

Moody's Corporation (MCO)

November 14, 2023

Credit Rating Agencies- Financial Services

Stock Rating
HOLD

Investment Thesis

We recommend a HOLD rating on Moody's Corporation (MCO) with a price target range of \$352-398 with a potential upside of 13%. MCO is a key player in the global credit rating industry and has a strong positioning in the market, along with a diversified portfolio of services.

Drivers of Thesis

- MCO has a strong market position with 32% market share in the industry and a 120-year-old brand, trailing only Standard & Poor's (50%).
- MCO's strong balance sheet is supported by high return ratios, which enables the company to make strategic acquisitions from time to time. This inorganic growth is essential to fuel growth and diversify services.
- We expect MCO to deliver growth despite economic factors affecting the Moody's Investors Services segment. We believe services from the Moody's Analytics segment will make up for the deficit and help the company grow. We forecast revenues to grow 11.90% in FY23 due to growing contributions from the MA segment.
- Moody's has an asset light and cash heavy operating model, which translates into robust ROIC. The demand for credit-related services is expected to grow and the industry is under consolidation, all of which are positive factors for the company.

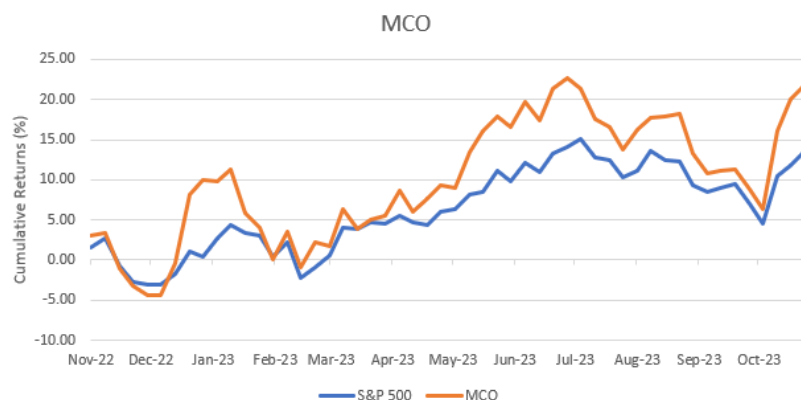
Risks to Thesis

- The primary risk to MCO is that of regulation changes. Since credit ratings are heavily dependent on regulatory and other compliances, any deviations from current standards could potentially disrupt the industry.
- MCO derives a significant portion (almost 50%) of its revenue from debt issuance related services (MIS segment). Prolonged periods of high interest rates could see debt issuances decline which would adversely affect the company.

Earnings Estimates

Year	2020	2021	2022	2023E	2024E	2025E
EPS	\$9.48	\$11.88	\$7.47	\$10.06	\$11.17	\$12.73
HF est.				\$9.49	\$10.93	\$12.61
Growth	26.17%	25.32%	-37.10%	27.00%	15.22%	15.37%

12 Month Performance



Target Price

\$352-398

Henry Fund DCF	\$352
Henry Fund DDM	\$257
Relative Multiple (PE)	\$398

Price Data

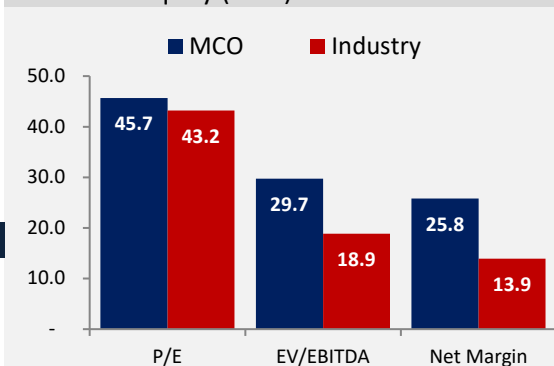
Current Price	\$352
52wk Range	\$273-363
Consensus 1yr Target	\$356

Key Statistics

Market Cap (B)	\$62.61
Shares Outstanding (M)	183.50
Institutional Ownership	92.57%
Beta	1.15
Dividend Yield	0.80%
Est. Growth (5yr)	10.93%
Price/Earnings (TTM)	45.67
Price/Earnings (FY1)	37.29
Price/Sales (TTM)	11.45
Price/FCF (TTM)	33.67

Profitability (FY22)

Operating Margin	42.57%
Profit Margin	25.13%
Return on Assets (TTM)	9.58%
Return on Equity (TTM)	50.39%

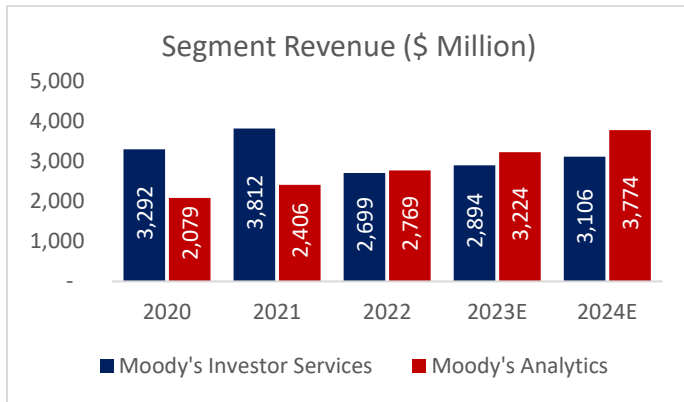


Company Description

Moody's Corporation (MCO) is a New York based company that owns Moody's Investors Service, which rates the creditworthiness of companies, governments, and fixed income debt securities, and Moody's Analytics, which provides software and research for economic analysis and risk management. It also owns several other companies in full or in part. Moody's has a market capitalization of \$64.75 billion with FY22 revenue of \$5.47 billion and net income of \$1.37 billion.

COMPANY DESCRIPTION

Moody's Corporation is a global integrated risk assessment firm that empowers organizations and investors to make better decisions. The company operates in two segments: Moody's Investors Service (MIS) and Moody's Analytics (MA).



Source: Moody's 10-K

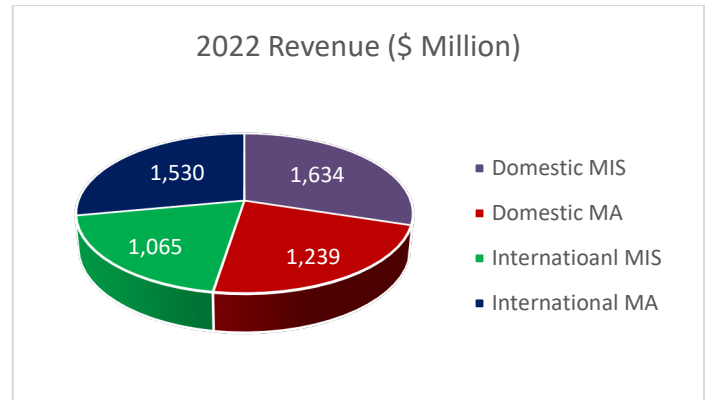
MIS publishes credit ratings and provides assessment services on a wide range of debt obligations, programs, and facilities, and the entities that issue such obligations in markets worldwide, including various corporate, financial institution, and governmental obligations, and structured finance securities. A rating from MIS enables issuers to create timely, go-to-market debt strategies to capture wider investor focus and deeper liquidity options.

Moody's Analytics, on the other hand, is a global provider of data and information, research and insights, and decision solutions, which help companies make better and faster decisions. MA leverages its industry expertise across multiple risks such as credit, market, financial crime, supply chain, catastrophe, and climate to deliver integrated risk assessment solutions that enable business leaders to identify, measure, and manage the implications of interrelated risks and opportunities.

Moody's has a strong financial position with a revenue of \$5.47 billion and a gross profit of \$3.85 billion in FY 2022. The company has a gross profit margin of 71% and a net profit margin of 25%. Moody's has a market capitalization of \$64.75 billion and a total debt of \$474 million. The company has a strong cash flow to debt ratio of 3.11, indicating its ability to generate sufficient cash flow to cover its debt obligations. Moody's has a return on equity of 55%, indicating its ability to generate a high return for its shareholders. In terms of market share, Moody's holds

a 32% share of the credit-rating market, with only S&P Global having a higher share of the market at 50%. The company has been building out its analytics and data products over the last five years to diversify its earnings and ride out a slowdown in credit activity.

Geographical Breakdown



Source: Moody's 10-K

Further breakdown of the geographical revenues is discussed:

MIS Segment 2022 Revenues	\$ million
U.S.	1,634
EMEA	648
Asia-Pacific	271
Americas (excl. U.S.)	146
Total	2,699

MA Segment 2022 Revenues	\$ million
U.S.	1,239
EMEA	1,034
Asia-Pacific	285
Americas (excl. U.S.)	211
Total	2,769

In terms of future projections, Moody's expects the full year 2023 MA revenue to grow approximately 15% with a mid-90% retention rate. This implies that the second half revenue will be in the low-double digit percent range, reflecting the strong ongoing demand for Moody's subscription-based products and solutions. We have similar forecasts and expect Fiscal 2023 revenue to grow by 16.43%. For the MIS segment, Moody's anticipates its MIS 2023 year-to-go revenue in absolute dollars to be comparable to the pre-pandemic levels observed in the

second half of 2019. We are forecasting this segment to grow by 7.24% in 2023E, bringing it close to the pre-pandemic levels.

Let's look at the two business segments in more detail.

Moody's Investor Services

Moody's Investor Services (MIS) is a segment of Moody's Corporation that publishes credit ratings and provides assessment services on a wide range of debt obligations, programs, and facilities, as well as the entities that issue such obligations in markets worldwide. This includes various corporate, financial institution, and governmental obligations, and structured finance securities.

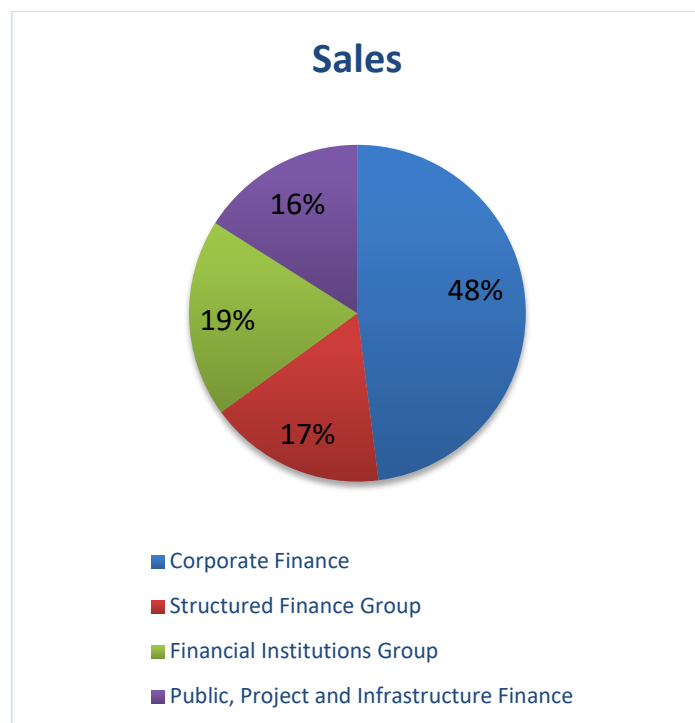
A Moody's rating enables issuers to create timely, go-to-market debt strategies to capture wider investor focus and deeper liquidity options. Moody's ratings are used by institutional investors worldwide, making an issuer's debt potentially more attractive to a wide range of buyers. The ratings also signal a willingness by issuers to be transparent and provide an independent assessment against which to compare creditworthiness.

MIS generates revenue from the originators and issuers of transactions who use MIS ratings to support the distribution of their debt issues to investors. Ratings are disseminated via press releases to the public primarily through various electronic media, including the internet and real-time information systems widely used by securities traders and investors. While the exact fee charged varies from customer to customer based on the complexity of the analysis performed, the principal amount of the issuance, etc., it may range from \$1,500 to \$2.4 million. In general, it costs issuers around 10 bps to get a credit rating. The rating fee encompasses 3 components: an initial rating fee, an issuance fee, and an annual surveillance fee.

In addition to credit ratings, MIS also generates revenue from certain non-ratings-related operations, such as financial instruments pricing services in the Asia-Pacific region, revenue from ESG research, data and assessments, and revenue from ICRA's non-ratings operations.

Moody's Investor Services faces competition globally from other credit rating agencies (CRAs), investment banks, and brokerage firms that offer credit opinions in research, as well as from in-house research operations. The company's

reputation and the strength of its brand are key competitive strengths, and any loss in credibility could significantly impact on its business.



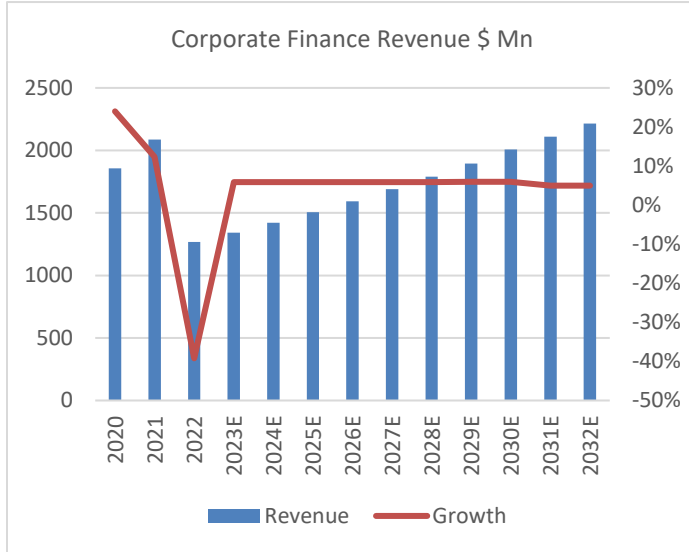
Source: Moody's 10-K

Corporate Finance

Moody's Corporate Finance business falls under the Moody's Investor Services (MIS) segment. This business is primarily involved in the assignment and ongoing monitoring of credit ratings on debt obligations and the entities that issue such obligations in markets worldwide. The MIS segment also includes other lines of business (LOBs) such as Structured Finance, Financial Institutions, and Public, Project and Infrastructure Finance. The Corporate Finance LOB generates revenue principally from fees for the assignment and ongoing monitoring of credit ratings on debt obligations and the entities that issue such obligations in markets worldwide.

In terms of financial performance, the Corporate Finance business within the MIS segment generated a total revenue of \$1,269 million in 2022, with \$832 million from the U.S. and \$437 million from non-U.S. markets. This was a decrease from the previous year, where the total revenue was \$2,087 million, with \$1,384 million from the U.S. and \$703 million from non-U.S. markets.

Going forward, we expect this sub segment to grow at a CAGR of 5.7% over our forecast horizon as economic activity normalizes.



Source: Moody's 10-K

We expect the bulk of this growth to come from international business, which we are projecting to grow at 7.5% CAGR over FY23E-FY32E.

