energy sector are an opportunity that can support revenue and market share growth. For instance, in June 2022, the enterprise signed a deal with Whitecap Resources Inc. to sell XTO Energy Canada. The transaction is anticipated to complement its strategy of concentrating upstream resources on low-cost, high-profit assets in order to provide shareholders with long-term value. Furthermore, ExxonMobil's continued focus on expansion in its operations, such as in Guyana or in its Permian Basin, yields significant future growth potential.

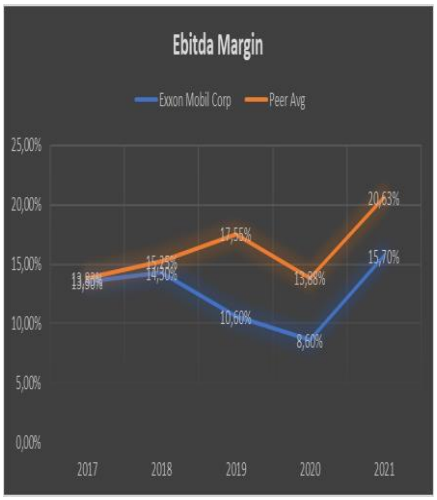
- Threats

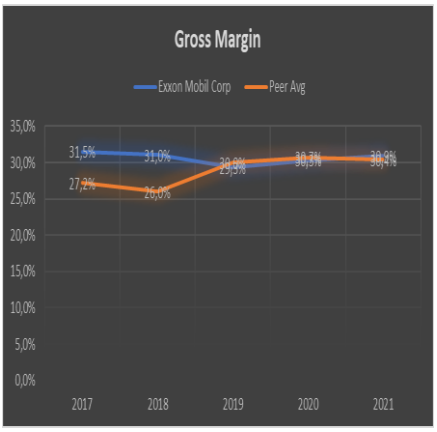
Commodity price fluctuations, unforeseen operation complications, and economic stability…

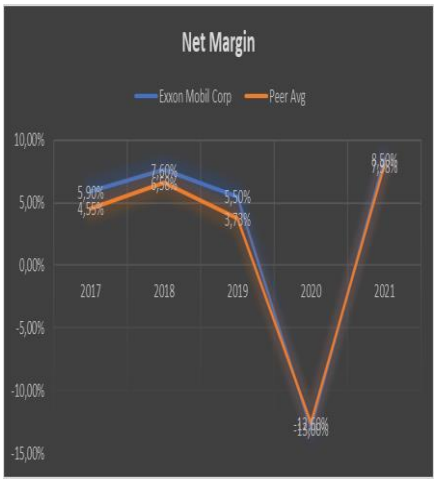
As the Company is operating within the commodities business, fluctuations in the price of oil, gas, and petrochemicals and changes in the margins on refined products may substantially impact operations and earnings. Another risk ExxonMobil is exposed to is that successful exploration and development are not

guaranteed. Some projects might turn out to have more cost for technology and recovery than revenue from production. Furthermore, drilling hazards or environmental circumstances might affect the success of the Company's projects. And lastly, macroeconomic downturns/cycles can also have a big impact on the Company's performance, as we saw in 2020.

Financial Analysis







This section will be separated into two sessions: the margins and returns and the cash flow management.

Margins and Returns

In the first part of the financial analysis before digging into cash flow management, we must understand how the company generates this cash. Looking toward the indicators (appendix "cash flow indicators") we will compare the financial inputs of the company against the sector indicators.

Beginning with the gross margins, ExxonMobil and Chevron clearly have one advantage against their peers. Meanwhile, the sector average was 30.4% in 2021 ExxonMobil and Chevron have beaten the sector not only this year but until 2018. In EBITDA margin (proxy to operational result) and net margin the same occurs.

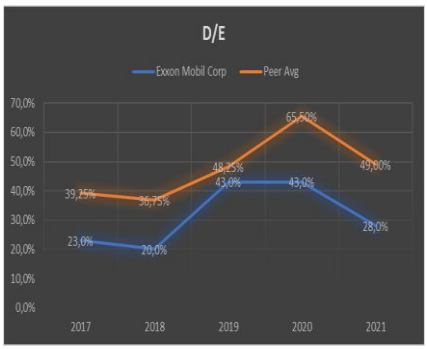
The difference between ExxonMobil and Chevron in these ratios is explained by both different business natures. Meanwhile Chevron focus on land and low sea exploration, ExxonMobil focus on deep sea exploration, being a different business and mainly focused on this type of exploration in the upstream business. This brings to the ExxonMobil one highly competitive advantage, because due the high capex investment, other competitors run away from this type of upstream business, what makes ExxonMobil almost a monopoly in this type of operation. But this advantage comes with a cost. Their cost and R&D are higher than other, making the margins being lower than their peers, but it's justifiable due their ROIC[19] and EVA [20](ExxonMobil also has the biggest returns ratios among their peers, what implies a better debt management).

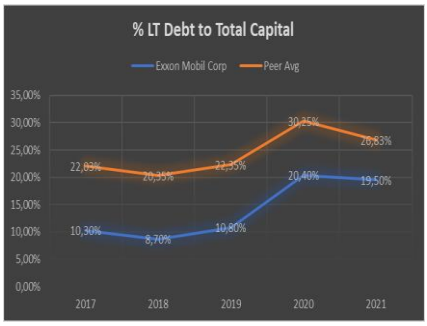
Looking towards debt, ExxonMobil has a different Debt/Equity type than its peers. Their debt structure as is described in the section ("Debt Structure"), it's focused on the short term and at the same time is one of the less leveraged companies in the sector. Allied to this unique characteristic the enterprise has a very diversified

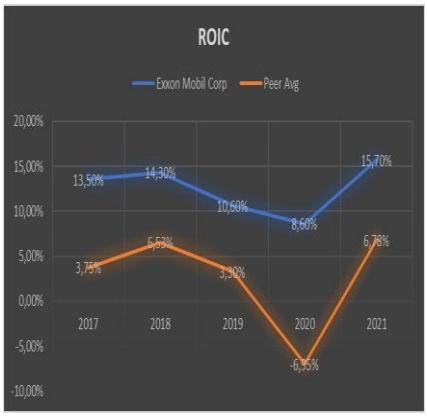
[19] Return on Invested Capital
[20] EVA – Economic Value Added

geographical revenue (almost 50% of the revenues come outside from the US), what implies in a less volatile net profit due the diversification effect.

Looking at the returns, ExxonMobil has a better prospect than their peers. Here we will not talk about the ROE due the high equity volatility. This sector being a capital-intense one, it's better to use the ROIC and compare the WACC[21] (similar to the EVA model), than use ROE. Even having a high capex level due their operations, ExxonMobil can show a better ROIC than their peers, having a low D/E (what influences the ROIC by a lot), ExxonMobil beaten their peers every year (only in 2020 that this was not true, but it was due COVID and the hedge operational results). This implies that the company is investing better than the peers what directly influences in the company cash flow management.







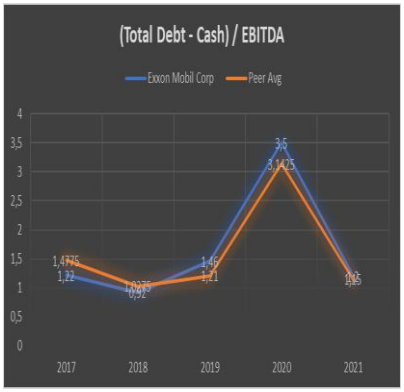
Cash Flow Management

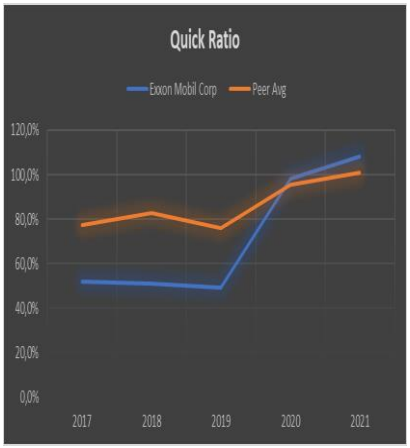
Regarding the cash flow item, Exxon has a superiority in the business operations. We divided the analysis in 4 main indicators: average receivables days (the average days that the company receives the cash), average inventory days or inventory turnover (the average days that the inventories stay in company without being sale), average payable days (the average days that the company pays their debts to their customers or providers) and the cash cycle (the average days that the company completes their cash cycle).

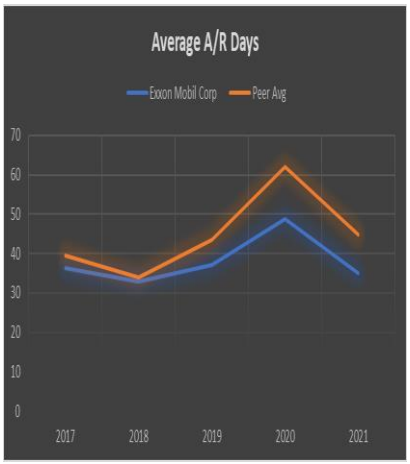
Looking towards the average revenues days the analysis is very straightforward. ExxonMobil has a superiority among their competitors, this means that probably ExxonMobil have a bargain power with the customers receiving cash before the peers.