Structured Finance Group

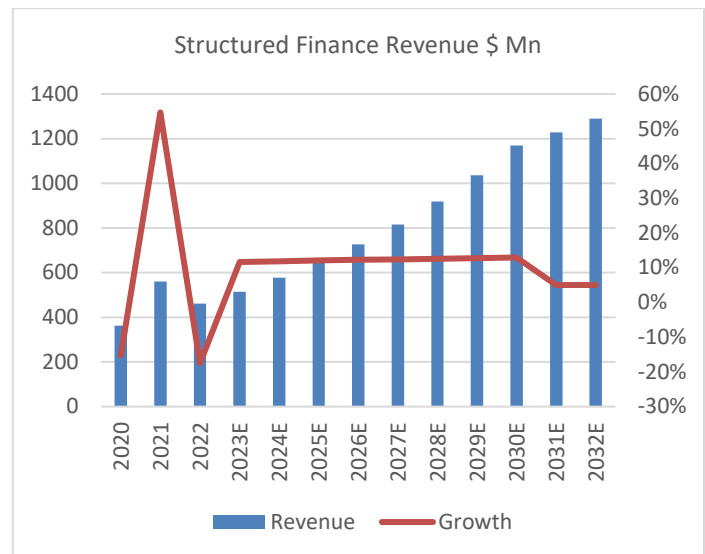
The Structured Finance Group (SFG) is a part of the Moody's Investors Service (MIS) segment. This group is responsible for the assignment and ongoing monitoring of credit ratings on debt obligations and the entities that issue such obligations in markets worldwide. The SFG has rated approximately 9,100 structured finance deals.

The SFG's key services include publishing credit ratings and providing assessment services on various debt obligations, including structured finance securities. These ratings enable issuers to create timely, go-to-market debt strategies to capture wider investor focus and deeper liquidity options. The ratings are disseminated via press releases to the public primarily through a variety of electronic media, including the internet and real-time information systems widely used by securities traders and investors.

The role of the SFG within the MIS segment is crucial. It helps issuers to be transparent and provides them with an independent assessment against which to compare creditworthiness. It may also help issuers when formulating internal capital plans and funding strategies.

Moody's opinions on credit are used by institutional investors throughout the world, making an issuer's debt potentially more attractive to a wide range of buyers.

However, the SFG faces competition, particularly in the structured finance market. The choice of a rating agency in this market is often based on methodology, as it drives structuring cost versus distribution costs. Despite this, Moody's holds a significant share of the credit-rating market, with a 32% share according to the Securities and Exchange Commission's report on nationally recognized statistical-rating organizations.



Source: Moody's 10-K

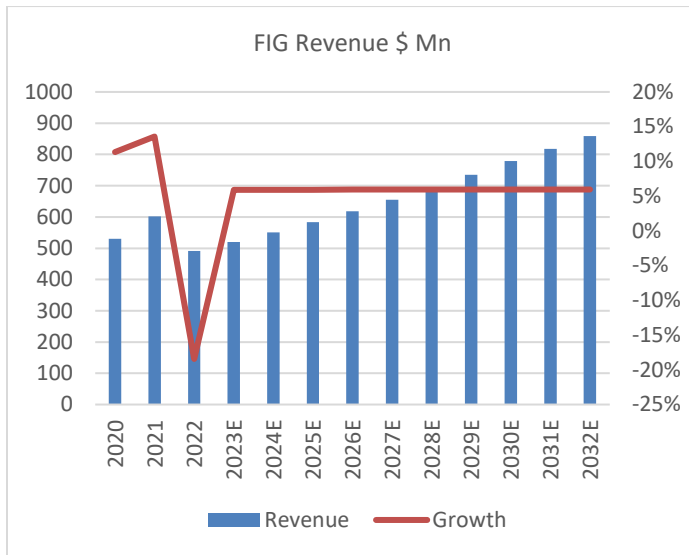
We expect this business to be the major contributor the MIS' growth over the forecast horizon. We are projecting Structure Finance to grow at a CAGR of 10.7% over 2023E to 2032E.

Financial Institutions Group

The Financial Institutions business is part of the Moody's Investor Services (MIS) segment, which publishes credit ratings and provides assessment services on a wide range of debt obligations and entities that issue such obligations in markets worldwide, including various corporate, financial institution, and governmental obligations. Moody's ratings and research reports help maintain investor confidence, especially during periods of market stress. The MIS segment consists of five lines of business (LOBs), including the Financial Institutions Group (FIG).

The FIG LOB generates revenue principally from fees for the assignment and ongoing monitoring of credit ratings

on debt obligations and the entities that issue such obligations in markets worldwide. Moody's has a strong position in the credit rating industry, with a 32% share of the market, according to the Securities and Exchange Commission's report on nationally recognized statistical-rating organizations. The company has been investing in its capabilities, including ESG and climate risk assessment, to meet customers' evolving risk assessment demands.



Source: Moody's 10-K

We are projecting this sub segment to grow at a CAGR of 5.7% over the forecast horizon.

Public, Project and Infrastructure Finance

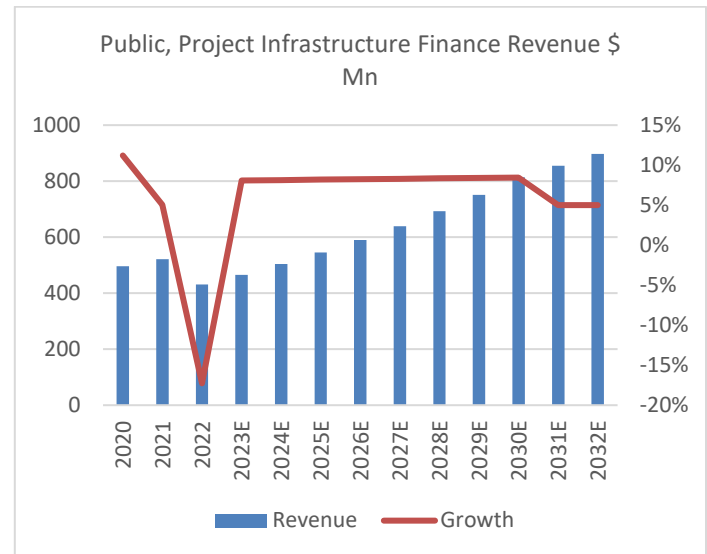
The Public, Project, and Infrastructure Finance (PPIF) business is part of the Moody's Investors Service (MIS) segment. This business provides credit ratings and assessment services for various debt obligations, including those related to infrastructure and project finance. Moody's has rated approximately 1,000 infrastructure and project finance issuers.

The PPIF business plays a crucial role in the MIS segment by facilitating access to both domestic and international debt capital. Moody's ratings and research reports help maintain investor confidence, especially during periods of market stress. The ratings revenue is derived from the originators and issuers of transactions who use MIS ratings to support the distribution of their debt issues to investors.

The PPIF business is also involved in the ongoing monitoring of credit ratings on debt obligations and the entities that issue such obligations in markets worldwide.

This business generates revenue principally from fees for the assignment and ongoing monitoring of these credit ratings.

In terms of strategic initiatives, there has been an effort to bring all the ratings teams onto one platform and optimize all the processes. However, this initiative has faced some challenges and has been stopped and restarted multiple times.



Source: Moody's 10-K

In conclusion, the PPIF business plays a significant role within the MIS segment by providing credit ratings and assessment services for infrastructure and project finance issuers. Despite recent challenges, the business continues to contribute to the overall revenue of the MIS segment. We expect this to continue and have projected the segment to grow at a CAGR of 7.6% over our forecast horizon.

Moody's Analytics

Moody's Analytics (MA) is a global provider of data, research, and decision solutions that help customers navigate increasingly complex risks. It leverages its industry expertise across multiple risks such as credit, market, financial crime, supply chain, catastrophe, and climate to deliver integrated risk assessment solutions. These solutions enable business leaders to identify, measure, and manage the implications of interrelated risks and opportunities. MA's proprietary data, research, and analytics combined with cloud-based software tools deliver solutions to meet customer needs as they arise. MA's subscription businesses provide a significant base of

recurring revenue to mitigate cyclical changes in debt issuance volumes that may result in volatility in MIS's revenues.

MA has three main lines of business, including research, data and information, and MIS ratings. The research and insights business is a mature, high single-digit growth business. The BvD database is the largest private company database in the world and is used for compliance, M&A, and supply chain purposes. The decision solutions business includes software for origination, underwriting, regulatory compliance, portfolio management, and KYC.

Moody's Analytics has been acquiring companies to grow the business. The rating agency has higher profit margins than Moody's Analytics but is subject to regulatory and reputation risks. Moody's Analytics benefits materially from being associated with the ratings business or with the rest of that portfolio.



Source: Moody's 10-K

Moody's Analytics has been building out its analytics and data products over the last five years to diversify its earnings and ride out a slowdown in credit activity. It has invested heavily in providing companies with risk-management solutions, insurance data, and analytics to help companies mitigate weather and disaster-related risks. Its Moody's analytics segment saw revenue grow 15% amid uncertainty across markets, with robust demand for now-your-customer (KYC) and compliance solutions.

Moody's Analytics is a key growth driver, with strong retention rates and potential for upselling. Moody's Analytics is continuing to develop, and it has partnered with Microsoft to create new offerings that provide

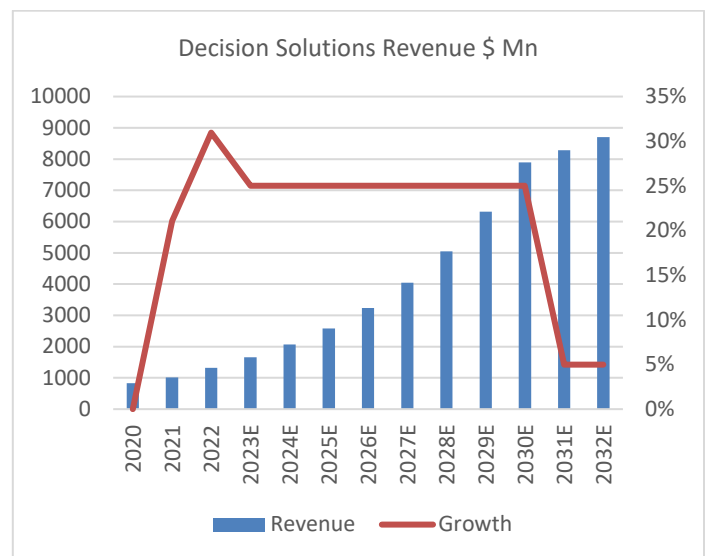
deeper, richer insights into risk than ever before. We expect the growth trajectory to continue and have built in a 15% CAGR revenue growth rate over the forecast horizon.

Decision Solutions

The Decision Solutions Business is part of the Moody's Analytics segment and focuses on developing products and services that support risk management activities for institutional participants in financial markets. This includes subscription-based research, data, and analytical products, as well as software solutions and risk management services. The business also offers offshore analytical and research services, learning solutions, and certification programs.

Some of the main products and services offered by the Decision Solutions Business within the Moody's Analytics segment include software and workflow tools for specific use cases such as banking, insurance, KYC/KYS, CRE, and structured finance solutions. The business has three cloud-based SaaS businesses serving banking, insurance, and KYC workflows. In Q2 2023, each of these businesses achieved double-digit revenue growth, with KYC leading the way at nearly 20% ARR growth.

The insurance business within Decision Solutions combines the legacy MA insurance business, which mainly serves life insurers, with RMS, which caters primarily to the P&C market. This business delivers workflow solutions for underwriting risk and capital management, and financial and regulatory reporting.



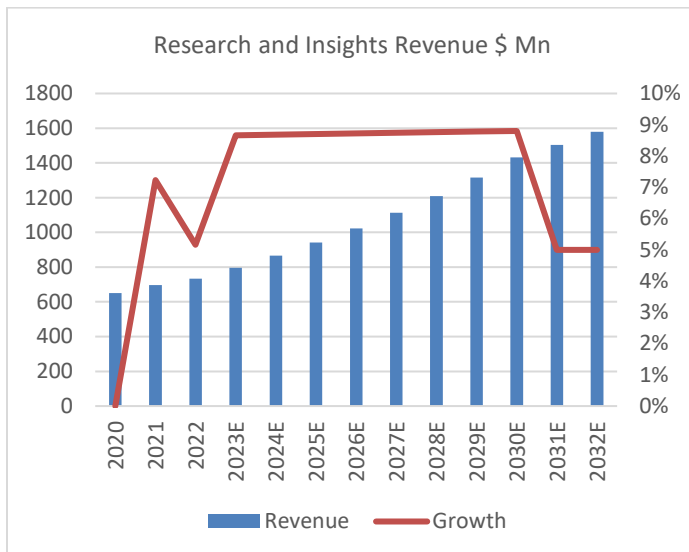
Source: Moody's 10-K

We expect this segment to grow at a CAGR of 20% over the forecast horizon driven by significant uptake in the data services business. However, this could be a comparatively low margin business for Moody's for the first few years as they fully integrate the Copilot software within its services.

Research and Insights

The Research and Insights business is a part of the Moody's Analytics segment. It develops a range of products and services that support the risk management activities of institutional participants in financial markets. This includes subscription-based research, data, and analytical products, economic research and forecasts, business intelligence and company information products, and commercial real estate data and analytical tools. The business also offers online and classroom-based training services, as well as credentialing and certification services.

Moody's Analytics leverages its industry expertise across multiple risks such as credit, market, financial crime, supply chain, catastrophe, and climate to deliver integrated risk assessment solutions. This enables business leaders to identify, measure, and manage the implications of interrelated risks and opportunities. The Research & Insights line of business provides models, scores, expert insights, and commentary. This includes credit research, credit models and analytics, and economics data and models.



Source: Moody's 10-K

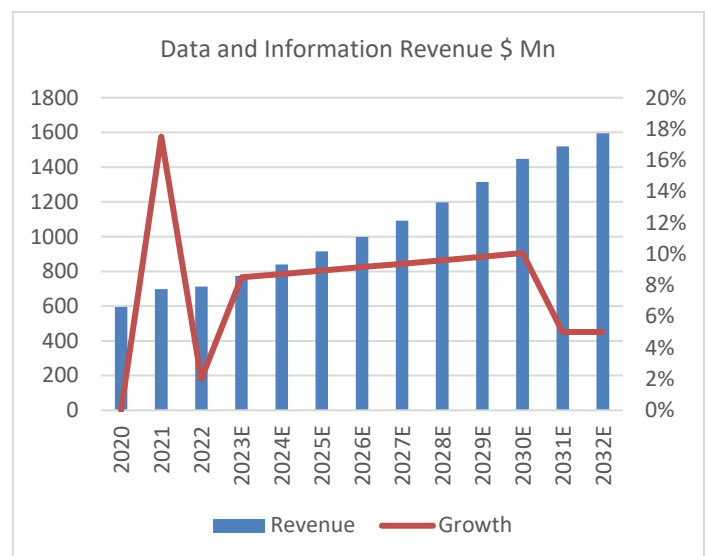
We expect this segment to grow at a CAGR of 7.9% over the forecast horizon.

Data and Information

The Data and Information business is one of the three lines of business (LOBs) within the Moody's Analytics (MA) segment, alongside Decision Solutions and Research and Insights. This business is focused on providing risk management solutions to institutional participants in global financial markets.

The Data and Information business includes one of the world's largest databases on companies, as mentioned in the Q1 2023 earnings call. This database is powered by Moody's proprietary data, research, and analytics, which are combined with cloud-based software tools to deliver solutions that meet customer needs. The business leverages a tremendous set of proprietary data analytics and domain expertise across a range of areas, including credit, companies, properties, securities, people, economies, ESG, climate, and more.

The Data and Information business has been growing over the years, with Moody's investing heavily in its development. This investment has been aimed at expanding the breadth of expertise and target market, as well as enhancing the level of insight and analytics provided to support decision-making. The business has been successful in generating recurring revenue, with a high retention rate and potential for upselling. It leverages Moody's proprietary data, research, and analytics to deliver solutions that meet customer needs. The business has been growing over the years, contributing to the growth of the MA segment, and is expected to continue its growth trajectory.



Source: Moody's 10-K

We expect this business to grow at a CAGR of 8.4% over the investment horizon.

RECENT DEVELOPMENTS

Recent Earnings Announcement

On October 25th 2023, Moody's reported strong financial results for the third quarter of 2023, with a 15% overall revenue growth and improved adjusted operating margins from each of its businesses. Moody's Analytics (MA) experienced 13% revenue growth, driven by its Know Your Customer (KYC) business, which has over \$300 million of annualized recurring revenue (ARR) and is growing at 18%. MA also launched its first GenAI-enabled product, Research Assistant, which has received positive feedback from customers. Moody's Investors Service (MIS) saw 18% revenue growth, driven by improved leveraged finance issuance markets and strong growth in the Americas and EMEA regions. MIS expects full-year revenue growth in the mid- to high single-digit percentage range, with a focus on investment-grade and structured finance issuance.

Moody's highlighted the importance of its GenAI strategy and the integration of data and analytics across its product suite. The company is investing in new products, strategic partnerships, and third-party collaborations to accelerate innovation and deliver market-leading growth. Moody's affirmed its commitment to ESG and climate solutions, with \$200 million in annual revenues in 2023 and ongoing demand from customers. The integration of RMS climate risk data into ESG solutions for banks is expected to drive further growth. Moody's expects moderate growth in total issuance for the fourth quarter of 2023, with a focus on corporate issuance. Refinancing walls continue to provide support for future issuance, and long-term growth in issuance is expected, particularly in the leveraged finance sector.

The company reiterated its commitment to ongoing restructuring efforts, with a plan to complete the program by the end of the year. Moody's expects restructuring charges of up to \$205 million, primarily related to real estate rationalization and workforce optimization. Moody's highlighted the strength of its customer

relationships and the value of its solutions, with a focus on delivering insights and analytics to support decision-making and risk management processes. The company remains optimistic about future growth opportunities across its businesses and is focused on leveraging its data, analytics, and GenAI capabilities to drive innovation and deliver value to customers. Moody's finished #1 in the Chartis RiskTech100, a comprehensive global ranking of risk and compliance technology providers, reinforcing the breadth and depth of its solutions and recognition from the market and customers. The company acknowledged the resilience and dedication of its employees, highlighting their support for each other and commitment to delivering for customers.

Russia- Ukraine War Exposure

The ongoing Russia-Ukraine conflict can potentially affect Moody's in several ways. Moody's credit ratings are influenced by a variety of factors, including economic growth, market volatility, and uncertainty. Geopolitical conflicts like the Russia-Ukraine situation can create significant market volatility and economic uncertainty, which could potentially affect Moody's credit ratings. For instance, if the conflict leads to economic instability in the region, it could impact the creditworthiness of entities within the region, leading to changes in their credit ratings.

Moreover, Moody's has noted that the market does not react well to surprises and uncertainty. The Russia-Ukraine conflict, with its unpredictable nature, could introduce a level of uncertainty that might affect the credit market and, by extension, Moody's business. For example, if the conflict escalates and leads to a broader economic downturn, Moody's anticipates a rise in the global default rate, although not to the levels of the pandemic or the great financial crisis.

Furthermore, Moody's has been building out its analytics and data products to diversify its earnings and ride out a slowdown in credit activity. If the Russia-Ukraine conflict leads to a slowdown in credit market activity, particularly in the affected region, Moody's diversified business model could help mitigate the impact.

In terms of Moody's assessment of credit risks, the company uses a multifaceted approach that considers various factors, including economic forecasts, credit

indicators, and risk and reputational profiles. The Russia-Ukraine conflict could influence these factors, thereby affecting Moody's assessment of credit risks. For instance, the conflict could impact economic forecasts and increase risk profiles for entities in the region, which Moody's would need to consider in its credit risk assessments.

However, it's important to note that these are potential impacts based on the general principles of Moody's credit ratings and risk assessments. The specific impact of the Russia-Ukraine conflict on Moody's would depend on various factors, including the duration and severity of the conflict, its impact on global and regional economies, and how it influences the creditworthiness of entities that Moody's rates.

In March 2022, Moody's withdrew all its ratings on Russian entities and suspended its commercial operations in Russia.

Moody's Partnership with Microsoft Azure

Moody's, in September announced a collaboration with Microsoft Azure. The collaboration involves leveraging Microsoft's secure Azure OpenAI Service as part of Moody's product development. Moody's is building new functionality, content sets and entitlement capabilities into their Research Assistant, a tool that provides customers with multifaceted and integrated perspectives of risk. This partnership also includes expanding the ways Moody's leverages Microsoft Teams for internal collaboration and seeking to expand joint go-to-market opportunities. This includes creating Teams plug-ins available to Microsoft's 300 million monthly users and infusing Moody's content into Microsoft's Dynamics and Power Platforms to enable CRM and workflow integrations. Moody's is also exploring migrating their content sets to Microsoft Fabric to enable entitlement and delivery of content and insights to their shared customers.

This partnership involves combining Moody's vast proprietary data analytics and research with Microsoft's industry-leading generative AI technology and Azure OpenAI service. This collaboration aims to create new offerings that provide deeper, richer insights into risk than ever before. By applying machine learning algorithms and deep neural networks to large collections of data and insights, individuals and organizations can drive greater efficiency, accuracy, insight and innovation in financial processes.

INDUSTRY TRENDS

1. **Increasing demand from emerging markets:** As these markets continue to grow and attract investment, there is a rising demand for credit ratings services. This trend is driven by the need for an independent ranking of risk, which is crucial for the development of a functioning and liquid credit market.
2. **Greater transparency and independence:** There has been a shift towards more transparent and independent credit rating methodologies. This is in response to regulatory pressures and the need to improve the accuracy and reliability of ratings.
3. **Technological advancements:** The use of artificial intelligence and big data analytics is shaping the credit ratings industry by enabling faster and more accurate assessments of credit risk.
4. **Diversification of services:** Credit rating agencies like Moody's have been diversifying their services to ride out slowdowns in credit activity. For instance, Moody's has been building out its analytics and data products to provide companies with risk-management solutions, insurance data, and analytics.
5. **Regulatory landscape:** The regulatory landscape remains a key risk to the business. Pressures for increased regulatory scrutiny and oversight on credit rating agencies continue following a series of high-profile failures.
6. **Competition:** The credit ratings industry is highly competitive and characterized by rapid technological change, changes in customer and investor demands, and evolving regulatory requirements, industry standards, and market preferences.

Sustainability and Social Responsibility

Environmental, Social, and Governance (ESG) refers to the three central factors in measuring the sustainability and societal impact of an investment in a company or business. These criteria help to better determine the future financial performance of companies (return and risk).

ESG considerations have gained prominence in investment decision-making. This is due to pressures from investors, changing social views, and regulation, which have all

contributed to increased ESG investing. As a result, there has been an increase in demand for related services such as data insight, as well as rating services. Companies like Moody's Corporation have invested in the development of their ESG capabilities, in part through acquisitions.

Moody's, for instance, considers ESG factors in its operations, products, and services. The company uses its expertise and assets to make a positive difference through technology tools, research, and analytical services that help other organizations and the investor community better understand the links between sustainability considerations and the global markets.

Company	ESG Score	Risk Rating
Moody's	15.5	Low
Equifax	23.2	Medium
S&P Global	13	Low
Fair Isaac	20.3	Medium
TransUnion	20.7	Medium
Experian	11.8	Low
MorningStar*	NA	Medium

Source: Morningstar Sustainalytics

*Morningstar does not have a Sustainalytics ESG Rating; therefore, we have used the Rating from FactSet.

As we can see, most of the companies from our peer set have a medium to low ESG rating given the nature of their business. Moody's has one of the lower ESG scores, which is a positive sign.

PEER COMPARISON

Return Ratios Comparison

Looking at the return ratios of the peer set, Moody's has the highest ROE among all its peers and the 2nd highest ROA in the peer set. This shows operating efficiency of the company and its profitability cushion compared to peers.

Company	ROE	ROA
Moody's	52.38%	9.47%
Equifax	18.46%	6.16%
S&P Global	16.91%	8.46%
Fair Isaac	43.33%	28.46%
TransUnion	6.67%	2.22%
Experian	19.50%	7.08%
MorningStar	5.38%	2.22%

Source: Bloomberg

Valuation Comparison

Below is the valuation comparison for the peer set. Moody's sits somewhere in the middle of the peer set in both forward P/E and EV/EBITDA multiple comparisons.

Company	Forward P/E	EV/EBITDA
Moody's	35.43	26.06
Equifax	30.88	18.34
S&P Global	32.47	24.22
Fair Isaac	44.42	31.30
TransUnion	17.80	12.22
Experian	25.64	15.55
MorningStar	58.79	28.86

Source: Bloomberg

Profitability Comparison

Coming to profitability, Moody's enjoys better EBITDA and Net Margins than most of its peers. The only companies it is trailing are S&P Global and FICO.

Company	EBITDA Margin	Net Margin
Moody's	42.23%	25.13%
Equifax	32.54%	13.59%
S&P Global	54.55%	29.05%
Fair Isaac	44.51%	28.37%
TransUnion	32.18%	7.26%
Experian	29.29%	11.63%
MorningStar	20.10%	3.77%

Source: Bloomberg

Equifax (EFX)

Equifax, Inc. specializes in delivering information solutions and human resources business process outsourcing services. The company operates through three distinct business segments: U.S. Information Solutions, which includes consumer and commercial information services, mortgage loan origination information, financial marketing services, and identity management; Workforce Solutions, encompassing employment, income, and social security number verification services, along with complementary payroll-based transaction and employment tax management services; and the International segment, offering information, technology,

and services to support debt collections and recovery management in various global regions, including Canada, Europe, Latin America, and the Asia Pacific. Established in 1899 by Cator Woolford and Guy Woolford, Equifax, Inc. is headquartered in Atlanta, Georgia.

in USD Million	2019	2020	2021	2022
Revenue	3,508	4,128	4,924	5,122
revenue growth		17.7%	19.3%	4.0%
EBITDA	808	1,100	1,627	1,640
EBITDA Margin	23.0%	26.6%	33.0%	32.0%
Net Income	(399)	526	749	700
Net Margin	-11.4%	12.7%	15.2%	13.7%

Source: FactSet

EFX's financial performance over the past year has been relatively stable with a reported revenue of \$5.12 billion and a net income of \$696.2 million. The company's gross profit margin was 57% and the net profit margin was 14%. The return on assets was 6% and return on equity was 18%. The debt-to-equity ratio was 1.46, indicating a moderate level of debt.

EFX has been focused on executing its EFX2023 growth strategy, leveraging the new EFX cloud for innovation and new products. The company has made significant progress in executing the EFX cloud data and technology transformation, with 60% of total revenue being delivered from the new EFX Cloud. The company has completed over 139,000 B2B migrations and over 10 million consumer migrations.

S&P Global (SPGI)

S&P Global, Inc. is a leading provider of transparent and independent services in the global capital and commodity markets. The company operates through several key segments, which include Market Intelligence, Ratings, Commodity Insights, Mobility, Indices, and Engineering Solutions. In the Market Intelligence segment, S&P Global delivers multi-asset-class data and analytics integrated with specialized workflow solutions. The Ratings segment is primarily focused on providing credit ratings, research, and analytics, serving as a valuable resource for investors and market participants seeking information, ratings, and benchmarks. Commodity Insights is dedicated to offering essential data and benchmark prices in the commodity and energy markets. The Mobility segment provides comprehensive solutions across the automotive value chain, catering to vehicle manufacturers, automotive

suppliers, mobility service providers, retailers, consumers, and finance and insurance companies. Lastly, the Engineering Solutions segment utilizes advanced knowledge discovery technologies, research tools, and software-based engineering decision engines to drive innovation, enhance productivity, ensure quality, and mitigate risk. Founded in 1917 by James H. McGraw and John A. Hill, S&P Global is headquartered in New York, NY, and is renowned for its commitment to delivering essential market insights and analytics.

in USD Million	2019	2020	2021	2022
Revenue	6,699	7,442	8,297	11,181
revenue growth		11.1%	11.5%	34.8%
EBITDA	3,412	3,990	4,419	4,453
EBITDA Margin	50.9%	53.6%	53.3%	39.8%
Net Income	2,123	2,339	3,024	3,248
Net Margin	31.7%	31.4%	36.4%	29.0%

Source: FactSet

In 2022, SPGI completed the merger with IHS Markit, which is expected to bring additional scale and diversify the customer base, increasing recurring revenue mix and creating significant cross-selling opportunities and cost synergies. The company also announced the disposal of its engineering solutions business to KKR for \$975 million in cash. In terms of business activity, both SPGI and Moody's are worldwide leaders in credit ratings. SPGI's index business, which includes the proprietary Dow and S&P 500 indexes, represents only 12% of its revenues, while the ratings business accounts for 40%-45% of revenues. The remaining revenue comes from market intelligence, commodity insights, and mobility businesses.

Fair Isaac (FICO)

Fair Isaac Corp. specializes in delivering decision management solutions and operates within two key segments: Software and Scores. The Software segment offers pre-configured analytic and decision management solutions tailored to specific business needs and processes. On the other hand, the Scores segment provides business-to-business scoring solutions and services, along with business-to-consumer scoring solutions such as myFICO solutions for consumers, accompanied by related professional services. Within the Decision Management Software segment, the company offers a range of analytic and decision management software tools, including the FICO decision management suite, complemented by professional services. Founded in

1956 by Bill Fair and Earl Isaac, Fair Isaac Corp. is headquartered in San Jose, California, and has established itself as a prominent player in the realm of decision management solutions.

in USD Million	2019	2020	2021	2022
Revenue	1,160	1,295	1,317	1,377
revenue growth		11.6%	1.7%	4.6%
EBITDA	285	391	455	579
EBITDA Margin	24.6%	30.2%	34.6%	42.0%
Net Income	192	236	392	374
Net Margin	16.6%	18.3%	29.8%	27.1%

Source: FactSet

FICO's financial performance over the past year has been strong, with revenue growing 5% to \$1.38 billion, gross profit of \$1.08 billion, resulting in a gross margin of 78%. Operating income stood at \$542 million and net income stood at \$373 million, leading to a profit margin of 27%. The company also delivered Return on assets of 26%. Recent performance has been strong, with growth in both the Scores and Software segments. Scores segment revenue in quarter ended June 2023 was \$201.8 million compared to \$179.4 million a year ago. Similarly, Software segment revenue for the quarter was \$196.9 million, compared to \$169.6 million a year ago.

It is important to acknowledge that FICO and Moody's business models are distinct from each other. FICO focuses on credit scoring and credit risk assessment for individuals and businesses while Moody's specializes in providing credit ratings for various types of debt securities. However, together, their performance can be used to understand the health of the credit rating industry.