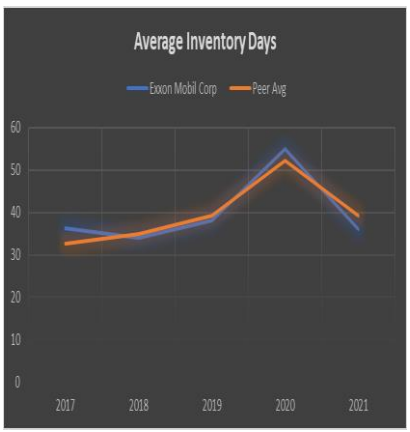
In the average inventory days, the analysis is not so simple. As we are analysing one commodity business, one big inventory in a determined time could significate a huge profit or bankruptcy. If the company have a huge inventory when the prices are high and the demand is high allied to the low supply, is the best scenario case. But on the other hand, it can mean that the company is not being able to sell their products at market due the low competitive of the same product. The key indicator here is resilience and conservatism. And this ExxonMobil has by a lot. If we look the table in the appendix ("Margins") among their peers, The company has a very stable inventory, which means that it knows when to sell and buy (Actually, ExxonMobil have a segment that only take care of doing this). Chevron also has this characteristic, but as we can see the inventories is lower than ExxonMobil, what implies less revenues.

[21] This model capturates the difference between the return that the company is generating and the WACC or in others words, the cost of the company









In average payable days the analysis is very straightforward. As ExxonMobil don't have providers, the payables days is 0 (they are a verticalized company, so this could leave us towards one biased analysis). In this Indicator more days is better.

In last the cash cycle days, is a very biased analysis. Looking towards only the table ("Cash Flow Indicators") it appears that ExxonMobil has a very poorly cash flow management. But as we have seen before, looking towards every indicator ExxonMobil was better than their peers. The cash flow cycle it is biased by the effect of 0 in average payable days.

ExxonMobil is also able to convert the asset in money faster than the others. Seeing the table ("Cash flow Indicators") the quick ratio of ExxonMobil (which implies the inventory, us one of the highest of the sector showing how the company manages better their inventory). Also, the current ratio (without the effect of inventories) it's one of the biggest ratios in the industry.

Debt Structure

Looking towards the debt, ExxonMobil has a special capital allocation. Being one company that has a lower duration profile (see graph XXX), For instance the company has a profile to prefer short term debt than long term (and this makes sense to the company business due the characteristic of explore a low terms auction to explores oil reserves), the business shows a low D/E comparing with their peers (with excision of Chevron).

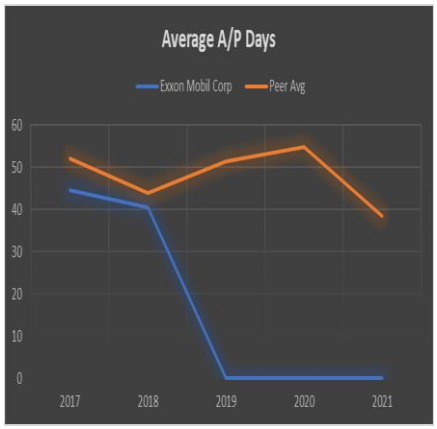
Also looking at the 10-K the company has a target D/E of 25% what sounds completely plausible in 3 years with the oil price and the cash flow generation that the company is generating (in actual metrics if this cash flow extends for 5 years, they can pay all their debt more than 2 times).

The company also has a low cost of debt. Doing the weighted average of the bond's weights and the YTM we will find one cost of debt of 4% meanwhile their peers have more than 5%. This means that the company can not only issue debt a less YTM but also to easily roll their debt (very important for short term debt companies) easily.

Valuation

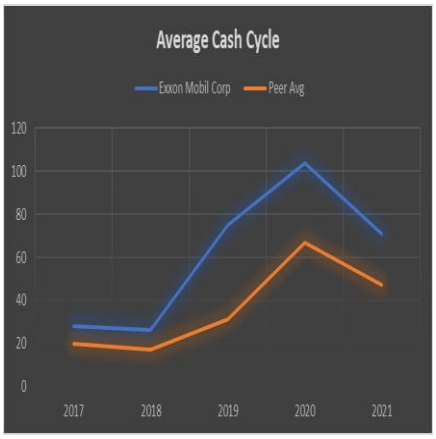
In 1934 Security Analysis, the most important book for valuation and investments was published to the general public. The book has been called the "fundamentalist investment Bible", principally by the bargain's hunters' investors.

Warren Buffett, one of the most successful investors in history, has mentioned this epic as "One of the bests books Written in the history of humanity".



Nowadays, the market is facing a lot of transitions. In the past, it was easier to find bargains (in the USA market) than nowadays. Companies negotiating below the net working capital and the available cash were rare, but with some research, they could be founded. With new technologies coming to the market, such as robots, the prices are adjusted in the question of second, turning some techniques, such as arbitrages[22] , almost impossible to be applied today.

On the other hand, in 1964, Eugene Fama created the efficient market hypothesis. He has tried to prove that all the stock information (such as news, company event, and financials) were incorporated in the stock price at the market, making it impossible to beat the stock market in the long run. In 1980, John Bogle upholding this thesis created the first ETF[23] fund. The idea was one success, making these funds responsible for more than 60% of the AuM[24] of the USA asset industry.



Even though Eugene and John Bogle tried to show that tracking an index can be less risky and more profitable, some investors keep trying to beat the market. With a historical return of 10.8% since the beginning, the Standard Poor's Index has shown to be unbeaten by far compared with other classes of investments and some actively managed hedge funds. The reason for this performance difference is unknown, but some studies have shown that this lack of performance is due to some mental models (In the present day, it's called: "Behavioural Finance") or for lack of knowledge. But in truth, all investors that are successful have two common qualities: consistency and risk management.

And this is how we start scratching a valuation model. Such as the most prominent Investors, the model must have consistency (one good history must be written behind the numbers) and lastly, risk management (how to input a growth rate or make one projection), especially when the industry is so volatile and hard to predict as oil & gas. Looking towards the global environment, it's a challenge to forecast the oil price until tomorrow. In 10 years it is almost utopic.

After all, the word risk management can sometimes be confused with "to be conservative", and they are completely different things. With these characteristics, the report can be shaped as one reasonable and good proxy for

[22] Arbitrage is one strategy when you finance one buy selling other part to a neutral price. It's common to find this type of strategy especially in forex markets when you sell a pair of currency to buy other to exploring some price distorcions.
[23] ETF is the abbreviation of Exchange Tradable Fund. This type of fund try to reply some index such as for example SPDR SPY and S&500
[24] AuM is the abbreviation of Asset under Management. It is the total money that one fund has with investments appreciations/depreciations and cash

how much one company can value. We aim that every inch of his report can explain how we understand the company's history and thesis in the numbers. Because behind every number, there is one history.

Business analysis

As described in the competitive positioning section, the company is inserted in one highly competitive sector. The company's competitive advantage is defined by the costs and bargaining forces of the client, which means if the company does not have a good patent or mark, your differentiation will be prices, not products. It can be translated into price wars, making the margins and revenues to be lower than usual. Also, the sector is known by the power of the scale of the economy, which means that the company inserted in this sector will be a highly capital-intensive business, needing a high reinvestment rate (high CAPEX) and probably a high debt amount or D/E[25].

In this sector not only ExxonMobil, has such characteristics, but almost all company inserted in the same sector has the same problem (for more details about sector analysis see topic "segment analysis"). Which means that the story behind the numbers must be correct, forecasting the proper margins and incorporating the correct risks.

The problem was not only forecasting ExxonMobil results, but it was also a problem in the whole sector. The true challenge was stabilizing the company's cash flow to predict and scratch a good valuation model. And we have done this. The first objective (after reformulating the Balance Sheet and Income Statement) was to stabilize the company cash flow because how could we make assumptions having YoY[26] Growth of 400% and -200%? It's impossible.

After this, we forecasted the business, using one regression to capture the productive effect, to capture all production of the company (in the following sections we will be explaining in detail how the regression and forecasting was accomplished).

Exxon Results

Since 1999 when Exxon made the M&A with Mobil, the company has increased not only their capacity but the governance, which had a direct impact in the following years revenues. The M&A was closed with a value of $80bn, making the enterprise the third largest enterprise in this time, behind only General Electrics and Microsoft.

[25] Abbreviation of Debt-to-equity ratio
[26] Abbreviation of year-over-year

Nowadays, the enterprise has one Market Cap of $438 and revenue of $318bn (which implies of CAGR1999-2021 in the revenues of almost ~6% meanwhile the CAGR of the market cap was ~4,5% p.a.), a production per day of 3.7 million barrels, and a lower debt than 1999, being at one scenario were the commodities prices are higher than in 1999. Looking straight to this data the company does not appear to be correctly valuated at the market. Curiously, Exxonmobil is an example of M&A that has been working well[27].

Other curiosity is the company's outcome. The results of this company are not a "magical" one. It's a very stable result even tough being a commodity business. As mentioned previously, the company has a very diversified revenue. This means that when the price of the energy commodities goes down, the company is not so much affected as others.