TransUnion (TRU)

TransUnion is a company specializing in information and risk management solutions, offering a range of services to businesses, including consumer reports, risk scores, analytical services, and decision-making tools. Its operations are structured into several segments: U.S. Markets, International, Consumer Interactive, and Corporate. In the U.S. Markets segment, TransUnion provides businesses with consumer reports, risk scores, analytical services, and decision-making capabilities. The International segment extends its services globally, offering credit reports, analytics, decision-making services, and additional risk management solutions. The Consumer Interactive segment focuses on providing solutions that

empower consumers to manage their personal finances and safeguard against identity theft. Lastly, the corporate segment plays a supporting role for each of these segments, manages investments, and oversees enterprise functions. Founded on February 15, 2012, TransUnion is headquartered in Chicago, Illinois, and has established itself as a key player in the field of information and risk management services.

in USD Million	2019	2020	2021	2022
Revenue	2,656	2,717	2,960	3,710
revenue growth		2.3%	9.0%	25.3%
EBITDA	974	976	1,010	1,186
EBITDA Margin	36.7%	35.9%	34.1%	32.0%
Net Income	352	343	355	252
Net Margin	13.2%	12.6%	12.0%	6.8%

Source: FactSet

In 2022, TransUnion reported a revenue of \$3.7 billion, a gross profit of \$2.49 billion, and a net income of \$252 million.

TransUnion's earnings calls reveal that the company has been focusing on diversification across geographies, vertical markets, and solutions to withstand economic downturns. The company has also been integrating its recent acquisitions into its operations, which are expected to contribute to its growth.

Experian (EXPN)

Experian Plc operates as a global information services company, specializing in providing data and analytical tools essential for credit risk management, fraud prevention, targeted marketing, and automated decision-making. The company's activities are organized into four primary global business lines: Credit Services, Decision Analytics, Marketing Services, and Consumer Services.

Under the Credit Services segment, Experian offers valuable information to organizations to help them effectively assess and manage the risks associated with extending credit and combating fraud. Decision Analytics leverages Experian's extensive repository of credit and marketing data, along with other data sources, utilizing expert consulting, analytical tools, and software to transform data into actionable business decisions.

The Marketing Services division assists organizations in reaching and engaging with their customers through advanced marketing strategies that yield a significant

return on investment. Lastly, the Consumer Services branch provides credit monitoring services to millions of consumers through online platforms.

Founded by John Wilfred Peace in 1980, Experian is headquartered in Dublin, Ireland, and has established itself as a global leader in the information services industry, enabling businesses and consumers to make informed financial decisions.

in USD Million	2020	2021	2022	2023
Revenue	4,078	4,114	4,604	5,501
revenue growth		0.9%	11.9%	19.5%
EBITDA	1,411	1,411	1,549	1,891
EBITDA Margin	34.6%	34.3%	33.6%	34.4%
Net Income	533	615	841	640
Net Margin	13.1%	14.9%	18.3%	11.6%

Source: FactSet

Experian's business segments are like Moody's, albeit with lower margins. The company has seen its net margin shrink from 18.3% in fiscal 2022 to 2023. For Q1 FY2024, the organic revenue growth stood at 5% with Latin American business performing strongly and US and UK staying tight.

MorningStar (MORN)

Morningstar, Inc. is a company that specializes in providing investment research services. Its range of offerings includes Morningstar data, direct services, investment management, advisor workstation, workplace solutions, pitchbook data, enterprise components, research, credit ratings, and indexes. Founded by Joseph D. Mansueto on May 16, 1984, the company is based in Chicago, Illinois, and has established itself as a prominent player in the field of investment research.

in USD Million	2019	2020	2021	2022
Revenue	1,179	1,390	1,764	1,866
revenue growth		17.9%	26.9%	5.8%
EBITDA	314	355	517	394
EBITDA Margin	26.6%	25.5%	29.3%	21.1%
Net Income	152	224	193	71
Net Margin	12.9%	16.1%	11.0%	3.8%

Source: FactSet

The decline in Morningstar's net margin in 2022 can be attributed to several factors.

Firstly, there was a decrease in revenue and an increase in operating expenses, which led to a decrease in the net

income. Secondly, the acquisition of the LCD business from S&P Global had a negative effect on the balance sheet. This acquisition, along with other M&A activity and share buybacks, resulted in Morningstar racking up a net debt load of \$700 million, pushing up leverage to 2-3 times.

Thirdly, the company's growth slowed down due to a strong dollar and softening end markets in some areas of the business. This was reflected in the fourth quarter, revenue growth slowing down to 2%, and full year sales being up only 10% to \$1.9 billion. Lastly, higher margin rating and transaction-based revenue streams were hit by changed market conditions [6]. This, along with the fact that some buybacks became dilutive due to the high earnings multiples, led to a significant decline in earnings. Full year earnings were down 39% to \$3.87 per share, with the profit declines being even more pronounced in the second half of the year.

ECONOMIC OUTLOOK

Inflation

Inflation was the talk of the town throughout 2022, and for good reason. Inflation in the U.S. has gone from 0.33% in April 2020 when the pandemic hit, to 6.04% as of February 2023. It reached a high of 9.06% in June 2022. A strong labor market and issues in the supply chain led the CPI to remain high. The Russia-Ukraine conflict disrupted energy markets around the world, causing energy prices to rise. While inflation has declined to under 4% over the last 3 months. At the Henry Fund, we expect inflation to remain around 3.7% in the near term (6 months).



Source: Statista

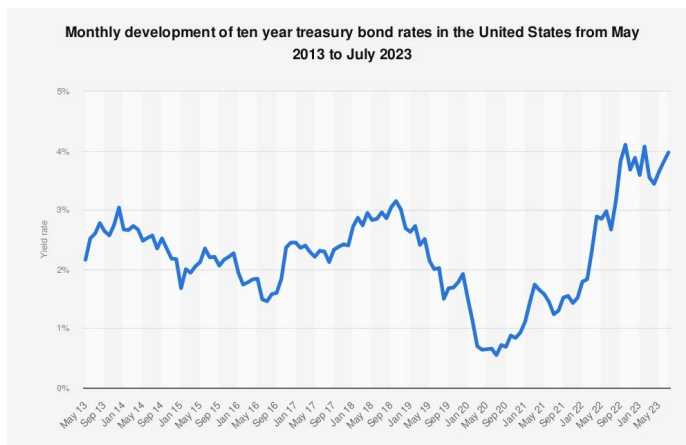
Inflation is perhaps the most important economic metric to consider right now as it is driving the Fed policy on

Interest Rates, which is affecting the activity in the credit markets.

Interest Rates

Interest rates are key macroeconomic indicators affecting businesses. For the credit ratings industry, the long-term yield curve is the most relevant. We are looking at the 10-year U.S. Treasury interest rates here. The Henry Fund analysts expect the 10-year treasury's yield to remain high, around 5%, in the near term (6-months).

As interest rates are rising, it affects the issuance of corporate, municipal and government debt. It makes it more expensive to refinance existing debt and new debt issuances slow down as well, as seen with declining revenues for MIS. For rating agencies, it becomes important to assess the creditworthiness of issuers. In a way, this is good for business despite a potential slowdown in issuances.



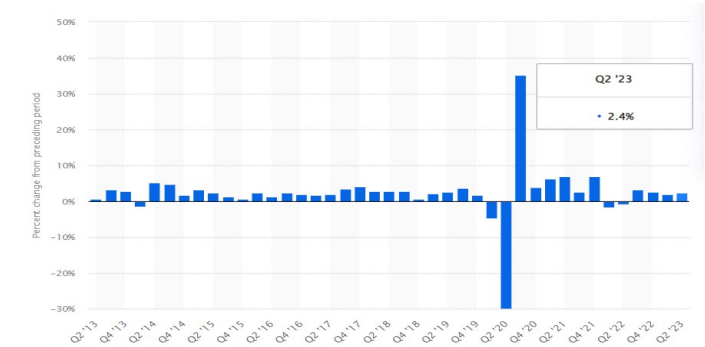
Source: Statista

GDP Growth

GDP Growth is an important economic factor for credit rating agencies as it is a proxy for healthy business activity. In 2022, the GDP growth dropped in the first couple of quarters but rebounded in the second half of the year. Thus, the economy entered 2023 with a healthy amount of forward momentum in spending and income.

The Henry Fund analysts believe the GDP will grow by 2.55% in the short term. This belief is based on the broader consensus in the market, which believes the US economy could pull off a soft landing over the next 12 months. It is important for the GDP growth to be positive for a company like Moody's, which operates on providing services to and

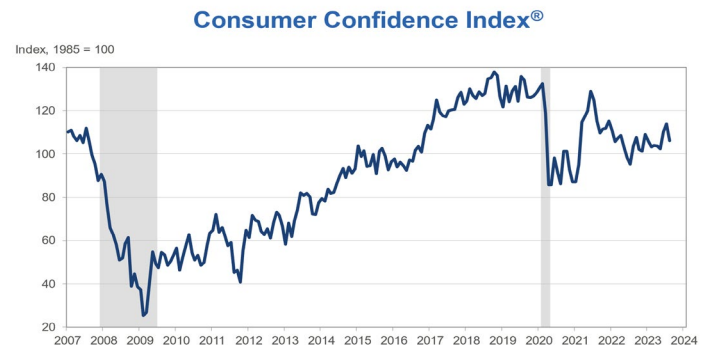
rating debt issuances from the corporate sector. In a shrinking economy, the need for debt issuance or raising capital declines, which is bad for business.



Source: Statista

Consumer Confidence

Consumer Confidence is an important economic indicator for credit rating companies, since this can be used to estimate credit card spending and other discretionary loans. As we can see, with rising fears of a recession, consumer confidence has been gradually declining, reflecting the declining financial strength of US consumers.



Source: Conference Board

The Henry Fund analysts expect consumer confidence to remain neutral over the short term and increase over the long term, which is a 2-year horizon.

VALUATION

Revenue Decomposition

Moody's revenue is derived from its two business segments: Moody's Investors Service (MIS) and Moody's Analytics (MA). Over the last 3 years, MIS has seen its revenue decline by 9% CAGR, with most of the impact coming from decline in its domestic (U.S.) business which declined by 11% over this period. Corporate Finance,

Financial Institutions and Public, Project Infrastructure Finance segments saw revenue declines of 20%, 6% and 8% respectively, while Structure Finance saw revenue growth of 20%.

For the international business of MIS segment, overall revenues declined 7% CAGR with most of the decline coming from Corporate Finance (12%), followed by Public, Project Infrastructure Finance (6%) and Financial Institutions (2%). The Structure Finance segment exhibited growth of 2%.

For Moody's Analytics, revenue growth was more solid, with the overall MA segment growing 15% CAGR over the last 3 years. Domestic business saw revenue growth of 18% CAGR, with the sub segments Decision Solutions, Data and Information and Research and Insights growing by 31%, 17% and 6% CAGR respectively.

Internationally, the business did well too, with sub segments Decision Solutions growing at a CAGR of 22%, Research and Insights at 7% CAGR and Data and Information at 6% CAGR. We forecast revenue growth for each business segment and sub segment.

For MIS, we expect the overall segment to grow at a CAGR of 7.09% over 2023E to 2032E. Splitting this geographically, we expect domestic business to grow at 8% CAGR and foreign business to grow at 6% CAGR. We expect the following growth rates for the sub segments:

- Corporate Finance: 6% CAGR
- Structure Finance: 11% CAGR
- Financial Institutions: 6% CAGR
- Public, Project Infrastructure Finance: 8% CAGR

For MA, we expect the overall segment to grow at 15.59% CAGR over 2023E to 2032E. Geographically, we expect the domestic business to grow at 16% CAGR and the foreign business to grow at 15% CAGR. We expect the following growth rates from the sub segments:

- Decision Solutions: 20% CAGR
- Research and Insights: 8% CAGR
- Data and Information: 18% CAGR

Cost Structure Analysis

The company's costs can be categorized into operating expenses and selling, general, and administrative expenses (SG&A). Operating expenses include costs

associated with the development and production of the company's products and services and their delivery to customers. These expenses principally include employee compensation and benefits and travel costs that are incurred in connection with these activities. Operating expenses are charged to income as incurred.

SG&A expenses include such items as compensation and benefits for corporate officers and staff and compensation and other expenses related to sales. They also include items such as office rent, business insurance, and professional fees. SG&A expenses are charged to income as incurred. The company also incurs costs related to software developed or obtained for internal use. These costs generally consist of direct costs for third-party license fees, professional services provided by third parties, and employee compensation, in each case incurred either during the application development stage or in connection with upgrades and enhancements that increase functionality. Such costs are depreciated over their estimated useful lives on a straight-line basis.

In addition to these, the company has identified additional opportunities for real estate rationalization as part of an expanded global restructuring program. The real estate rationalization range is between \$50 million to \$70 million in total. The company also incurs certain non-compensation costs like T&E that are primarily business-facing, and these have increased compared to the prior two years.

Approximately 60% of the company's expense base is compensation and benefits. The company has taken aggressive actions to prioritize hiring and open positions in key areas. As part of the expanded restructuring program, the company plans to increase its utilization of some of the alternative lower-cost locations.

The company also incurs costs related to legal proceedings, governmental, regulatory, and legislative investigations, and inquiries, claims and litigation, and similar matters and contingencies. The ultimate outcome of such matters, including the amount of any loss, may differ from those estimates.

In terms of financial health, the company is resilient with a high portion of recurring revenue. Its current financial weakness is expected to normalize in the coming year before growth returns in 2024. We have projected costs to be in line with historical trends and expect no significant

deviations against or in favor of the company's margins. We projected our costs as a percentage of sales.

Intangible Assets

For a company like Moody's, due to a lack of physical products as the output, physical assets don't amount to much. Their Net Property, Plant and Equipment averages less than 6% of their total assets.

Unsurprisingly, the intangible assets are the largest account on the balance sheet. This is due to the nature of the industry- which is consolidating.

Over the past few years, Moody's has made several strategic acquisitions to strengthen its business and grow the company. Some of the notable acquisitions include Bureau van Dijk in 2017, Reis in 2018, Regulatory DataCorp (RDC) in 2020, and RMS in 2021. These acquisitions were part of Moody's strategy to diversify its earnings and ride out a slowdown in credit activity. For instance, the acquisition of RDC and RMS helped Moody's to expand its risk-management solutions, insurance data, and analytics to help companies mitigate weather and disaster-related risks.

Moody's has been very active in corporate development, with a well-defined product roadmap and business blueprints. The company has been focused on executing its portfolio of acquisitions and integrating them to extract real business value. It tracks its performance against its acquisition cases and reviews them every quarter.

We have not factored in any potential acquisitions in our forecasts. We reduce the intangibles on the balance sheet by the forecasted amortization cost annually.

Debt Maturity Analysis

As of December 31, 2022, Moody's had a total outstanding debt of \$7.4 billion. The company also had approximately \$1 billion of additional capacity available under its Commercial Paper (CP) program, which is backstopped by the \$1.25 billion 2021 Facility. The repayment schedule for Moody's outstanding borrowings at the end of 2022 is as follows: Future interest payments and fees associated with the company's debt and credit facility are expected to be \$4.8 billion, of which approximately \$316 million is expected to be paid over the next twelve months. Management may consider pursuing additional long-term financing when it is appropriate considering cash

requirements for operations, share repurchases, and other strategic opportunities, which could result in higher financing costs.

Furthermore, the company does not anticipate making significant contributions to its funded pension plan in the next twelve months. This plan was overfunded on December 31, 2022, and accordingly holds sufficient investments to fund future benefit obligations. Payments for the company's unfunded plans are not expected to be material in either the short or long term.

WACC

For our WACC assumption we used the Henry Fund's equity risk premium, which we base off Dr. Ashwath Damodaran's forward looking ERP estimates. We used an equity risk premium of 5%. We use the 5-year historical stock beta which is 1.15 and the 10-year U.S. Treasury rate of 4.84%. Using these inputs, we calculated a cost of equity of 10.61%. For our cost of debt calculation, we used the YTM on the company's long-term bonds. Our calculated cost of debt is 4.42%. We assigned market weights of 89.17% to cost of equity and 10.83% to cost of debt to arrive at a WACC of 9.94%.

Payout Policy

Moody's has a consistent dividend payout policy. Historically, the company has maintained a dividend payout ratio of 35% on average. We expect this trend to continue and have maintained it throughout our forecast period. Additionally, we have included \$848 million of share repurchases per year in our forecasts as well.

DCF Valuation

We utilized the Discounted Cash Flow and Economic Profit Model as the first of our two valuation models. Our discounted cash flow model derived an intrinsic value of \$352. The key assumptions that we made for this model are (a) the continuous value for Return on Invested Capital (ROIC) which is 54.46%, (b) the continuous value of the Free Cash Flow, which according to our model is projected as \$104.6 billion. We are confident that Moody's can achieve these figures.

DDM Valuation

Our Dividend Discount Model (DDM) is based on our assumption that the company continues paying a dividend like the historical trend. We computed this model given our EPS estimate in the terminal year of 2032 and discounted the terminal value back to time zero given our cost of equity at 10.61%. We assumed ROE growth of 38.01%. With a consistent continuous value growth of EPS as our other model. This model gave us an intrinsic value of \$257.

Relative Valuation

We utilized the relative valuation method using the peer set discussed above. We believe this is a good representation of peers as the companies all compete in a global environment offering credit rating services. We used Relative PE, Price to Sales and EV/ EBITDA multiples to arrive at a target price of \$398, using FY24 forward P/E multiples.

KEYS TO MONITOR

Drivers

1. Strong Market Position and Brand Recognition: Moody's holds a significant share of the credit-rating market, with a 32% share according to the Securities and Exchange Commission's report on nationally recognized statistical-rating organizations. This strong market position and brand recognition, built over 120 years, provide Moody's with a competitive advantage in the industry.

2. Diversification and Expansion of Services: Moody's has been diversifying its earnings by building out its analytics and data products. It has invested heavily in providing companies with risk-management solutions, insurance data, and analytics to help companies mitigate weather and disaster-related risks. This diversification provides stability during slowdowns in credit issuance. Moreover, Moody's is expanding into emerging markets, which represents a key opportunity for business growth.

3. Increasing Demand for ESG Services: Environmental, social, and governance (ESG) considerations have gained prominence in investment decision-making. Moody's has invested in the development of its ESG capabilities, which is expected to be a growth area in the coming years.

4. Robust Demand for Compliance Solutions: Moody's analytics segment saw revenue grow amid uncertainty across markets, with robust demand for know-your-customer (KYC) and compliance solutions. This demand is expected to continue, given the increase in fraud and identity theft cases.

5. Global Economic Trends: Moody's growth is influenced by several trends that impact financial information markets including the health of the world's major economies, debt capital markets activity, fiscal and monetary policy of governments, and business investment spending, including mergers and acquisitions.

Risks

1. Reputation and Credibility Concerns: Moody's reputation and credibility are key competitive strengths. Any loss in credibility, whether due to a conflict of interest, poor performance of securities relative to their assigned ratings, major compliance failures, negative perceptions, or increased criticism by users of ratings, regulators, and legislative bodies, could significantly impact Moody's business. Damage to reputation and credibility could adversely affect Moody's business, operating results, financial condition, and its ability to find suitable candidates for acquisition.

2. Competition and Pricing Pressure: The markets for credit ratings, research, credit risk management services, business intelligence, and analytical services are highly competitive. Moody's faces competition from established companies with significant resources and brand recognition, as well as smaller companies that may be quicker to adopt new technologies or respond to customer requirements. Increased competition and aggressive tactics by competitors in areas such as pricing and services could lead to a loss of market share if Moody's pricing is not sufficiently competitive.

3. Regulatory Risks: Moody's faces exposure to litigation and government regulatory proceedings, investigations, and inquiries related to its ratings actions and other business practices. Compliance with regulations in the EU, U.K., and other foreign jurisdictions may increase operational costs and could have a significant negative effect on Moody's operations, profitability, or ability to compete.

4. Economic and Market Conditions: Moody's business is impacted by general economic conditions and volatility in world financial markets. Factors such as increases in interest rates, withdrawal of COVID-19 economic stimulus, inflationary pressures, increases in mortgage rates, widening credit spreads, regulatory and political developments, and difficult economic conditions can negatively impact the volume of debt securities issued in global capital markets and the demand for credit ratings, thereby adversely affecting Moody's business, operating results, and financial condition.

6. Dependence on Debt Securities Issuance: Moody's business is especially dependent on the number and dollar volume of debt securities issued in the capital markets. Conditions that reduce issuers' ability or willingness to issue debt securities can adversely affect the fees Moody's earns in its ratings business.

CONCLUSION

Moody's Corporation (MCO) is a renowned player in the Credit Rating industry. The company has diversified its product portfolio and added value added services that complement its ratings business. This has helped keep the revenue from declining as Moody's Analytics has made up for the loss in revenue for Moody's Investors Service during the current economic downturn affecting the latter's business. We believe MCO can weather the storm and deliver revenue growth over the near term.

We recommend a hold rating on Moody's as we expect one segment to do well while the other suffers in a high interest rate environment. Our DCF model gives us an intrinsic value of \$352 and our relative valuation model gives us a price target of \$398, representing upside potential of 13%.

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Moody's
Revenue Decomposition

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
United States Business													
Moody's Investor Services													
Corporate Finance	1,291.00	1,384.00	832.00	873.60	917.28	963.14	1,011.30	1,061.87	1,114.96	1,170.71	1,229.24	1,290.71	1,355.24
% growth	33.37%	7.20%	-39.88%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Structure Finance	214.00	364.00	308.00	354.20	407.33	468.43	538.69	619.50	712.42	819.29	942.18	989.29	1,038.75
% growth	-20.74%	70.09%	-15.38%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	5.00%	5.00%
Financial Institutions	250.00	289.00	223.00	238.61	255.31	273.18	292.31	312.77	334.66	358.09	383.16	402.31	422.43
% growth	25.00%	15.60%	-22.84%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	5.00%	5.00%
Public, Project Infrastructure Finance	311.00	304.00	266.00	292.60	321.86	354.05	389.45	428.40	471.24	518.36	570.19	598.70	628.64
% growth	10.28%	-2.25%	-12.50%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	5.00%	5.00%
Total Ratings Revenue	2,066.00	2,341.00	1,629.00	1,759.01	1,901.78	2,058.80	2,231.75	2,422.53	2,633.28	2,866.44	3,124.77	3,281.01	3,445.06
% growth	20.12%	13.31%	-30.41%	7.98%	8.12%	8.26%	8.40%	8.55%	8.70%	8.85%	9.01%	5.00%	5.00%
MIS Other	2.00	3.00	5.00	6.25	7.81	9.77	12.21	15.26	19.07	23.84	29.80	31.29	32.86
% growth	100.00%	50.00%	66.67%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	5.00%	5.00%
Total U.S. MIS Revenue	2,068.00	2,344.00	1,634.00	1,765.26	1,909.60	2,068.57	2,243.96	2,437.79	2,652.35	2,890.28	3,154.57	3,312.30	3,477.92
% growth	20.16%	13.35%	-30.29%	8.03%	8.18%	8.33%	8.48%	8.64%	8.80%	8.97%	9.14%	5.00%	5.00%
Moody's Analytics													
Decision Solutions	340.00	436.00	584.00	730.00	912.50	1,140.63	1,425.78	1,782.23	2,227.78	2,784.73	3,480.91	3,654.96	3,837.70
% growth		28.24%	33.94%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	5.00%	5.00%
Research and Insights	363.00	377.00	405.00	445.50	490.05	539.06	592.96	652.26	717.48	789.23	868.15	911.56	957.14
% growth		3.86%	7.43%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	5.00%	5.00%
Data and Information	184.00	226.00	250.00	287.50	330.63	380.22	437.25	502.84	578.27	665.00	764.76	802.99	843.14
% growth		22.83%	10.62%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	5.00%	5.00%
Total U.S. MA Revenue	887.00	1,039.00	1,239.00	1,463.00	1,733.18	2,059.90	2,455.99	2,937.32	3,523.53	4,238.96	5,113.82	5,369.51	5,637.99
% growth		17.14%	19.25%	18.08%	18.47%	18.85%	19.23%	19.60%	19.96%	20.30%	20.64%	5.00%	5.00%
Total U.S. MCO Business	2,955.00	3,383.00	2,873.00	3,228.26	3,642.77	4,128.47	4,699.95	5,375.11	6,175.88	7,129.25	8,268.39	8,681.81	9,115.91
% growth		71.70%	14.48%	-15.08%	12.37%	12.84%	13.33%	13.84%	14.37%	14.90%	15.44%	5.00%	5.00%
Non-U.S. Business													
Moody's Investor Services													
Corporate Finance	566.00	703.00	437.00	469.78	505.01	542.88	583.60	627.37	674.42	725.00	779.38	818.35	859.27
% growth	6.99%	24.20%	-37.84%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%	5.00%	5.00%
Structure Finance	148.00	196.00	154.00	161.70	169.79	178.27	187.19	196.55	206.37	216.69	227.53	238.90	250.85
% growth	-5.73%	32.43%	-21.43%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Financial Institutions	280.00	313.00	268.00	281.40	295.47	310.24	325.76	342.04	359.15	377.10	395.96	415.76	436.54
% growth	1.45%	11.79%	-14.38%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Public, Project Infrastructure Finance	185.00	217.00	165.00	173.25	181.91	191.01	200.56	210.59	221.12	232.17	243.78	255.97	268.77
% growth	12.80%	17.30%	-23.96%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Total Ratings Revenue	1,179.00	1,429.00	1,024.00	1,086.13	1,152.18	1,222.41	1,297.10	1,376.55	1,461.06	1,550.97	1,646.65	1,728.98	1,815.43
% growth	4.71%	21.20%	-28.34%	6.07%	6.08%	6.10%	6.11%	6.12%	6.14%	6.15%	6.17%	5.00%	5.00%
MIS Other	45.00	39.00	41.00	43.05	45.20	47.46	49.84	52.33	54.94	57.69	60.58	63.60	66.78
% growth	60.71%	-13.33%	5.13%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Total Foreign MIS Revenue	1,224.00	1,468.00	1,065.00	1,129.18	1,197.38	1,269.87	1,346.94	1,428.87	1,516.00	1,608.66	1,707.22	1,792.58	1,882.21
% growth	6.07%	19.93%	-27.45%	6.03%	6.04%	6.05%	6.07%	6.08%	6.10%	6.11%	6.13%	5.00%	5.00%
Moody's Analytics													
Decision Solutions	495.00	575.00	740.00	925.00	1,156.25	1,445.31	1,806.64	2,258.30	2,822.88	3,528.59	4,410.74	4,631.28	4,862.84
% growth		16.16%	28.70%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	5.00%	5.00%
Research and Insights	287.00	320.00	328.00	350.96	375.53	401.81	429.94	460.04	492.24	526.70	563.57	591.74	621.33
% growth		11.50%	2.50%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	5.00%	5.00%
Data and Information	410.00	472.00	462.00	485.10	509.36	534.82	561.56	589.64	619.12	650.08	682.58	716.71	752.55
% growth		15.12%	-2.12%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Total Foreign MA Revenue	1,192.00	1,367.00	1,530.00	1,761.06	2,041.13	2,381.95	2,798.15	3,307.98	3,934.24	4,705.37	5,656.89	5,939.74	6,236.72
% growth		14.68%	11.92%	15.10%	15.90%	16.70%	17.47%	18.22%	18.93%	19.60%	20.22%	5.00%	5.00%
Total Foreign MCO Business	2,416.00	2,835.00	2,595.00	2,890.24	3,238.51	3,651.82	4,145.08	4,736.85	5,450.24	6,314.04	7,364.12	7,732.32	8,118.94
% growth		109.36%	17.34%	-8.47%	11.38%	12.05%	12.76%	13.51%	14.28%	15.06%	15.85%	5.00%	5.00%
Total													
Moody's Investor Services													
Corporate Finance	1,857.00	2,087.00	1,269.00	1,343.38	1,422.29	1,506.03	1,594.90	1,689.24	1,789.38	1,895.71	2,008.62	2,109.05	2,214.51
% growth	24.05%	12.39%	-39.20%	5.86%	5.87%	5.89%	5.90%	5.91%	5.93%	5.94%	5.96%	5.00%	5.00%
Structure Finance	362.00	560.00	462.00	515.90	577.12	646.70	725.88	816.05	918.80	1,035.98	1,169.71	1,228.19	1,289.60
% growth	-15.22%	54.70%	-17.50%	11.67%	11.87%	12.06%	12.24%	12.42%	12.59%	12.75%	12.91%	5.00%	5.00%
Financial Institutions	530.00	602.00	491.00	520.01	550.78	583.43	618.06	654.81	693.81	735.19	779.11	818.07	858.97
% growth	11.34%	13.58%	-18.44%	5.91%	5.92%	5.93%	5.94%	5.95%	5.96%	5.97%	5.97%	5.00%	5.00%
Public, Project Infrastructure Finance	496.00	521.00	431.00	465.85	503.77	545.05	590.01	638.98	692.35	750.53	813.97	854.67	897.41
% growth	11.21%	5.04%	-17.27%	8.09%	8.14%	8.19%	8.25%	8.30%	8.35%	8.40%	8.45%	5.00%	5.00%
Total Rating Revenue	3,245.00	3,770.00	2,653.00	2,845.14	3,053.96	3,281.21	3,528.86	3,799.08	4,094.34	4,417.41	4,771.42	5,009.99	5,260.49
% growth	14.02%	16.18%	-29.63%	7.24%	7.34%	7.44%	7.55%	7.66%	7.77%	7.89%	8.01%	5.00%	5.00%
MIS Other	47.00	42.00	46.00	49.30	53.02	57.23	62.04	67.59	74.02	81.53	90.38	94.90	99.64
% growth	62.07%	-10.64%	9.52%	7.17%	7.54%	7.95%	8.41%	8.94%	9.52%	10.15%	10.85%	5.00%	5.00%
Total MIS Revenue	3,292.00	3,812.00	2,699.00	2,894.44	3,106.97	3,338.44	3,590.90	3,866.66	4,168.36	4,498.95	4,861.80	5,104.89	5,360.13
% growth	14.50%	15.80%	-29.20%	7.24%	7.34%	7.45%	7.56%	7.68%	7.80%	7.93%	8.07%	5.00%	5.00%
Moody's Analytics													
Decision Solutions	835.00	1,011.00	1,324.00	1,655.00	2,068.75	2,585.94	3,232.42	4,040.53	5,050.66	6,313.32	7,891.65	8,286.24	8,700.55
% growth		21.08%	30.96%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	25.00%	5.00%	5.00%
Research and Insights	650.00	697.00	733.00	796.46	865.58	940.87	1,022.90	1,112.29	1,209.72	1,315.93	1,431.72	1,503.30	1,578.47
% growth		7.23%	5.16%	8.66%	8.68%	8.70%	8.72%	8.74%	8.76%	8.78%	8.80%	5.00%	5.00%
Data and Information	594.00	698.00	712.00	772.60	839.98	915.04	998.82	1,092.48	1,197.39	1,315.09	1,447.34	1,519.71	1,595.69
% growth		17.51%	2.01%	8.51%	8.72%	8.94%	9.16%	9.38%	9.60%	9.83%	10.06%	5.00%	5.00%
Total MA Revenue	2,079.00	2,406.00	2,769.00	3,224.06	3,774.31	4,441.85	5,254.14	6,245.30	7,457.77	8,944.34	10,770.71	11,309.25	11,874.71
% growth		15.73%	15.09%	16.43%	17.07%	17.69%	18.29%	18.86%	19.41%	19.93%	20.42%	5.00%	5.00%
Total MCO	5,371.00	6,218.00	5,468.00	6,118.50	6,881.28	7,780.29	8,845.04	10,111.96	11,626.13	13,443.28	15,632.51	16,414.14	17,234.84
% growth		86.82%	15.77%	-12.06%	11.90%	12.47%	13.06%	13.69%	14.32%	14.97%	15.63%	5.00%	5.00%