Reformulating the Business

To do a good valuation we had to reformulate the income statements, balance sheet and cash flow map. Due to the volatile returns, a high characteristic of the sector, this was a rather challenging task.

We will not go deep as how we have done the reformulation. We only want to highlight some parts that we think are very important to enlighten. First it is the purpose of doing the reformulation. We had made this only to separate the core business against the non-core adjustment. Making this, we can calculate the real cash flow going on and out of the business. We have eliminated all the non-core results, that boosts the results.

Other part it was the projections. To forecast all results, we used the tools as percentage of revenues in some cases and percentage of CAPEX for depreciation (this part is very important, due the characteristic of ExxonMobil being a highly intensive capital company).

To forecast the equity, we used the percentage pay-out ratio, due the characteristic of incorporate all shareholders transactions. For instance, buybacks, dividends and other bonifications. Other part it was stabilizing the D/E ratio. ExxonMobil stated in a conference call that it is targeting a D/E ratio of 25% until 2024. They want to achieve at ratio and use the same target as guide for capital allocation (In the truth they almost reached this, it highly probably that this objective will be achieved).

[27] A lot of studies (as the famous book "Stocks for the long run" – Jeremy Siegel) and some Damodaran studies published in his site, show that more than 70% of M&As destroyed companies value.

Metrics and Forecast

To forecast the business, we had used tools that are beyond from the traditional valuation's metrics and non-traditional. Knowing this, we have divided this part in 3 core topics: The business metrics, revenues forecasting and the balance sheet/revenue forecasting part and the business.

Business Metrics

As we have advanced in the valuation model, ideas have been appearing to improve not only our model, but also how we could understand better the business and the sector. As every business has their different metrics, the oil sector and inserted to them ExxonMobil, were not different.

While analysing banks, the ideal is not to use FCFF[28] or operations metrics to do a proper valuation, due the characteristic of the company to mix the financial cash flow with the operational results, the oil sector has one characteristic of being a highly intensive capital user. This means that the CAPEX and debt, probably it will be larger than other sectors. Knowing this, metrics such OPEX and PPE/Revenue[29] it will be very reasonable to use, due their characteristics of capture the efficiency of how the company is not only allocating the money, but if this allocation is being profitable.

In the other hand we have the cash flow management. The key to success of every company is the cash flow management and the capacity to generate the same cash. Especially at this business. How the clients bargain forces are so strong, and we have an economy of scale business, the differentiation it will be done by the costs, not improving the prices. Also, as we know, the clients have the strong forces that can be translated in a competition in the prices, due to the 'commodity' nature of the business. This means that the company has two choices: either the company differentiates itself by one war in prices or through having a strong brand.

As we know, the biggest enterprises at not only the oil industry but also in the energy sector, are companies that have a strong brand and a reputable name. Such as Chevron, ExxonMobil, Duke Energy, Berkshire Energy, and others. Curiosity, all these companies have a proper cash management and better prospects in this ratio than their peers (Some of them can negotiate with the clients due their brand power, making the cash cycle negative).

[28] FCFF is the abbreviation for Free Cash Flow to Firm
[29] Property Plants and Equipment's divided by the revenue

To evaluate Exxon, we have used metrics such as cash cycle days, average receivables days, inventory days, payables days, gross margin, EBITDA margin (or in this case OPEX margin), net margin, ROIC and WACC (this can be translated at EVA[30] model), but in this report we will use to see what company is doing better than other in the sector. The complete analysis can be found at peers analysis part.

Revenue Forecast

This part seeks to contemplate how we have forecasted the revenue, to construct a foundation to forecast the income statement, balance sheet and the cash flow Map.

ExxonMobil has 3 core divisions (upstream, downstream and chemicals), divided in 2 subdivisions (US and Non-US). We had divided each division with their respective subdivisions to forecast the revenue and productivity of the business.

Forecasting productivity – To forecast the productivity we used the key indicators that ExxonMobil reported every year in the annual meeting. We took data from provided in ExxonMobil's investors relation excel. Every division has different key productivities. For example, the upstream key production that have been chosen is the barrel quantity, and the M3[31] production of gas. For downstream, ExxonMobil uses the average refinery capacity. And chemicals, the volume of chemicals that was produced at the year or period.

Upstream forecasting – In this division, we have forecasted the revenues of Q4 of 2022 until 2030. We have used the M3 production gas and the barrels quantity production per annum (information provided by the company in the Investor relationship site), to calculate the productivity per barrel or the gas production. The productivity per barrel can be definite as the division between the revenues and the barrels quantity produced in the year. The productivity per M3 it was found dividing the revenues per the M3 gas production.

On the other hand, we forecasted the price of oil and gas. Since we have a high price in oil and gas obviously in the long run these prices are not permanent. Looking in reports and ExxonMobil 10-k, the company projects a "healthier" price of oil to the company in the range between $50 and $120. Knowing this and looking towards reports and one possible recession we have put in the terminal price one oil price in the range of $60 and $70 what implies a decrease of almost

[30] EVA is the abbreviation for Economic Value added. It's one way to evaluate the company looking towards the excess of investment. I.E the return on investment minus the debt (in this case WACC)
[31] Abbreviation for meters cubic

40% YTD (what in the steady state in the mean you will see the price of oil in this average).

To forecast all the productivity (as we defined in the upstream forecasting part) we ran a regression between the revenue/barrel and oil price and revenue/M3 gas production and the price of the gas. With these results, we have the followings results: If the price of oil goes up in approximately $12, the productivity effect it will be increase or decrease by 2,12. The same applies to the revenues/M3. One increase/decrease in approximately $0.51 changes the productivity in approximately 3 points.

In the table (XXX) we have the results of the regressions. We had on R2 of almost 0.99 and a T-student of 5 which is good. Also, the P-value was 0.0137 which means that we can accept the regression.

With these results, we have only to forecast the oil price, the gas price and the quantity of Barrels produced in the year and the M3 production of gas. The first one was explained above how we forecasted. To forecast the quantity, we had some insights. As we know, the business is separated in two subparts. The U.S. and NON U.S. The company is projecting capex expansion to NON US bigger than the U.S. Also, we can see the population trend increasing in Asia. What implies, that he NON U.S. will grow faster than the U.S. With this we can forecast the growth capacity of barrels produced of the year and forecast the Upstream part revenues.

Downstream forecasting – Same reasoning of upstream forecasting. But in this sector, we used the gasoline price (refinery sector) and the average refinery capacity to calculate the productivity of the downstream sector (refinery capacity/revenue). After this we have ran one regression where the output result was in U.S. with an increase/decrease of 0.19 in price the productivity goes up or down in 0.05 approximately. In The NON-US this output was with one increase/decrease of 0.16 approximately, the productivity goes up or down in 0.03 approximately

Looking forward to the forecasting, we have incorporated some new trends in the industry. As a demand and the growing search for renewable and ESG products increases, the company of this sector is starting to abandon some products that is considered "pollutant". Gasoline, lubricants, plastics are examples. Knowing this, the companies are starting to abandon such refineries parts, with our forecasting it will have a considerable impact in the following years. In U.S. and EU where the laws and demand for this is higher probably, the sector it will be impacted. In Asia it will suffer less, due the characteristic of the economy. We

have forecasted a slow growth to US (almost stable) and a high growth (near of the population growth) to Asia.

Chemicals forecasting – Using the same reasoning of the two sectors, we forecasted the productivity as chemicals volumes per revenue. We regressed the price of propane, with the productivity of the Chemicals sector and found the following result: in the U.S. subsector one increase/decrease in approximately 0.45 will have a productivity impact of approximately 1.08. In the Non – US one increase/decrease of 1.09 in prices will have one impact of 0.026 approximately to up or down.

Using the same logical for the two sectors above, this was harder to forecast. We read some reports and the 10-k of the company. Until 2040 the company plans to expand its chemicals' division to contribute 40% of the total revenues. They are investing a lot of CAPEX and R&D in projects such as the pipeline that captures hydrogen and transforms in Carbon (a trend in all sectors, the moving towards a renewable energy).

Knowing this, we think that not only the company will improve the volumes by a higher growth than other, but also the prices will go up. For instance, when the investors or companies starts to move (and they have to, because until 2035 some countries said that will have 0 emission of oil), the prices of Chemicals will go up due the higher demand and probably the low supply at this time. Until 2025/2026 the Chemicals federation of USA forecasted that will not have so many refineries that we can produce propane or other chemicals, and as we known, until they start to construct others it will take time making the prices increasing in our opinion due the low supply and high demand.

We used the reports and put a premium in growth of chemicals compared to the others due the aspects that we explained above. In USA/EU this trend is being strong, but in Nom-US probably it will be also strong (see the plan and the investment of China in green energy), but it will spend a more timer probably.

Balance Sheet & Income Statement Forecast

After the revenues forecasting, we have forecasted the income statement, balance sheet and the cash flow map, to reach at the free cash flow to firm. In this part we seek to explain how we forecast each important line in our valuation model.

Besides the volatility behaviour of the company due the commodities prices in the income statement, we were able to neutralize the volatility in the forecasting. We think that as the prices of the commodities (such as stock returns) are a random

walk (I.E E(X) = 0)[32], they always converge to the average. As oil sector is one region where the successful enterprises are business that have economy of scale, the control of cost it will be the most important variable in our model. So, to incorporate this, as we described above, the sector is suffering in abnormal price fluctuations, due the China Zero-Covid Politic and Russo-Ukrainian war. This will have a huge impact in the cost especially in the cash flow map (the company must do a lot of hedge contracts due the geographical dispersion of the revenues and volatility in prices are the worst scenario for that). Knowing this, we have taken an average in the time where the oil sector was without volatility (2018,2019) and forecasted with this period.

Moreover, every cost was forecasted as percentage of sales. With this ratio, we have forecasted the average of 2019 and 2018, normalizing the company pattern of the high volatility in the Income statement.

The unique thing that changed and was not forecasted as percentage of sales it was the depreciation that was forecasted as percentage of the property, plants and equipment, having effect only in the cash flow map and free cash flow, not in the Income statement. The finance expense also changed; it was forecasted as percentage of debt in the previously year.

With these results, we were able to forecast the balance sheet. Starting with the operating cash, we forecasted this ratio being 1% of the revenues of the year due the business environment. As we have been saying before, the sector is one Intensive capital investor, what can be translated in a higher excess of cash, to manage better the investments and the debt.

The next path it was forecast the Inventories, receivables, and payables, to Calculate the Net Working Capital. The Inventories it was forecasted Using the averages of 2018 to 2021. We calculated each year holding period then we took the average of the holding period and forecasted the followings years. In the receivables and payables, it was the same idea, but instead using the holding period, we calculated the collection period. For payables we used the payable period time.

The last thing that we forecasted differently than using the percentage of sales it was the debt and the equity. The debt it was forecasted in function of equity and total invested capital. We have found two main drivers that we think that is the core drivers in our valuation. The abnormal jump in debt in 2022 due to the high investments in Guyana and capex such as a try to shift to 40% in the participation of Chemicals in total revenue (the high investment in Mexico pipeline of

[32] In statistics the average of stock returns tends to the average. It means that how stocks returns are a random walk, their average or hope, will be 0

Hydrogen). Also, we can explain this jump with the characteristic of the ExxonMobil debt. ExxonMobil has a smaller timeframe of debt, being the company that more of their debt is at the current year than in long term. This is due the operational characteristic of ExxonMobil to explore the deep seas and huge platforms constructions.

But as ExxonMobil reported in their 10-k and with the investors conference the objective in 2 years is to reach a D/E of 25%. We think that this is completely plausible, due the trend of oil and the company allocation of capital (they have failed on guidance less than 10 times in 50 years, and they have one of the highest ROIC[33] of the sector being one of the less leveraged).

The next path was to forecast the total equity. This was a difficult task due the behaviour of the fluctuant earnings of the company. When the oil prices are down the company does not have sufficient cash to do a proper program that reward their shareholders (this is not only ExxonMobil that have this pattern, but all companies that have their revenues indexed to commodity prices suffers with this problem). Curiously as we will see in the section "cash flow management", ExxonMobil has the best cash flow management among their peers, what allows the company that even in difficult times, do not stop to reward their shareholders, with shares buybacks (being in smaller size than now), or dividends.

Due to the currently high oil high prices, ExxonMobil has increased the buybacks by $50bn, what probably in the long run is not sustainable due the oil prices. The company works with a surplus cash potential of approximately $100bn, with a breakeven point of $60/bbl (Brent Price). To put this on the valuation we tried to incorporate this in our model and then normalize the value for the following's years. To normalize this, we have chosen the normalized pay-out formula, where is inserted all the shareholders transactions with the firm, such as dividends, buybacks of shares and bonuses. We normalized this with 40% of pay-out, what we think that is a healthier number, not only to the health of the free cash flow, but also to the historic company estimates.

Having the income statement forecasted and the balance sheet we were able to forecast the cash flow map to calculate the free cash flow to firm. The calculation was very straightforward, only calculating the core result, the non-core result to find the unlevered Free cash flow and then leveraging them again, summing the financing cash flow with the debt transactions such as interest expenses, the tax shield effect and the change in net financial assets and the transactions with the shareholders adjusted by the pay-out.

[33] Return on Invested Capital

Methodology

In this last part we will explain every metric and how we have found the target price of the company, passing through some topics such as free cash flow calculus, cost of capital issues and peer analysis using multiples and sensitive analysis.

Free Cash Flow to Firm Model

With the cash flow map properly forecasted we were able to forecast the free cash flow model. Calculating the core free cash flow, we bring all the cash flow to present value, discounting with a rate (since this model it's a DCF model our discount rate was the WACC), calculating the equity value, calculating the enterprise value, diminishing from the net debt to find the equity value, to estimate the value per share.

Discount Rate

The discount rate that was used in this model it was the WACC discount rate. Due we are due one DCF model, and this company is one highly intensive capital one, it is not making sense to use one DDM (discounted dividend model) due the high volatility in equity part. Also, a high debt and the high Capex could bring a certain level of biased opinion and cash flows to the DDM. Towards this, it's better to use DCF and WACC as the discount rate. The WACC was calculated using the classical formula (image XXX). As Ke (cost of capital) we used the CAPM[34] and took several estimates. For the risk-free part we have used 4.16% (10-year US-Treasury yield as of 10 November), and for market risk premium 6% (Historically since the beginning the S&P has overperformed the risk-free return of US by 6%). For the beta we regressed the returns of the ExxonMobil shares with the returns of the S&P500 index to find the beta. We have found one Beta of 0.92. Therefore, we leveraged this beta to calculate the leveraged beta (beta with the company debt) and we found 0.93.

Furthermore, for the Kd (cost of debt), we have divided in two main parts. First, calculating the duration of the ExxonMobil debt, the yield, size and then calculating the weighted average; The second step was comparing the credit rating with the YTM (yield to maturity), and the default probability. With this, we were able to calculate the Loss Given default to ExxonMobil (in other words the probability that the market are implying to ExxonMobil default on their bonds), to

[34] Model of Capital Asset Pricing Model. This model calculates how much is the cost of equity of the company adjusted by the risk (in this case volatility or beta)

calculate the proper cost of debt. How we found values that were almost the same, we used the CAPM classical formula.

Terminal Growth Rate

To forecast the terminal growth rate normally, investors or hedge funds use the terminal inflation target of the central banks (and this makes all sense, because one enterprise technically can't grow more than a country in the long run).

But, with today environment, we doubt that in the long run, the growth will be 2% as many investors put in their valuations (We think that probably the central banks will review the long-term inflation rate, due the environment that we are facing now). For instance, with this oil price and company prospects we think that the 2% is being at the side of the negative outlook and not the normal for this sector and company. Knowing all this factors and forecasting that the company will have a great long run growth prospect we put one terminal growth rate of 2.5% finding a Target price of $126.40 what implies a potential upside of 18.23%.

Multiples Analysis

As of December 2nd 2022, ExxonMobil was negotiating at one forward P/E of 9.64 and a P/E of 11.38. This is telling the investors that are looking for the historic P/E are implying one growth rate of 9% in the earnings and looking to the forward P/E divide by the historic P/E they are implying one growth rate of 15%. Looking behind this the forward P/E can also indicate the potential upside, what is in line that what we have found in our DCF model.

The company is negotiating at one lower P/E than their peers, clearly having a better management than their competitors (see the next section). Also, the dividend yield is almost in the line of the sector dividend yield, but ExxonMobil is rebuying more share than their peers. ExxonMobil also has a free cash flow percentage to price higher than their peers, being less leveraged (with less debt), what means that probably ExxonMobil is undervalued against the sector.

Conclusion

After doing all research and all valuation model, we think that even with the commodities in the high as they are, the company is undervalued not only against the peers but also against their actual value.

As peter Lynch said:" The best time to buy a commodity business is when the prices are low". But even the prices high (and we think that it will stay high for at least two years due the supply problem), the company cannot be ignored offering almost a 4% of dividend yield and having one rebuying share program of $100

million of stocks, what implies almost a 5% of return only rebuying shares at this price, with a DCF value of $126.40.

Risks

The current market environment is facing many uncertainties due to the war between Russia and Ukraine and recession fears. In our valuation, we are considering the following five main risks.

Commodity Price Volatility… Commodity prices are volatile and dependent on a number of variables, such as shifts in supply and demand, the state of the economy, weather, the amount of inventories, the ability of the OPEC cartel to keep their quotas and thus exerts market power, governmental policy regulations, and the global political situation.

Energy Transition Acceleration… A faster-than-anticipated energy transition that focuses on essential areas outside of XOM´s portfolio, including renewable power generation, might confront the business with significant difficulties as it threatens their traditional business. Furthermore, ExxonMobil will be subject to hard competition from companies that have more experience in renewable energy generation.

Exploration Uncertainties… Oil and natural gas exploration are risky as it involves high operational costs, and success is hardly predictable. There is no guarantee that drilling activities will yield commercial quantities of oil or gas, and the company may not be able to replenish its produced reserves in a given year, which would probably have a detrimental effect on the company's share price. The success or failure of ExxonMobil's big drilling program will affect the performance of its relative share price.