Income Statement

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Sales	5,371.00	6,218.00	5,468.00	6,118.50 11.90%	6,881.28	7,780.29	8,845.04	10,111.96	11,626.13	13,443.28	15,632.51	16,414.14	17,234.84
Cost of Goods Sold (COGS)	1,475.00	1,637.00	1,613.00	1,698.66	1,917.32	2,207.64	2,476.62	2,839.36	3,272.91	3,774.46	4,393.12	4,614.05	4,842.39
Gross Profit	3,896.00	4,581.00	3,855.00	4,419.84	4,963.96	5,572.65	6,368.42	7,272.60	8,353.21	9,668.83	11,239.39	11,800.08	12,392.45
Gross Profit Margin	72.5%	73.7%	70.5%	72.2%	72.1%	71.6%	72.0%	71.9%	71.8%	71.9%	71.9%	71.9%	71.9%
Selling, General and Administration Expense	1,229.00	1,480.00	1,527.00	1,521.67	1,756.97	2,031.40	2,255.85	2,600.34	2,996.80	3,450.26	4,020.53	4,221.76	4,429.62
EBITDA	2,667.00	3,101.00	2,328.00	2,898.17	3,206.99	3,541.25	4,112.57	4,672.27	5,356.42	6,218.57	7,218.85	7,578.32	7,962.83
Depreciation	96.00	99.00	131.00	201.00	204.11	212.82	226.92	246.51	271.97	303.96	343.43	391.72	435.04
Amortization of Intangibles	124.00	158.00	200.00	196.00	187.00	183.00	180.00	171.00	215.08	248.70	289.20	303.66	318.84
EBIT	2,447.00	2,844.00	1,997.00	2,501.17	2,815.87	3,145.43	3,705.65	4,254.75	4,869.36	5,665.91	6,586.21	6,882.94	7,208.94
Other Income (Expense)	(46.00)	136.00	(25.00)	23.85	10.65	20.78	50.40	22.04	52.43	58.13	79.93	104.24	110.77
Interest Expense	232.00	243.00	216.00	331.34	357.80	355.08	352.58	353.96	368.70	383.34	395.27	411.49	414.42
Unusual Expenses/ Gains	(60.00)	(18.00)	(4.00)	17.47	(11.02)	(21.07)	(8.99)	(6.48)	(7.23)	(17.71)	(19.71)	(15.95)	(16.59)
Pre-Tax Income	2,229.00	2,755.00	1,760.00	2,176.21	2,479.74	2,832.20	3,412.46	3,929.31	4,560.33	5,358.41	6,290.59	6,591.65	6,921.88
Income Taxes													
Current Domestic	281.00	510.00	123.00	282.75	322.88	369.00	445.35	461.41	582.22	681.69	796.53	829.82	865.00
Current Foreign	215.00	249.00	215.00	237.93	257.04	296.37	361.05	423.72	484.55	566.05	667.02	700.78	736.59
Deferred Domestic	6.00	(217.00)	67.00	(40.27)	(37.21)	(44.20)	(65.79)	(25.40)	(68.28)	(76.44)	(88.81)	(91.09)	(88.10)
Deferred Foreign	(50.00)	(1.00)	(19.00)	(28.20)	(27.42)	(32.63)	(31.50)	(43.22)	(50.86)	(57.83)	(67.56)	(69.76)	(75.12)
Income Taxes	452.00	541.00	386.00	452.22	515.29	588.53	709.11	816.51	947.64	1,113.48	1,307.18	1,369.74	1,438.37
Consolidated Net Income	1,777.00	2,214.00	1,374.00	1,723.99	1,964.45	2,243.67	2,703.35	3,112.80	3,612.69	4,244.93	4,983.40	5,221.90	5,483.52
Minority Interest	(1.00)	-	-	-	-	-	-	-	-	-	-	-	-
Net Income	1,778.00	2,214.00	1,374.00	1,723.99	1,964.45	2,243.67	2,703.35	3,112.80	3,612.69	4,244.93	4,983.40	5,221.90	5,483.52
Net Margin	33.10%	35.61%	25.13%	28.18%	28.55%	28.84%	30.56%	30.78%	31.07%	31.58%	31.88%	31.81%	31.82%
EPS	9.48 26.17%	11.88 25.32%	7.47 -37.10%	9.49 27.00%	10.93 15.22%	12.61 15.37%	15.34	17.81	20.85	24.69	29.20	30.80	32.54
Shares outstanding	187.60	186.40	183.90	181.68	179.68	177.87	176.25	174.78	173.31	171.93	170.68	169.54	168.49
Dividend Per share	2.24	2.48	2.80	3.30	3.80	4.39	5.33	6.19	7.25	8.58	10.15	10.71	11.32
Dividend Payout Ratio	24%	21%	37%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%

Moody's
Balance Sheet

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Assets													
Current Assets													
Cash and Cash Equivalents	2,696	1,902	1,859	3,043	3,487	4,229	5,233	6,823	8,735	10,971	13,805	16,587	19,561
Short-Term Receivables	1,430	1,720	1,652	1,748	1,966	2,223	2,527	2,889	3,322	3,841	4,466	4,690	4,924
Other Current Assets	383	389	583	456	528	609	705	841	912	1,066	1,247	1,315	1,381
Total Current Assets	4,509	4,011	4,094	5,247	5,980	7,061	8,465	10,553	12,969	15,877	19,519	22,592	25,866
Non-Current Assets													
Gross PPE	1,599	1,795	1,971	2,185	2,426	2,698	3,008	3,362	3,769	4,239	4,786	5,361	5,964
Accumulated Depreciation	(928)	(1,010)	(1,123)	(1,324)	(1,528)	(1,741)	(1,968)	(2,214)	(2,486)	(2,790)	(3,134)	(3,525)	(3,960)
Net Property, Plant & Equipment	671	785	848	861	898	957	1,040	1,147	1,282	1,449	1,653	1,835	2,004
Total Long-Term Investments	277	612	646	734	826	934	1,061	1,213	1,395	1,613	1,876	1,970	2,068
Intangible Assets	6,380	8,466	8,049	7,853	7,666	7,483	7,303	7,132	6,917	6,668	6,379	6,075	5,757
Deferred Tax Assets	334	384	266	322	363	413	501	575	667	785	921	965	1,013
Other Assets	238	422	446	395	491	564	614	719	826	948	1,108	1,162	1,219
Total Non-Current Assets	7,900	10,669	10,255	10,166	10,243	10,351	10,520	10,787	11,087	11,463	11,936	12,007	12,061
Total Assets	12,409	14,680	14,349	15,413	16,223	17,412	18,985	21,340	24,056	27,340	31,455	34,599	37,927
Liabilities & Shareholders' Equity													
Liabilities													
Current Liabilities													
ST Debt & Curr. Portion LT Debt	94	105	106	110	122	138	159	182	207	240	280	294	309
Accounts Payable	50	53	58	57	64	74	83	95	109	126	146	154	161
Income Tax Payable	128	115	86	108	116	135	164	187	218	256	300	314	330
Accrued Payroll	468	542	387	529	624	723	784	871	1,039	1,203	1,395	1,456	1,526
Miscellaneous Current Liabilities	1,482	1,681	1,738	1,746	1,963	2,232	2,557	2,962	3,347	3,878	4,519	4,752	4,991
Total Current Liabilities	2,222	2,496	2,375	2,549	2,889	3,302	3,747	4,297	4,920	5,703	6,639	6,969	7,317
Non-Current Liabilities													
Long-Term Debt excl Lease Obligations	6,422	7,413	7,389	7,984	7,910	7,838	7,848	8,158	8,464	8,701	9,028	9,080	9,145
Capital and Operating Lease Obligations	427	455	368	495	499	513	546	629	694	779	889	993	1,081
Provision for Risks & Charges	760	656	534	507	482	458	435	413	393	373	354	337	320
Deferred Tax Liabilities	404	488	457	445	505	582	715	840	945	1,114	1,313	1,380	1,450
Other Liabilities (excl. Deferred Income)	313	170	462	347	387	512	527	612	720	816	954	1,005	1,051
Deferred Income	98	86	75	93	98	112	130	146	169	195	227	238	250
Total Non-Current Liabilities	8,424	9,268	9,285	9,871	9,881	10,014	10,200	10,797	11,385	11,978	12,766	13,034	13,297
Total Liabilities	10,646	11,764	11,660	12,420	12,770	13,316	13,947	15,094	16,305	17,680	19,405	20,003	20,614
Equity													
Common Stock	738	888	1,057	1,092	1,127	1,161	1,196	1,231	1,238	1,238	1,238	1,238	1,238
Retained Earnings	11,011	12,762	13,618	14,735	16,009	17,465	19,219	21,241	23,587	26,344	29,582	32,976	36,541
Accumulated Other Comprehensive Income	(432)	(410)	(643)	(643)	(643)	(643)	(643)	(643)	(643)	(643)	(643)	(643)	(643)
Treasury Stock	(9,748)	(10,513)	(11,513)	(12,361)	(13,209)	(14,057)	(14,905)	(15,753)	(16,601)	(17,449)	(18,297)	(19,145)	(19,993)
Total Shareholders' Equity	1,569	2,727	2,519	2,823	3,284	3,926	4,868	6,076	7,581	9,490	11,880	14,426	17,143
Accumulated Minority Interest	194	189	170	170	170	170	170	170	170	170	170	170	170
Total Equity	1,763	2,916	2,689	2,993	3,454	4,096	5,038	6,246	7,751	9,660	12,050	14,596	17,313
Total Liabilities & Shareholders' Equity	12,409	14,680	14,349	15,413	16,223	17,412	18,985	21,340	24,056	27,340	31,455	34,599	37,927

Moody's
Historical Cash Flow Statement

Fiscal Years Ending Dec. 31	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Operating Activities										
Net Income / Starting Line	816	1,006	950	276	1,008	1,319	1,429	1,777	2,214	1,374
Depreciation, Depletion & Amortization	93	96	114	127	158	192	200	220	257	331
Depreciation and Depletion	65	67	82	93	97	90	97	96	99	131
Amortization of Intangible Assets	28	28	32	34	61	102	103	124	158	200
Deferred Taxes & Investment Tax Credit	(27)	30	18	(153)	88	(99)	(38)	(44)	(218)	48
Deferred Taxes	(27)	30	18	(153)	88	(99)	(38)	(44)	(218)	48
Other Funds	9	(88)	36	27	(48)	130	188	155	152	148
Funds from Operations	891	1,044	1,118	276	1,206	1,543	1,779	2,108	2,405	1,901
Changes in Working Capital	36	(25)	36	950	(459)	(82)	(88)	48	(389)	(408)
Receivables	(67)	(98)	(25)	(105)	(148)	(136)	(134)	31	(257)	34
Accounts Payable	(3)	59	51	909	(651)	(134)	77	247	80	(161)
Other Assets/Liabilities	106	14	10	146	341	189	(31)	(230)	(212)	(281)
Net Operating Cash Flow	927	1,019	1,154	1,226	748	1,461	1,691	2,156	2,016	1,493
Investing Activities										
Capital Expenditures	(42)	(75)	(89)	(115)	(91)	(90)	(69)	(103)	(139)	(283)
Capital Expenditures (Fixed Assets)	(42)	(75)	(89)	(115)	(91)	(90)	(69)	(103)	(139)	(283)
Net Assets from Acquisitions	(51)	(424)	(8)	(126)	(3,520)	(289)	(174)	(920)	(2,179)	(97)
Sale of Fixed Assets & Businesses	-	-	-	2	-	6	226	-	-	-
Purchase/Sale of Investments	(169)	(272)	(35)	320	68	(32)	36	(77)	(290)	(102)
Purchase of Investments	226	406	688	380	170	193	138	181	437	320
Sale/Maturity of Investments	57	134	653	700	239	161	174	104	147	218
Other Funds	-	22	40	(23)	113	-	5	-	(11)	220
Other Uses	-	(1)	-	(27)	-	-	(7)	(2)	(48)	-
Other Sources	-	22	40	4	113	-	12	2	37	220
Net Investing Cash Flow	(262)	(749)	(92)	57	(3,429)	(406)	24	(1,100)	(2,619)	(262)
Financing Activities										
Cash Dividends Paid	(197)	(236)	(272)	(285)	(290)	(337)	(378)	(420)	(463)	(515)
Common Dividends	(197)	(236)	(272)	(285)	(290)	(337)	(378)	(420)	(463)	(515)
Change in Capital Stock	(757)	(1,123)	(1,068)	(705)	(193)	(218)	(1,023)	(556)	(795)	(1,044)
Repurchase of Common & Preferred Stk.	(893)	(1,221)	(1,158)	(783)	(249)	(265)	(1,068)	(607)	(833)	(1,070)
Sale of Common & Preferred Stock	136	98	89	78	56	47	45	51	38	26
Proceeds from Stock Options	136	98	89	78	56	47	45	51	38	26
Issuance/Reduction of Debt, Net	429	441	843	-	2,102	148	(163)	639	1,130	333
Change in Current Debt	-	-	-	-	130	(131)	(19)	(13)	(11)	(19)
Change in Long-Term Debt	429	441	843	-	1,972	279	(144)	652	1,141	352
Issuance of Long-Term Debt	493	741	843	-	2,272	1,079	806	1,452	1,641	978
Reduction in Long-Term Debt	(64)	(300)	-	-	(300)	(800)	(950)	(800)	(500)	(626)
Other Funds	26	37	36	26	(3)	(4)	(3)	(1)	(5)	(1)
Other Uses	(13)	(22)	(8)	(7)	(3)	(4)	(3)	(1)	(5)	(1)
Other Sources	39	59	45	33	-	-	-	-	-	-
Net Financing Cash Flow	(499)	(881)	(461)	(964)	1,616	(412)	(1,567)	(338)	(133)	(1,227)
Exchange Rate Effect	(2)	(89)	(63)	(24)	85	(30)	(1)	47	(50)	(46)
Net Change in Cash	164	(700)	538	294	(980)	614	147	765	(786)	(42)
Cash and cash equivalents at the beginning of period		2,106.30	1,677.60	2,232.20	2,224.90	1,183.30	1,817.50	1,930.00	2,696.00	1,902.00
Cash and cash equivalents at the end of period	2,106.30	1,677.60	2,232.20	2,224.90	1,183.30	1,817.50	1,930.00	2,696.00	1,902.00	1,859.00