Resource Nationalism and Scarcity… Besides the risk of resource scarcity, which is making exploration more difficult, some countries might restrict foreign developers' access to their resource reservoirs. Especially in periods of high commodity prices, when national governments may not require as much foreign private capital, restrictions on foreign investment in the oil and gas sector tend to grow.

Operational Delays… ExxonMobil´s operations are concentrated on Deepwater exploration and development, which have historically experienced project delays due to the complexity of the operation. Capital availability, weather conditions, and equipment availability may be some potential delay factors. Moreover, not all of the business's exploration blocks are operated by it, which gives other producers authority over the timetable of development and anticipated cash flows for the company.

Appendix

Peer Overview

Peer Overview (2021A figures)	ExxonMobil	BP	Chevron	Shell
Company				
Headquarter				
Market Capitalization (9-Dec-2022)	426.408			
Operating Metrics				
Sales (USD mn)	**276.692**	**157.739**	**155.606**	**261.461**
Sales growth (vs. Prior Year)	*54,9%*	*48,9%*	*64,7%*	*44,9%*
Sales growth (CAGR2017-21)	*3,9%*	*-10,0%*	*3,7%*	*-3,8%*
EBITDA (USD mn)	**46.187**	**23.545**	**33.405**	**45.627**
EBITDA margin	*16,7%*	*14,9%*	*21,5%*	*17,5%*
Balance Sheet Metrics				
Net Debt (USD mn)	46.227	39.063	29.197	52.116
Net Leverage	1,0x	1,7x	0,9x	1,1x
Gearing (Debt/Equity)	31,5%	92,5%	25,1%	51,8%
Equity Ratio	73,7%	47,1%	79,6%	65,0%
Credit Rating (S&P)	AA-	A-	AA-	A+
Valuation Metrics*				
EV/Sales Last Twelve Months (30.09.22)	1,2x	0,6x	1,5x	0,6x
EV/Sales Next Twelve Months (30.09.22)	1,2x	0,7x	1,5x	0,7x
EV/EBITDA Last Twelve Months (30.09.22)	4,6x	3,1x	5,4x	2,8x
EV/EBITDA Next Twelve Months	4,4x	2,8x	5,0x	3,2x
P/E Last Twelve Months	8,5x	n.m.	9,5x	4,4x
P/E Next Twelve Months	8,9x	n.m.	9,6x	5,3x

** Accounting Data based on 30.09.2022 financial statements; in LTM / NTM case: last / next twelve months until 30.09.22 / 30.09.23*
** Source: Capital Iq, as of 09.12.2022*

Revenue Forecast

Revenue Analysis													
in $ Millions													
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Upstream US	$ 10.359,00	$ 9.364,00	$ 5.876,00	$ 8.883,00	$ 11.195,96	$ 11.862,97	$ 11.450,03	$ 11.365,89	$ 10.520,32	$ 12.665,56	$ 13.884,08	$ 13.805,46	$ 12.966,90
#m3 production gas	1,229E+12	1,216E+12	1,206E+12	1,29873E+11	1,3								
#barrels quantity	356	389	395	337	350	400	410	420	430	500	530	545	530
revenue/barrel	29,09831461	24,07197943	14,87594937	26,35905045	31,98845763	29,65743658	27,9269087	27,06164476	24,46585295	25,33111689	26,19638082	25,33111689	24,46585295
revenue/m3	8,4288E-09	7,70066E-09	4,87231E-09	6,83976E-08	23489327,86	10078191,34		-1983895,874	-3967791,808	-15871167,41	-11903375,54	-11903375,54	-11903375,54
growth		-9,61%	-37,25%	51,17%	26,04%	5,96%	-3,48%	-0,73%	-7,44%	20,39%	9,62%	-0,57%	-6,07%
Upstream non US	$ 15.158,00	$ 13.779,00	$ 8.673,00	$ 12.914,00	$ 13.462,06	$ 14.541,62	$ 14.550,26	$ 14.036,31	$ 16.869,25	$ 18.844,43	$ 20.789,94	$ 21.775,78	$ 21.508,29
#barrels quantity	417	370	254	311	340	360	355	340	400	450	500	520	510
#m3 production gas	2,464E+12	2,139E+12	2,154E+12	2,39727E+11									
revenue/m3	6,15179E-09	6,4418E-09	4,02646E-09	5,38696E-08	5,38692E-08	5,38695E-08	5,38696E-08	5,38696E-08	5,38697E-08	5,38699E-08	5,38698E-08	5,38698E-08	5,38698E-08
revenue/barrel	36,3501199	37,24054054	34,14566929	41,52411576	39,59429711	40,39339508	40,98663783	41,2832592	42,17312332	41,87650195	41,57988057	41,87650195	42,17312332
growth		-9,10%	-37,06%	48,90%	4,24%	8,02%	0,06%	-3,53%	20,18%	11,71%	10,32%	4,74%	-1,23%
Downstream - U.S.	$ 74.327,00	$ 70.523,00	$ 48.256,00	$ 80.044,00	$ 80.000,04	$ 80.904,43	$ 81.534,51	$ 81.944,91	$ 82.354,82	$ 82.831,86	$ 83.309,15	$ 83.672,74	$ 84.218,63
Average Refinery Capacity	1728	1737	1754	1765	1774	1783	1792	1802	1812	1822	1832	1842	1852
Refinery Capacity per revenue	43,01331019	40,60046056	27,51197263	45,35070822	45,09585266	45,37545147	45,49916776	45,4744245	45,44968125	45,46205288	45,4744245	45,42493799	45,4744245
growth		-5,12%	-31,57%	65,87%	-0,05%	1,13%	0,78%	0,50%	0,50%	0,58%	0,58%	0,44%	0,65%
Downstream - Non U.S.	$ 147.007,00	$ 134.460,00	$ 92.640,00	$ 137.963,00	$ 141.353,35	$ 143.456,55	$ 145.983,74	$ 148.985,97	$ 152.038,19	$ 155.038,24	$ 158.084,35	$ 161.401,10	$ 164.481,65
Average Refinery Capacity	2684	2995	3001	2905	2963	3022	3082	3144	3207	3271	3336	3403	3471
Refinery Capacity per revenue	54,77160954	44,89482471	30,8697101	47,49156627	47,70615975	47,47073195	47,36656035	47,38739467	47,40822899	47,39781183	47,38739467	47,42906331	47,38739467
growth		-8,53%	-31,10%	48,92%	2,46%	1,49%	1,76%	2,06%	2,05%	1,97%	1,96%	2,10%	1,91%
Chemicals - U.S.	$ 12.239,00	$ 9.723,00	$ 8.529,00	$ 15.309,00	$ 11.655,50	$ 12.925,19	$ 19.744,60	$ 11.319,93	$ 5.208,59	$ 12.719,23	$ 5.852,31	$ 10.247,12	$ 2.289,24
Chemicals Volumes	10772	10055	9942	10720	11363	12045	12768	13534	14346	15207	16119	17086	18111
Refinery Capacity per revenue	1,136186409	0,966981601	0,857875679	1,428078358	1,025741554	1,073075295	1,546412712	0,836406587	0,36306917	0,836406587	0,36306917	0,599737879	0,126400462
growth		-20,56%	-12,28%	79,49%	-23,87%	10,89%	52,76%	-42,67%	-53,99%	144,20%	-53,99%	75,10%	-77,66%
Chemicals - Non-U.S.	$ 20.204,00	$ 17.693,00	$ 14.562,00	$ 21.549,00	$ 23.342,96	$ 25.201,80	$ 27.122,61	$ 29.447,04	$ 31.914,16	$ 34.347,44	$ 37.225,25	$ 40.132,93	$ 43.494,31
Chemical Volumes	16097	16461	15507	15507	16748	18088	19535	21098	22786	24609	26578	28704	31000
Refinery Capacity per revenue	1,255140709	1,07484357	0,939059779	1,389630489	1,393775938	1,393288238	1,38841124	1,395726737	1,400603735	1,395726737	1,400603735	1,398165236	1,403042234
growth		-12,43%	-17,70%	47,98%	8,33%	7,96%	7,62%	8,57%	8,38%	7,62%	8,38%	7,81%	8,38%