Moody's
Forecasted Cash Flow Statement

Fiscal Years Ending Dec. 31	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Cash from Operating Activities										
Net Income	1,724	1,964	2,244	2,703	3,113	3,613	4,245	4,983	5,222	5,484
Depreciation	201	204	213	227	247	272	304	343	392	435
Changes in Short-term receivables	(96)	(218)	(257)	(304)	(362)	(433)	(519)	(625)	(223)	(234)
Changes in Other Current Assets	127	(72)	(82)	(96)	(136)	(71)	(153)	(182)	(67)	(67)
Changes in S.T Debt & Current portion of L.T Debt	4	13	16	21	24	25	33	39	14	15
Changes in Accounts Payables	(1)	7	10	9	12	14	17	21	7	8
Changes in Income Taxes Payables	22	8	19	29	23	31	38	44	15	16
Changes in Accrued Payroll	142	95	99	62	87	168	164	191	61	71
Changes in Misc. Current Liabilities	8	218	269	325	404	385	530	641	233	239
Net Cash from Operations	2,130	2,219	2,531	2,976	3,411	4,004	4,659	5,456	5,653	5,965
Cash from Investing Activities										
Capital Expenditures	(214)	(241)	(272)	(310)	(354)	(407)	(471)	(547)	(574)	(603)
Changes in L.T Investments	(88)	(92)	(108)	(128)	(152)	(182)	(218)	(263)	(94)	(98)
Changes in Intangible Assets	196	187	183	180	171	215	249	289	304	319
Changes in Deferred Tax Assets	(56)	(40)	(50)	(88)	(74)	(92)	(118)	(136)	(44)	(48)
Changes in Other Assets	51	(96)	(73)	(50)	(104)	(107)	(122)	(160)	(54)	(57)
Net Cash from Investing	(112)	(282)	(321)	(395)	(514)	(573)	(680)	(816)	(463)	(488)
Cash Flow from Financing										
Changes in L.T Debt excluding Lease Obligations	595	(74)	(72)	10	310	307	237	328	52	65
Changes in Capital and Operatign Lease Obligations	127	5	14	33	83	65	85	110	104	88
Changes in provision for risk and charges	(27)	(25)	(24)	(23)	(22)	(21)	(20)	(19)	(18)	(17)
Changes in Deferred Tax Liabilities	(12)	60	77	133	125	105	169	199	67	69
Changes in Other Liabilities	(115)	40	125	15	85	108	95	139	51	46
Changes in Deferred Income	18	5	14	17	16	23	27	31	12	12
Dividend Paid	(607)	(691)	(788)	(949)	(1,091)	(1,267)	(1,488)	(1,745)	(1,828)	(1,918)
New Issues	35	35	35	35	35	7	-	-	-	-
Repurchases	(848)	(848)	(848)	(848)	(848)	(848)	(848)	(848)	(848)	(848)
Net Cash from Financing	(834)	(1,494)	(1,468)	(1,576)	(1,307)	(1,520)	(1,743)	(1,805)	(2,408)	(2,503)
Net Cash	1,184	443	742	1,004	1,591	1,912	2,236	2,834	2,782	2,973
Cash at the beginning of the year	1,859	3,043	3,487	4,229	5,233	6,823	8,735	10,971	13,805	16,587
Cash at the end of the year	3,043	3,487	4,229	5,233	6,823	8,735	10,971	13,805	16,587	19,561

Moody's
Common Size Income Statement

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Sales	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Cost of Goods Sold (COGS)	27.46%	26.33%	29.50%	27.76%	27.86%	28.37%	28.00%	28.08%	28.15%	28.08%	28.10%	28.11%	28.10%
Gross Profit	72.54%	73.67%	70.50%	72.24%	72.14%	71.63%	72.00%	71.92%	71.85%	71.92%	71.90%	71.89%	71.90%
Selling, General and Administration Expense	22.88%	23.80%	27.93%	24.87%	25.53%	26.11%	25.50%	25.72%	25.78%	25.67%	25.72%	25.72%	25.70%
EBITDA	49.66%	49.87%	42.57%	47.37%	46.60%	45.52%	46.50%	46.21%	46.07%	46.26%	46.18%	46.17%	46.20%
Depreciation	1.79%	1.59%	2.40%	3.29%	2.97%	2.74%	2.57%	2.44%	2.34%	2.26%	2.20%	2.39%	2.52%
Amortization of Intangibles	2.31%	2.54%	3.66%	3.20%	2.72%	2.35%	2.04%	1.69%	1.85%	1.85%	1.85%	1.85%	1.85%
EBIT	45.56%	45.74%	36.52%	40.88%	40.92%	40.43%	41.90%	42.08%	41.88%	42.15%	42.13%	41.93%	41.83%
Other Income (Expense)	-0.86%	2.19%	-0.46%	0.39%	0.15%	0.27%	0.57%	0.22%	0.45%	0.43%	0.51%	0.64%	0.64%
Interest Expense	4.32%	3.91%	3.95%	5.42%	5.20%	4.56%	3.99%	3.50%	3.17%	2.85%	2.53%	2.51%	2.40%
Unusual Expenses/ Gains	-1.12%	-0.29%	-0.07%	0.29%	-0.16%	-0.27%	-0.10%	-0.06%	-0.06%	-0.13%	-0.13%	-0.10%	-0.10%
Pre-Tax Income	41.50%	44.31%	32.19%	35.57%	36.04%	36.40%	38.58%	38.86%	39.22%	39.86%	40.24%	40.16%	40.16%
Income Taxes	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Current Domestic	5.23%	8.20%	2.25%	4.62%	4.69%	4.74%	5.03%	4.56%	5.01%	5.07%	5.10%	5.06%	5.02%
Current Foreign	4.00%	4.00%	3.93%	3.89%	3.74%	3.81%	4.08%	4.19%	4.17%	4.21%	4.27%	4.27%	4.27%
Deferred Domestic	0.11%	-3.49%	1.23%	-0.66%	-0.54%	-0.57%	-0.74%	-0.25%	-0.59%	-0.57%	-0.57%	-0.55%	-0.51%
Deferred Foreign	-0.93%	-0.02%	-0.35%	-0.46%	-0.40%	-0.42%	-0.36%	-0.43%	-0.44%	-0.43%	-0.43%	-0.42%	-0.44%
Income Taxes	8.42%	8.70%	7.06%	7.39%	7.49%	7.56%	8.02%	8.07%	8.15%	8.28%	8.36%	8.34%	8.35%
Consolidated Net Income	33.09%	35.61%	25.13%	28.18%	28.55%	28.84%	30.56%	30.78%	31.07%	31.58%	31.88%	31.81%	31.82%
Minority Interest	-0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Net Income	33.10%	35.61%	25.13%	28.18%	28.55%	28.84%	30.56%	30.78%	31.07%	31.58%	31.88%	31.81%	31.82%

Moody's
Common Size Balance Sheet

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Assets													
Current Assets													
Cash and Cash Equivalents	21.73%	12.96%	12.96%	19.75%	21.49%	24.29%	27.56%	31.97%	36.31%	40.13%	43.89%	47.94%	51.57%
Short-Term Receivables	11.52%	11.72%	11.51%	11.34%	12.12%	12.77%	13.31%	13.54%	13.81%	14.05%	14.20%	13.55%	12.98%
Other Current Assets	3.09%	2.65%	4.06%	2.96%	3.25%	3.50%	3.71%	3.94%	3.79%	3.90%	3.97%	3.80%	3.64%
Total Current Assets	36.34%	27.32%	28.53%	34.04%	36.86%	40.55%	44.59%	49.45%	53.91%	58.07%	62.05%	65.30%	68.20%
Non-Current Assets													
Gross PPE	12.89%	12.23%	13.74%	14.18%	14.95%	15.50%	15.84%	15.75%	15.67%	15.51%	15.22%	15.49%	15.73%
Accumulated Depreciation	-7.48%	-6.88%	-7.83%	-8.59%	-9.42%	-10.00%	-10.37%	-10.38%	-10.34%	-10.21%	-9.96%	-10.19%	-10.44%
Net Property, Plant & Equipment	5.41%	5.35%	5.91%	5.59%	5.53%	5.50%	5.48%	5.38%	5.33%	5.30%	5.25%	5.30%	5.28%
Total Long-Term Investments	2.23%	4.17%	4.50%	4.76%	5.09%	5.36%	5.59%	5.69%	5.80%	5.90%	5.96%	5.69%	5.45%
Intangible Assets	51.41%	57.67%	56.09%	50.95%	47.25%	42.98%	38.47%	33.42%	28.75%	24.39%	20.28%	17.56%	15.18%
Deferred Tax Assets	2.69%	2.62%	1.85%	2.09%	2.24%	2.37%	2.64%	2.69%	2.77%	2.87%	2.93%	2.79%	2.67%
Other Assets	1.92%	2.87%	3.11%	2.56%	3.03%	3.24%	3.24%	3.37%	3.43%	3.47%	3.52%	3.36%	3.21%
Total Non-Current Assets	63.66%	72.68%	71.47%	65.96%	63.14%	59.45%	55.41%	50.55%	46.09%	41.93%	37.95%	34.70%	31.80%
Total Assets	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Liabilities & Shareholders' Equity													
Liabilities													
Current Liabilities													
ST Debt & Curr. Portion LT Debt	0.76%	0.72%	0.74%	0.71%	0.75%	0.79%	0.84%	0.86%	0.86%	0.88%	0.89%	0.85%	0.81%
Accounts Payable	0.40%	0.36%	0.40%	0.37%	0.39%	0.42%	0.43%	0.44%	0.45%	0.46%	0.47%	0.44%	0.43%
Income Tax Payable	1.03%	0.78%	0.60%	0.70%	0.71%	0.77%	0.86%	0.87%	0.90%	0.94%	0.95%	0.91%	0.87%
Accrued Payroll	3.77%	3.69%	2.70%	3.43%	3.84%	4.15%	4.13%	4.08%	4.32%	4.40%	4.43%	4.21%	4.02%
Miscellaneous Current Liabilities	11.94%	11.45%	12.11%	11.32%	12.10%	12.82%	13.47%	13.88%	13.91%	14.18%	14.37%	13.73%	13.16%
Total Current Liabilities	17.91%	17.00%	16.55%	16.54%	17.81%	18.96%	19.74%	20.13%	20.45%	20.86%	21.11%	20.14%	19.29%
Non-Current Liabilities													
Long-Term Debt excl Lease Obligations	51.75%	50.50%	51.49%	51.80%	48.76%	45.01%	41.34%	38.23%	35.18%	31.82%	28.70%	26.24%	24.11%
Capital and Operating Lease Obligations	3.44%	3.10%	2.56%	3.21%	3.08%	2.95%	2.88%	2.95%	2.89%	2.85%	2.83%	2.87%	2.85%
Provision for Risks & Charges	6.12%	4.47%	3.72%	3.29%	2.97%	2.63%	2.29%	1.94%	1.63%	1.36%	1.13%	0.97%	0.84%
Deferred Tax Liabilities	3.26%	3.32%	3.18%	2.89%	3.11%	3.34%	3.76%	3.94%	3.93%	4.07%	4.18%	3.99%	3.82%
Other Liabilities (excl. Deferred Income)	2.52%	1.16%	3.22%	2.25%	2.38%	2.94%	2.77%	2.87%	2.99%	2.98%	3.03%	2.90%	2.77%
Deferred Income	0.79%	0.59%	0.52%	0.61%	0.61%	0.64%	0.68%	0.68%	0.70%	0.71%	0.72%	0.69%	0.66%
Total Non-Current Liabilities	67.89%	63.13%	64.71%	64.04%	60.91%	57.51%	53.73%	50.60%	47.33%	43.81%	40.58%	37.67%	35.06%
Total Liabilities	85.79%	80.14%	81.26%	80.58%	78.71%	76.48%	73.46%	70.73%	67.78%	64.67%	61.69%	57.81%	54.35%
Equity													
Common Stock	5.95%	6.05%	7.37%	7.08%	6.94%	6.67%	6.30%	5.77%	5.15%	4.53%	3.94%	3.58%	3.26%
Retained Earnings	88.73%	86.93%	94.91%	95.60%	98.68%	100.30%	101.24%	99.54%	98.05%	96.36%	94.05%	95.31%	96.35%
Accumulated Other Comprehensive Income	-3.48%	-2.79%	-4.48%	-4.17%	-3.96%	-3.69%	-3.39%	-3.01%	-2.67%	-2.35%	-2.04%	-1.86%	-1.70%
Treasury Stock	-78.56%	-71.61%	-80.24%	-80.20%	-81.42%	-80.73%	-78.51%	-73.82%	-69.01%	-63.82%	-58.17%	-55.33%	-52.71%
Total Shareholders' Equity	12.64%	18.58%	17.56%	18.32%	20.24%	22.55%	25.64%	28.47%	31.51%	34.71%	37.77%	41.69%	45.20%
Accumulated Minority Interest	1.56%	1.29%	1.18%	1.10%	1.05%	0.98%	0.90%	0.80%	0.71%	0.62%	0.54%	0.49%	0.45%
Total Equity	14.21%	19.86%	18.74%	19.42%	21.29%	23.52%	26.54%	29.27%	32.22%	35.33%	38.31%	42.19%	45.65%
Total Liabilities & Shareholders' Equity	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Moody's
Value Driver Estimation