Products Price Forecast

Average Oil Price	$ 71,69	$ 64,16	$ 43,21	$ 70,94	$ 103,47	$ 90,00	$ 80,00	$ 75,00	$ 60,00	$ 65,00	$ 70,00	$ 65,00	$ 60,00
Regression Oil price /productive US	2,127304211	12,29280521			32,53	-13,47	-10	-5	-15	5	5	-5	-5
Regression Oil price /productive NON US	3,054949221	-51,4957704			32,53	-13,47	-10	-5	-15	5	5	-5	-5
Average Natural Gas Price	$ 3,07	$ 2,53	$ 2,13	$ 3,73	$ 6,69	$ 5,00	$ 4,00	$ 3,75	$ 3,50	$ 2,00	$ 2,50	$ 2,50	$ 2,50
Regression Natural price /productive US	19310548,68	2,433412503			2,96	-1,69	-1	-0,25	-0,25	-1,5	0,5	0	0
Regression Natural price /productive NON	-5,111156E-13	3,759105557			2,96	-1,69	-1	-0,25	-0,25	-1,5	0,5	0	0
Average Gasoline Price	$ 1,92	$ 1,73	$ 1,18	$ 2,10	$ 3,13	$ 2,00	$ 1,50	$ 1,60	$ 1,70	$ 1,65	$ 1,60	$ 1,80	$ 1,60
Regression Gasoline price /productive US	0,049390483	-0,19961188			1,03	-1,13	-0,5	0,1	0,1	-0,05	-0,05	0,2	-0,2
Regression Gasoline price /productive NON	0,035137212	0,168650637			1,03	-1,13	-0,5	0,1	0,1	-0,05	-0,05	0,2	-0,2
Average Propane Price	$ 0,88	$ 0,54	$ 0,46	$ 1,05	$ 1,22	$ 1,20	$ 1,00	$ 1,30	$ 1,50	$ 1,30	$ 1,50	$ 1,40	$ 1,60
Regression Propane price /productive US	1,08558895	-0,4586956			0,17	-0,02	-0,2	0,3	0,2	-0,2	0,2	-0,1	0,2
Regression Propane price /productive NON	0,026768555	1,09774725			0,17	-0,02	-0,2	0,3	0,2	-0,2	0,2	-0,1	0,2

Sensitivity Analysis

Sensitivity Analysis

in $ mn

Inputs	
Terminal gro	2,50%
WACC	5,62%
MRP	6,00%

DCF: Sensitivity Analysis WACC and growth rate on Levered EV

		Wacc								
	1.893.750	5,22%	5,32%	5,42%	5,52%	5,62%	5,72%	5,82%	5,92%	6,02%
Terminal Growth Rate	1,50%	163.738	158.281	153.171	148.379	143.874	139.632	135.630	131.850	128.272
	1,75%	175.360	169.012	163.105	157.595	152.442	147.613	143.078	138.812	134.791
	2,00%	189.368	181.861	174.924	168.495	162.520	156.953	151.753	146.884	142.318
	2,25%	206.582	197.522	189.222	181.590	174.549	168.033	161.985	156.356	151.105
	2,50%	228.244	217.031	206.867	197.614	189.153	181.388	174.235	167.625	161.499
	2,75%	256.336	242.005	229.194	217.675	207.260	197.799	189.166	181.257	173.985
	3,00%	294.217	275.115	258.350	243.518	230.302	218.452	207.767	198.082	189.264
	3,25%	348.085	321.111	298.033	278.063	260.613	245.234	231.578	219.371	208.393
	3,50%	430.766	389.333	355.202	326.598	302.279	281.349	263.146	247.170	233.034

Income Statement

Income Statement(Reformulated)

in $ mn

	Historical Years				Forecast Period								
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
	Core Business												
Sales	$ 279.332,00	$ 255.583,00	$ 178.574,00	$ 276.692,00	$ 281.009,88	$ 288.892,57	$ 300.385,75	$ 297.100,05	$ 298.905,33	$ 316.446,76	$ 319.145,07	$ 331.035,13	$ 328.959,02
Change%		-8,50%	-30,13%	54,95%	1,56%	2,81%	3,98%	-1,09%	0,61%	5,87%	0,85%	3,73%	-0,63%
Upstream US	$ 10.359,00	$ 9.364,00	$ 5.876,00	$ 8.883,00	$ 11.195,96	$ 11.862,97	$ 11.450,03	$ 11.365,89	$ 10.520,32	$ 12.665,56	$ 13.884,08	$ 13.805,46	$ 12.966,90
change in %		-9,61%	-37,25%	51,17%	26,04%	5,96%	-3,48%	-0,73%	-7,44%	20,39%	9,62%	-0,57%	-6,07%
Upstream non US	$ 15.158,00	$ 13.779,00	$ 8.673,00	$ 12.914,00	$ 13.462,06	$ 14.541,62	$ 14.550,26	$ 14.036,31	$ 16.869,25	$ 18.844,43	$ 20.789,94	$ 21.775,78	$ 21.508,29
change in %		-9,10%	-37,06%	48,90%	4,24%	8,02%	0,06%	-3,53%	20,18%	11,71%	10,32%	4,74%	-1,23%
Downstream - U.S.	$ 74.327,00	$ 70.523,00	$ 48.256,00	$ 80.044,00	$ 80.000,04	$ 80.904,43	$ 81.534,51	$ 81.944,91	$ 82.354,82	$ 82.831,86	$ 83.309,15	$ 83.672,74	$ 84.218,63
change in %		-5,12%	-31,57%	65,87%	-0,05%	1,13%	0,78%	0,50%	0,50%	0,58%	0,58%	0,44%	0,65%
Downstream - Non U.S.	$ 147.007,00	$ 134.460,00	$ 92.640,00	$ 137.963,00	$ 141.353,35	$ 143.456,55	$ 145.983,74	$ 148.985,97	$ 152.038,19	$ 155.038,24	$ 158.084,35	$ 161.401,10	$ 164.481,65
change in %		-8,53%	-31,10%	48,92%	2,46%	1,49%	1,76%	2,06%	2,05%	1,97%	1,96%	2,10%	1,91%
Chemicals - U.S.	$ 12.239,00	$ 9.723,00	$ 8.529,00	$ 15.309,00	$ 11.655,50	$ 12.925,19	$ 19.744,60	$ 11.319,93	$ 5.208,59	$ 12.719,23	$ 5.852,31	$ 10.247,12	$ 2.289,24
change in %		-20,56%	-12,28%	79,49%	-23,87%	10,89%	52,76%	-42,67%	-53,99%	144,20%	-53,99%	75,10%	-77,66%
Chemicals - Non-U.S.	$ 20.204,00	$ 17.693,00	$ 14.562,00	$ 21.549,00	$ 23.342,96	$ 25.201,80	$ 27.122,61	$ 29.447,04	$ 31.914,16	$ 34.347,44	$ 37.225,25	$ 40.132,93	$ 43.494,31
change in %		-12,43%	-17,70%	47,98%	8,33%	7,96%	7,62%	8,57%	8,38%	7,62%	8,38%	7,81%	8,38%
Other	$ 38,00	$ 41,00	$ 38,00	$ 30,00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
change in %		7,89%	-7,32%	-21,05%									
Total Revenue	$ 279.332,00	$ 255.583,00	$ 178.574,00	$ 276.692,00	$ 281.009,88	$ 288.892,57	$ 300.385,75	$ 297.100,05	$ 298.905,33	$ 316.446,76	$ 319.145,07	$ 331.035,13	$ 328.959,02
change in %		-8,50%	-30,13%	54,95%	1,56%	2,81%	3,98%	-1,09%	0,61%	5,87%	0,85%	3,73%	-0,63%
Cost Of Sales	$ 192.854,00	$ 180.627,00	$ 124.438,00	$ 191.199,00	$ 195.652,92	$ 201.562,86	$ 208.904,63	$ 206.516,47	$ 208.076,97	$ 220.278,65	$ 222.028,61	$ 230.320,65	$ 228.929,76
% Of Sales	69,04%	70,67%	69,68%	69,10%	69,62%	69,77%	69,55%	69,51%	69,61%	69,61%	69,57%	69,58%	69,59%
Gross Profit	$ 86.478,00	$ 74.956,00	$ 54.136,00	$ 85.493,00	$ 85.356,96	$ 87.329,70	$ 91.481,11	$ 90.583,58	$ 90.828,36	$ 96.168,11	$ 97.116,47	$ 100.714,48	$ 100.029,27
Change in %		-13,32%	-27,78%	57,92%	-0,16%	2,31%	4,75%	-0,98%	0,27%	5,88%	0,99%	3,70%	-0,68%
RD	$ 1.466,00	$ 1.269,00	$ 1.285,00	$ 1.054,00	$ 1.490,65	$ 1.532,47	$ 1.593,44	$ 1.576,01	$ 1.585,58	$ 1.678,63	$ 1.692,95	$ 1.756,02	$ 1.745,01
% of Sales	0,52%	0,50%	0,72%	0,38%	0,53%	0,53%	0,53%	0,53%	0,53%	0,53%	0,53%	0,53%	0,53%
SGA	$ 7.265,00	$ 7.600,00	$ 35.841,00	$ 11.033,00	$ 11.240,40	$ 11.555,70	$ 12.015,43	$ 11.884,00	$ 11.956,21	$ 12.657,87	$ 12.765,80	$ 13.241,41	$ 13.158,36
% of Sales	2,6%	3,0%	20,1%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%	4,0%
Depreciation, depletiom	$ -18.745,00	$ -18.998,00	$ -46.009,00	$ -20.607,00	$ -27.880,98	$ -28.663,08	$ -29.803,40	$ -29.477,40	$ -29.656,51	$ -31.396,92	$ -31.664,64	$ -32.844,34	$ -32.638,35
Depreciation	$ 18.745,00	$ 18.998,00	$ 20.098,00	$ 20.607,00									
% of PPE	-3,93%	-3,85%	-9,00%	-4,11%	-5,22%	-5,22%	-5,22%	-5,22%	-5,22%	-5,22%	-5,22%	-5,22%	-5,22%
Amortization	0	0	0	0	0	0	0	0	0	0	0	0	0
% of Intangibles													
Impairments	--	--	$ 25.911,00	--	0	0	0	0	0	0	0	0	0
% of intangibles													
Other Operating Income	$ 8.155,00	$ 7.913,00	$ 1.369,00	$ 7.399,00	$ 6.643,25	$ 6.829,60	$ 7.101,30	$ 7.023,63	$ 7.066,31	$ 7.481,00	$ 7.544,79	$ 7.825,87	$ 7.776,79
% of sales	2,9%	3,1%	0,8%	2,7%	2,4%	2,4%	2,4%	2,4%	2,4%	2,4%	2,4%	2,4%	2,4%
Operating Profit before Taxes	$ 67.157,00	$ 55.002,00	$ -27.630,00	$ 60.198,00	$ 51.388,18	$ 52.408,05	$ 55.170,15	$ 54.669,80	$ 54.696,36	$ 57.915,68	$ 58.537,86	$ 60.698,59	$ 60.264,34
Taxes	$ -14.102,97	$ -11.550,42	$ 5.802,30	$ -12.641,58	$ -10.791,52	$ -11.005,69	$ -11.585,73	$ -11.480,66	$ -11.486,23	$ -12.162,29	$ -12.292,95	$ -12.746,70	$ -12.655,51
Tax Rate in %	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Tax Adjustments	9.655	6.115	(4.857)	7.193	0	0	0	0	0	0	0	0	0
Core Result	$ 62.709,03	$ 49.566,58	$ -26.684,70	$ 54.749,42	$ 40.596,66	$ 41.402,36	$ 43.584,42	$ 43.189,14	$ 43.210,12	$ 45.753,39	$ 46.244,91	$ 47.951,89	$ 47.608,83
Non-Core Business													
Finance income	652	731	665	655	655	655	655	655	655	655	655	655	655
Other operating income & expense	4.333	4.133	4.991	4.312	4.312	4.312	4.312	4.312	4.312	4.312	4.312	4.312	4.312
Equity affiliates	7.355	5.441	1.732	6.657	6.657	6.657	6.657	6.657	6.657	6.657	6.657	6.657	6.657
Non-Operating profit before taxes	12.340	10.305	7.388	11.624	11.624	11.624	11.624	11.624	11.624	11.624	11.624	11.624	11.624
Taxes	-2591,4	-2164,05	-1551,48	-2441,04	-2441,04	-2441,04	-2441,04	-2441,04	-2441,04	-2441,04	-2441,04	-2441,04	-2441,04
Tax rate in %	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Tax adjustments	168	(93)	(750)	496	0	0	0	0	0	0	0	0	0
Other comprehensive income	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-Core Result	9.917	8.048	5.087	9.679	9.183	9.183	9.183	9.183	9.183	9.183	9.183	9.183	9.183
Financial Result													
Finance expense	(2.651)	(2.726)	(1.508)	(2.657)	(1.700)	(7.812)	(7.421)	(7.097)	(6.015)	(5.156)	(5.338)	(4.450)	(4.125)
% of Debt FY-1		-7,4%	-3,2%	-4,0%	-3,6%	-3,6%	-3,6%	-3,6%	-3,6%	-3,6%	-3,6%	-3,6%	-3,6%
Financial result before taxes	(2.651)	(2.726)	(1.508)	(2.657)	(1.700)	(7.812)	(7.421)	(7.097)	(6.015)	(5.156)	(5.338)	(4.450)	(4.125)
Taxes	556,71	572,46	316,68	557,97	557,97	557,97	557,97	557,97	557,97	557,97	557,97	557,97	557,97
Tax rate in %	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Financial Result	(2.094)	(2.154)	(1.191)	(2.099)	(1.142)	(7.254)	(6.863)	(6.539)	(5.457)	(4.598)	(4.780)	(3.892)	(3.567)
Total comprehensive income	70.531	55.461	(22.790)	62.329	48.638	43.332	45.904	45.833	46.936	50.338	50.648	53.243	53.225

Balance Sheet

Balance Sheet (reformulated)

in $ mn

	Historical Years			Forecast Period									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Core Business													
erating Cash	2793,32	2555,83	1785,74	2766,92	2810,098758	2888,925684	3003,857477	2971,000502	2989,053259	3164,467614	3191,450744	3310,351342	3289,59024
% of sales	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Inventories	14.803	14.010	14.169	14.519	$ 16.591,29	$ 15.539,40	$ 10.705,44	$ 16.448,91	$ 16.832,08	$ 17.340,51	$ 17.972,13	$ 17.766,68	$ 17.900,93
Holding period	-28,0	-28,3	-41,6	-27,7	-31,4	-31,4	-31,4	-31,4	-31,4	-31,4	-31,4	-31,4	-31,4
Receivables	24.762	27.000	20.677	32.542	$ 30.046,17	$ 30.889,01	$ 32.117,88	$ 31.766,57	$ 31.959,59	$ 33.835,16	$ 34.123,67	$ 35.394,98	$ 35.173,00
Collection period	32,4	38,6	42,3	42,9	39,0	39,0	39,0	39,0	39,0	39,0	39,0	39,0	39,0
Payables	(21.063)	(40.605)	(34.049)	(49.395)	$ -42.358,04	$ -43.637,51	$ -45.226,98	$ -44.709,95	$ -45.047,79	$ -47.689,40	$ -48.068,26	$ -49.863,46	$ -49.562,33
Payable period	-39,9	-82,1	-99,9	-94,3	-79,0	-79,0	-79,0	-79,0	-79,0	-79,0	-79,0	-79,0	-79,0
NWC	21.295	2.961	2.583	433	7.090	5.680	600	6.477	6.733	6.651	7.219	6.609	6.801
Change in %			-12,8%	-83,2%	1537,6%	-19,9%	-89,4%	979,1%	4,0%	-1,2%	8,5%	-8,5%	2,9%
PP&E	477.190	493.335	511.400	501.144	$ 533.918,76	$ 548.895,88	$ 570.732,92	$ 564.490,10	$ 567.920,12	$ 601.248,85	$ 606.375,64	$ 628.966,76	$ 625.022,15
% of sales	170,83%	193,02%	286,38%	181,12%	190,00%	190,00%	190,00%	190,00%	190,00%	190,00%	190,00%	190,00%	190,00%
Goodwill	0	0	0	0									
Intagible assets	0	0	0	0									
# of intellectual property & other rights													
growth rate													
Intangible asset per unit													
Other receivables	5.063	5.866	4.242	5.500	5.951	6.118	6.361	6.292	6.330	6.702	6.759	7.010	6.966
% of sales	1,8%	2,3%	2,4%	2,0%	2,1%	2,1%	2,1%	2,1%	2,1%	2,1%	2,1%	2,1%	2,1%
ncome tax payables	2.612	1.580	684	1.601	1.767	1.816	1.889	1.868	1.879	1.990	2.007	2.081	2.068
% of sales	0,94%	0,62%	0,38%	0,58%	0,63%	0,63%	0,63%	0,63%	0,63%	0,63%	0,63%	0,63%	0,63%
Other investments	17.150	17.346	17.918	18.014	20.704	22.172	23.721	21.874	22.643	24.136	24.304	24.977	24.971
% of sales	6,14%	6,79%	10,03%	6,51%	7,37%	7,67%	7,90%	7,36%	7,58%	7,63%	7,62%	7,55%	7,59%
Operating Invested Capital	**523.310**	**521.088**	**536.827**	**526.692**	**569.430**	**584.682**	**603.304**	**601.000**	**605.506**	**640.727**	**646.664**	**669.644**	**665.829**
Non-Core Business													
Other investments	17.150	17.346	17.918	18.014	18.014	18.014	18.014	18.014	18.014	18.014	18.014	18.014	18.014
Retirement benefit obligations	(20.017)	(22.013)	(21.461)	(16.682)	(16.682)	(16.682)	(16.682)	(16.682)	(16.682)	(16.682)	(16.682)	(16.682)	(16.682)
Deferred tax (net)	27.244	25.620	18.165	20.165	20.165	20.165	20.165	20.165	20.165	20.165	20.165	20.165	20.165
Provisions	(161)	(111)	(702)	(611)	(611)	(611)	(611)	(611)	(611)	(611)	(611)	(611)	(611)
Non-Operating Invested Capital	24.216	20.842	13.920	20.886	20.886	20.886	20.886	20.886	20.886	20.886	20.886	20.886	20.886
Total invested Capital	547.526	541.930	550.747	547.578	590.316	605.568	624.190	621.886	626.392	661.613	667.550	690.530	686.715
Financial Assets													
Excess Cash	249	533	2.578	4.035	0	0	0	0	0	0	0	0	0
Interest-bearing loans, borrowings and lease liabilities	37.006	46.569	66.013	46.810	$ -215.104,59	$ -204.357,27	$ -195.436,85	$ -165.633,67	$ -141.977,66	$ -146.996,12	$ -122.544,72	$ -113.579,17	$ -77.828,79
Net financial assets	37.255	47.102	68.591	50.845	(215.105)	(204.357)	(195.437)	(165.634)	(141.978)	(146.996)	(122.545)	(113.579)	(77.829)
-controlling interest	6.734	7.288	6.980	7.106	7.106	7.106	7.106	7.106	7.106	7.106	7.106	7.106	7.106
hareholder's Equity	191.794	362.597	332.750	338.923	368.106	394.105	421.647	449.146	477.308	507.511	537.900	569.845	601.780
Total Equity	198.528	369.885	339.730	346.029	375.212	401.211	428.753	456.252	484.414	514.617	545.006	576.951	608.886
D/E	18,77%	12,73%	20,19%	14,69%	57,33%	50,94%	45,58%	36,30%	29,31%	28,56%	22,49%	19,69%	12,78%
Transactions with shareholders		115.896	(7.366)	(56.030)	(19.455)	(17.333)	(18.362)	(18.333)	(18.774)	(20.135)	(20.259)	(21.297)	(21.290)
Payout ratio		-209,0%	-32,3%	89,9%	40%	40%	40%	40%	40%	40%	40%	40%	40%

Free Cash Flow Map

FCF Map

in $ mn

	Historical			Forecast Period									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Core Result	**62.709**	**49.567**	**-26.685**	**54.749**	**40.597**	**41.402**	**43.584**	**43.189**	**43.210**	**45.753**	**46.245**	**47.952**	**47.609**
Change in Core Invested Capital		-2.222	15.739	-10.135	42.738	15.252	18.622	-2.304	4.506	35.221	5.937	22.980	-3.815
Core FCF		**47.344**	**-10.946**	**44.615**	**83.335**	**56.654**	**62.206**	**40.886**	**47.716**	**80.975**	**52.182**	**70.932**	**43.793**
Non-Core Result	9916,6	8047,95	5086,52	9678,96	9182,96	9182,96	9182,96	9182,96	9182,96	9182,96	9182,96	9182,96	9182,96
Change in Non-Core Invested Capital		-3.374	-6.922	6.966	0	0	0	0	0	0	0	0	0
Non-Core FCF		**4.674**	**-1.835**	**16.645**	**9.183**	**9.183**	**9.183**	**9.183**	**9.183**	**9.183**	**9.183**	**9.183**	**9.183**
Total Unlevered FCF		**52.018**	**-12.781**	**61.260**	**92.518**	**65.837**	**71.389**	**50.068**	**56.899**	**90.158**	**61.365**	**80.115**	**52.976**
[-] Interest expenses		-2.726	-1.508	-2.657	-1.700	-7.812	-7.421	-7.097	-6.015	-5.156	-5.338	-4.450	-4.125
[+] Tax shield		572	317	558	357	1.640	1.558	1.490	1.263	1.083	1.121	935	866
Change in Net Financial Assets		9.847	21.489	-17.746	-265.950	10.747	8.920	29.803	23.656	-5.018	24.451	8.966	35.750
Transactions with Shareholders (in cash)		115.896	-7.366	-56.030	-19.455	-17.333	-18.362	-18.333	-18.774	-20.135	-20.259	-21.297	-21.290
Financing CF		**123.590**	**12.932**	**-75.876**	**-286.748**	**-12.757**	**-15.304**	**5.863**	**130**	**-29.227**	**-25**	**-15.847**	**11.202**

Disclosures and Disclaimers

Report Recommendation

Buy	Expected total return (including expected capital gains and expected dividend yield) of more than 10% over a 12-month period.
Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

This report was prepared by [*insert student's name*], a Master in Finance student of Nova School of Business and Economics ("Nova SBE"), within the context of the Field Lab – Equity Research.

This report is issued and published exclusively for academic purposes, namely for academic evaluation and master graduation purposes, within the context of said Field Lab – Equity Research. It is not to be construed as an offer or a solicitation of an offer to buy or sell any security or financial instrument.

This report was supervised by a Nova SBE faculty member, acting merely in an academic capacity, who revised the valuation methodology and the financial model.

Given the exclusive academic purpose of the reports produced by Nova SBE students, it is Nova SBE understanding that Nova SBE, the author, the present report and its publishing, are excluded from the persons and activities requiring previous registration from local regulatory authorities. As such, Nova SBE, its faculty and the author of this report have not sought or obtained registration with or certification as financial analyst by any local regulator, in any jurisdiction. In Portugal, neither the author of this report nor his/her academic supervisor is registered with or qualified under COMISSÃO DO MERCADO DE VALORES MOBILIÁRIOS ("CMVM", the Portuguese Securities Market Authority) as a financial analyst. No approval for publication or distribution of this report was required and/or obtained from any local authority, given the exclusive academic nature of the report.

The additional disclaimers also apply:

USA: Pursuant to Section 202 (a) (11) of the Investment Advisers Act of 1940, neither Nova SBE nor the author of this report are to be qualified as an investment adviser and, thus, registration with the Securities and Exchange Commission ("SEC", United States of America's securities market authority) is not necessary. Neither the author nor Nova SBE receive any compensation of any kind for the preparation of the reports.

Germany: Pursuant to §34c of the WpHG (*Wertpapierhandelsgesetz*, i.e., the German Securities Trading Act), this entity is not required to register with or otherwise notify the *Bundesanstalt für Finanzdienstleistungsaufsicht* ("BaFin", the German Federal Financial Supervisory Authority). It should be noted that Nova SBE is a fully-owned state university and there is no relation between the student's equity reports and any fund raising programme.

UK: Pursuant to section 22 of the Financial Services and Markets Act 2000 (the "FSMA"), for an activity to be a regulated activity, it must be carried on "by way of business". All regulated activities are subject to prior authorization by the Financial Conduct Authority ("FCA"). However, this report serves an exclusively academic purpose and, as such, was not prepared by way of business. The author - a Master's student - is the **sole and exclusive responsible** for the information, estimates and forecasts contained herein, and for the opinions expressed, which exclusively reflect his/her own judgment at the date of the report. Nova SBE and its faculty have no single and formal position in relation to the most appropriate valuation method, estimates or projections used in the report and may not be held liable by the author's choice of the latter.

The information contained in this report was compiled by students from public sources believed to be reliable, but Nova SBE, its faculty, or the students make no representation that it is accurate or complete, and accept no liability whatsoever for any direct or indirect loss resulting from the use of this report or of its content.

Students are free to choose the target companies of the reports. Therefore, Nova SBE may start covering and/or suspend the coverage of any listed company, at any time, without prior notice. The students or Nova SBE are not responsible for updating this report, and the opinions and recommendations expressed herein may change without further notice.

The target company or security of this report may be simultaneously covered by more than one student. Because each student is free to choose the valuation method, and make his/her own assumptions and estimates, the resulting projections, price target and recommendations may differ widely, even when referring to the same security. Moreover, changing market conditions and/or changing subjective opinions may lead to significantly different valuation results. Other students' opinions, estimates and recommendations, as well as the advisor and other faculty members' opinions may be inconsistent with the views expressed in this report. Any recipient of this report should understand that statements regarding future prospects and performance are, by nature, subjective, and may be fallible.

This report does not necessarily mention and/or analyze all possible risks arising from the investment in the target company and/or security, namely the possible exchange rate risk resulting from the security being denominated in a currency either than the investor's currency, among many other risks.

The purpose of publishing this report is merely academic and it is not intended for distribution among private investors. The information and opinions expressed in this report are not intended to be available to any person other than Portuguese natural or legal persons or persons domiciled in Portugal. While preparing this report, students did not have in consideration the specific investment objectives, financial situation or

particular needs of any specific person. Investors should seek financial advice regarding the appropriateness of investing in any security, namely in the security covered by this report.

The author hereby certifies that the views expressed in this report accurately reflect his/her personal opinion about the target company and its securities. He/ She has not received or been promised any direct or indirect compensation for expressing the opinions or recommendation included in this report.

[If applicable, it shall be added: *"While preparing the report, the author may have performed an internship (remunerated or not) in* [insert the company's name]. *This Company may have or have had an interest in the covered company or security"* and/ or *"A draft of the reports have been shown to the covered company's officials (Investors Relations Officer or other), mainly for the purpose of correcting inaccuracies, and later modified, prior to its publication."]*

The content of each report has been shown or made public to restricted parties prior to its publication in Nova SBE's website or in Bloomberg Professional, for academic purposes such as its distribution among faculty members for students' academic evaluation.

Nova SBE is a state-owned university, mainly financed by state subsidies, students tuition fees and companies, through donations, or indirectly by hiring educational programs, among other possibilities. Thus, Nova SBE may have received compensation from the target company during the last 12 months, related to its fundraising programs, or indirectly through the sale of educational, consulting or research services. Nevertheless, no compensation eventually received by Nova SBE is in any way related to or dependent on the opinions expressed in this report. The Nova School of Business and Economics does not deal for or otherwise offer any investment or intermediation services to market counterparties, private or intermediate customers.

This report may not be reproduced, distributed or published, in whole or in part, without the explicit previous consent of its author, unless when used by Nova SBE for academic purposes only. At any time, Nova SBE may decide to suspend this report reproduction or distribution without further notice. Neither this document nor any copy of it may be taken, transmitted or distributed, directly or indirectly, in any country either than Portugal or to any resident outside this country. The dissemination of this document other than in Portugal or to Portuguese citizens is therefore prohibited and unlawful.