Fiscal Years Ending Dec. 31	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
NOPLAT:													
Revenue	5,371	6,218	5,468	6,118	6,881	7,780	8,845	10,112	11,626	13,443	15,633	16,414	17,235
COGS	(1,475)	(1,637)	(1,613)	(1,699)	(1,917)	(2,208)	(2,477)	(2,839)	(3,273)	(3,774)	(4,393)	(4,614)	(4,842)
SG&A Expenses	(1,229)	(1,480)	(1,527)	(1,522)	(1,757)	(2,031)	(2,256)	(2,600)	(2,997)	(3,450)	(4,021)	(4,222)	(4,430)
Depreciation	(96)	(99)	(131)	(201)	(204)	(213)	(227)	(247)	(272)	(304)	(343)	(392)	(435)
Amortization	(124)	(158)	(200)	(196)	(187)	(183)	(180)	(171)	(215)	(249)	(289)	(304)	(319)
Plus: Implied Interest on Operating Leases	23	21	23	19	-	-	-	-	-	-	-	-	-
EBIT	2,470	2,865	2,020	2,520	2,816	3,145	3,706	4,255	4,869	5,666	6,586	6,883	7,209
Adjusted Taxes:													
Provision for Income Taxes	452	541	386	452	515	589	709	817	948	1,113	1,307	1,370	1,438
Less: Other Income	10	(28)	5	(5)	(2)	(4)	(10)	(5)	(11)	(12)	(17)	(22)	(23)
Plus: Interest Expense	48	50	45	69	74	74	73	74	77	80	82	86	86
Plus: Unusual Expense	(12)	(4)	(1)	4	(2)	(4)	(2)	(1)	(2)	(4)	(4)	(3)	(3)
Plus: Taxes in Lease Interest	5	4	5	4	-	-	-	-	-	-	-	-	-
Total Adjusted Taxes:	502	564	440	524	585	654	770	884	1,012	1,177	1,369	1,430	1,498
Deferred Tax Assets	334	384	266	322	363	413	501	575	667	785	921	965	1,013
Deferred Tax Liabilities	404	488	457	445	505	582	715	840	945	1,114	1,313	1,380	1,450
Net Deferred Taxes	(70)	(104)	(191)	(122)	(142)	(169)	(214)	(265)	(278)	(329)	(393)	(416)	(437)
Change in Net Deferred Taxes	58	(34)	(87)	69	(20)	(26)	(45)	(51)	(13)	(51)	(63)	(23)	(21)
NOPLAT	2,026	2,267	1,493	2,065	2,211	2,465	2,891	3,319	3,844	4,437	5,154	5,430	5,690
Invested Capital (IC):													
Normal Cash	1,512	1,750	1,539	1,722	1,937	2,190	2,490	2,846	3,272	3,784	4,400	4,620	4,851
Plus: Short-Term Receivables	1,430	1,720	1,652	1,748	1,966	2,223	2,527	2,889	3,322	3,841	4,466	4,690	4,924
Plus: Other Current Assets	383	389	583	456	528	609	705	841	912	1,066	1,247	1,315	1,381
Less: Accounts Payable	(50)	(53)	(58)	(57)	(64)	(74)	(83)	(95)	(109)	(126)	(146)	(154)	(161)
Less: Income Tax Payable	(128)	(115)	(86)	(108)	(116)	(135)	(164)	(187)	(218)	(256)	(300)	(314)	(330)
Less: Accrued Payroll	(468)	(542)	(387)	(529)	(624)	(723)	(784)	(871)	(1,039)	(1,203)	(1,395)	(1,456)	(1,526)
Less: Miscellaneous Current Liabilities	(1,482)	(1,681)	(1,738)	(1,746)	(1,963)	(2,232)	(2,557)	(2,962)	(3,347)	(3,878)	(4,519)	(4,752)	(4,991)
NOWC	1,197	1,468	1,505	1,487	1,664	1,859	2,134	2,462	2,793	3,228	3,754	3,949	4,148
Plus: PPE(net)	671	785	848	861	898	957	1,040	1,147	1,282	1,449	1,653	1,835	2,004
Plus: Intangible Assets	6,380	8,466	8,049	7,853	7,666	7,483	7,303	7,132	6,917	6,668	6,379	6,075	5,757
Plus: Other Assets	238	422	446	395	491	564	614	719	826	948	1,108	1,162	1,219
Totals:	7,289	9,673	9,343	9,109	9,055	9,004	8,958	8,998	9,025	9,065	9,140	9,073	8,979
Less: Capital and Operating Lease Obligations	(427)	(455)	(368)	(495)	(499)	(513)	(546)	(629)	(694)	(779)	(889)	(993)	(1,081)
Less: Provision for Risks & Charges	(760)	(656)	(534)	(507)	(482)	(458)	(435)	(413)	(393)	(373)	(354)	(337)	(320)
Less: Other Liabilities (excl. Deferred Income)	(313)	(170)	(462)	(347)	(387)	(512)	(527)	(612)	(720)	(816)	(954)	(1,005)	(1,051)
Less: Deferred Income	(98)	(86)	(75)	(93)	(98)	(112)	(130)	(146)	(169)	(195)	(227)	(238)	(250)
Totals:	(1,598)	(1,367)	(1,439)	(1,442)	(1,466)	(1,595)	(1,638)	(1,800)	(1,976)	(2,163)	(2,424)	(2,573)	(2,702)
Invested Capital (IC):	6,888	9,774	9,409	9,154	9,253	9,268	9,453	9,661	9,843	10,130	10,470	10,449	10,426
Free Cash Flow (FCF):													
NOPLAT	2,026	2,267	1,493	2,065	2,211	2,465	2,891	3,319	3,844	4,437	5,154	5,430	5,690
Change in IC	1,047	2,886	(365)	(256)	99	15	186	207	182	288	339	(21)	(23)
FCF	980	(619)	1,858	2,321	2,112	2,450	2,705	3,112	3,662	4,150	4,815	5,450	5,713
Return on Invested Capital (ROIC):													
NOPLAT	2,026	2,267	1,493	2,065	2,211	2,465	2,891	3,319	3,844	4,437	5,154	5,430	5,690
Beginning IC	5,841	6,888	9,774	9,409	9,154	9,253	9,268	9,453	9,661	9,843	10,130	10,470	10,449
ROIC	34.69%	32.92%	15.27%	21.95%	24.15%	26.65%	31.19%	35.11%	39.79%	45.08%	50.88%	51.86%	54.46%
Economic Profit (EP):													
Beginning IC	5,841	6,888	9,774	9,409	9,154	9,253	9,268	9,453	9,661	9,843	10,130	10,470	10,449
x (ROIC - WACC)	24.75%	22.98%	5.33%	12.01%	14.21%	16.71%	21.25%	25.17%	29.85%	35.14%	40.94%	41.92%	44.52%
EP	1,446	1,583	521	1,130	1,301	1,546	1,969	2,380	2,884	3,459	4,147	4,389	4,652

Moody's

Weighted Average Cost of Capital (WACC) Estimation

Cost of Equity:

Risk-Free Rate	4.84%
Beta	1.15
Equity Risk Premium	5.00%
Cost of Equity	10.61%

ASSUMPTIONS:

10-year US Treasury
5 years adjusted beta from Bloomberg
Henry Fund ERP Estimate

Cost of Debt:

Risk-Free Rate	4.84%
Implied Default Premium	0.76%
Pre-Tax Cost of Debt	5.60%
Marginal Tax Rate	21%
After-Tax Cost of Debt	4.42%

10-year US Treasury

YTM on company's long term bond

Market Value of Common Equity:

Total Shares Outstanding	183.9
Current Stock Price	\$352.00
MV of Equity	64,732.80

MV Weights

89.17%

Market Value of Debt:

Current Portion of LTD	106.00
Long-Term Debt	7,389.00
PV of Operating Leases	368.00
MV of Total Debt	7,863.00

10.83%

Market Value of the Firm

72,595.80

100.00%

Estimated WACC

9.94%

Moody's*Dividend Discount Model (DDM) or Fundamental P/E Valuation Model*

<i>Fiscal Years Ending Dec. 31</i>	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
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EPS	\$ 9.49	\$ 10.93	\$ 12.61	\$ 15.34	\$ 17.81	\$ 20.85	\$ 24.69	\$ 29.20	\$ 30.80	\$ 32.54
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Key Assumptions

CV growth of EPS	5.00%
CV Year ROE	38.01%
Cost of Equity	10.61%

Future Cash Flows

P/E Multiple (CV Year)										15.48
EPS (CV Year)										\$ 32.54
Future Stock Price										\$ 503.80
Dividends Per Share	3.30	3.80	4.39	5.33	6.19	7.25	8.58	10.15	10.71	
Discounted Cash Flows	2.98	3.11	3.24	3.56	3.74	3.96	4.24	4.53	4.32	203.29

Intrinsic Value as of Last FYE	\$ 236.97
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Implied Price as of Today	\$ 257.04
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Moody's

Relative Valuation Models

Ticker	Company	Price	EPS	EPS	P/E 23	P/E 24	P/S	EV/EBITDA
			2023E	2024E				
MCO	Moody's	\$339.77	\$9.07	\$10.57	37.46	32.14	11.27	29.41
EFX	Equifax	\$196.56	\$5.10	\$7.35	38.54	26.74	4.77	19.78
FICO	Fair Isaac	\$899.72	\$17.07	\$20.07	52.71	44.83	15.21	38.18
TRU	TransUnion	\$79.83	\$1.47	\$2.79	54.31	28.61	4.12	16.95
EXPN	Experian	\$34.68	\$1.29	\$1.44	26.88	24.08	4.78	15.55
SPGI	S&P Global	\$390.71	\$9.29	\$11.81	42.06	33.08	10.31	26.40
MORN	MorningStar	\$252.85	\$2.05	\$3.98	123.34	63.53	5.51	28.76
Average					41.99	36.15	8.00	25.00

MCO	Moody's	\$352.00	9.49	10.93	37.1	32.2
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Implied Relative Value:

P/E (EPS23) \$ 398.47

P/E (EPS24) \$ 395.19

P/S \$ 240.95

Moody's*Key Management Ratios*

<i>Fiscal Years Ending Dec. 31</i>	2020	2021	2022	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Liquidity Ratios:													
Cash Ratio (Cash/ Current Liabilities)	1.21	0.76	0.78	1.19	1.21	1.28	1.40	1.59	1.78	1.92	2.08	2.38	2.67
Quick Ratio (Cash & Short Term Investments/ Current Liabilities)	1.39	0.92	1.03	1.37	1.39	1.47	1.58	1.78	1.96	2.11	2.27	2.57	2.86
Current Ratio (Current Assets / Current Liabilities)	2.03	1.61	1.72	2.06	2.07	2.14	2.26	2.46	2.64	2.78	2.94	3.24	3.54
Asset-Management Ratios:													
Receivables Turnover (Sales/ Accounts Receivable)	3.76	3.62	3.31	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
Average Collection Period (365/(Sales/Accounts Receivable)	97.18	100.96	110.27	104.29	104.29	104.29	104.29	104.29	104.29	104.29	104.29	104.29	104.29
Total Asset Turnover (Sales/ Total Assets)	0.43	0.42	0.38	0.40	0.42	0.45	0.47	0.47	0.48	0.49	0.50	0.47	0.45
Financial Leverage Ratios:													
Debt to Assets (Total Debt/ Total Assets)	0.53	0.51	0.52	0.53	0.50	0.46	0.42	0.39	0.36	0.33	0.30	0.27	0.25
Debt to Capital (Total Debt/ Total Liabilities & Equity)	0.53	0.51	0.52	0.53	0.50	0.46	0.42	0.39	0.36	0.33	0.30	0.27	0.25
Debt to EBIT (Total Debt / Earnings Before Interest & Taxes)	2.66	2.64	3.75	3.24	2.85	2.54	2.16	1.96	1.78	1.58	1.41	1.36	1.31
Debt to Equity (Total Debt/ Total Equity)	4.15	2.76	2.98	2.87	2.45	2.03	1.64	1.37	1.14	0.94	0.78	0.65	0.55
Profitability Ratios:													
Return on Equity (NI/Total Shareholder's Equity)	290.52%	141.11%	50.39%	68.44%	69.59%	68.33%	68.86%	63.95%	59.46%	56.00%	52.51%	43.96%	38.01%
Profit Margin (Net Income/ Revenue)	33.10%	35.61%	25.13%	28.18%	28.55%	28.84%	30.56%	30.78%	31.07%	31.58%	31.88%	31.81%	31.82%
Return on Assets (Net Income/ Total Assets)	14.33%	15.08%	9.58%	11.19%	12.11%	12.89%	14.24%	14.59%	15.02%	15.53%	15.84%	15.09%	14.46%
Payout Policy Ratios:													
Dividend Payout Ratio (Dividend/EPS)	23.63%	20.88%	37.48%	34.77%	34.77%	34.77%	34.77%	34.77%	34.77%	34.77%	34.77%	34.77%	34.77%
Dividend Yield	0.64%	0.70%	0.80%	0.94%	1.08%	1.25%	1.52%	1.76%	2.06%	2.44%	2.88%	3.04%	3.21%

Moody's*Present Value of Operating Lease Obligations*

Fiscal Years Ending Dec. 31	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Year 1	78.0	93.4	94.8	101.9	108.3	105.9	107.0	110.0	121.0	119.0
Year 2	68.0	80.9	88.7	85.9	87.1	102.3	103.0	99.0	118.0	111.0
Year 3	59.6	78.3	83.2	75.1	80.8	95.6	91.0	93.0	109.0	98.0
Year 4	58.0	72.7	72.7	70.0	75.7	84.4	85.0	84.0	93.0	79.0
Year 5	58.0	64.9	68.7	67.2	72.6	81.0	79.0	76.0	74.0	64.0
Thereafter	484.0	447.3	417.4	343.8	290.6	246.5	183.0	117.0	95.0	40.0
Total Minimum Payments	805.6	837.5	825.5	743.9	715.1	715.7	648.0	579.0	610.0	511.0
Less: Cumulative Interest	241.0	225.7	211.3	176.7	156.1	144.5	121.1	98.4	97.9	74.4
PV of Minimum Payments	564.6	611.8	614.2	567.2	559.0	571.2	526.9	480.6	512.1	436.6
Implied Interest in Year 1 Payment		31.6	34.2	34.4	31.7	31.3	32.0	29.5	26.9	28.7
Pre-Tax Cost of Debt	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%	5.60%
Years Implied by Year 6 Payment	8.3	6.9	6.1	5.1	4.0	3.0	2.3	1.5	1.3	1.0
Expected Obligation in Year 6 & Beyond	58	64.9	68.7	67.2	72.6	81	79	76	74	40
Present Value of Lease Payments										
PV of Year 1	73.9	88.5	89.8	96.5	102.6	100.3	101.3	104.2	114.6	112.7
PV of Year 2	61.0	72.6	79.5	77.0	78.1	91.7	92.4	88.8	105.8	99.5
PV of Year 3	50.6	66.5	70.7	63.8	68.6	81.2	77.3	79.0	92.6	83.2
PV of Year 4	46.6	58.5	58.5	56.3	60.9	67.9	68.4	67.6	74.8	63.5
PV of Year 5	44.2	49.4	52.3	51.2	55.3	61.7	60.2	57.9	56.4	48.7
PV of 6 & beyond	288.3	276.4	263.4	222.4	193.5	168.4	127.4	83.2	68.0	28.9
Capitalized PV of Payments	564.6	611.8	614.2	567.2	559.0	571.2	526.9	480.6	512.1	436.6

Moody's*Effects of ESOP Exercise and Share Repurchases on Common Stock Account and Number of Shares Outstanding*

Number of Options Outstanding (shares):	1
Average Time to Maturity (years):	5.20
Expected Annual Number of Options Exercised:	0.192

Current Average Strike Price:	\$ 181.01
Cost of Equity:	10.61%
Current Stock Price:	\$352.00

Fiscal Years Ending Dec. 31	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E
Increase in Shares Outstanding:	0.192	0.192	0.192	0.192	0.192	0.038	-	-	-	-
Average Strike Price:	\$ 181.01	\$ 181.01	\$ 181.01	\$ 181.01	\$ 181.01	\$ 181.01	\$ 181.01	\$ 181.01	\$ 181.01	\$ 181.01
Increase in Common Stock Account:	35	35	35	35	35	7	-	-	-	-
Share Repurchases (\$)	848	848	848	848	848	848	848	848	848	848
Expected Price of Repurchased Shares:	\$ 352.00	\$ 386.43	\$ 424.22	\$ 465.71	\$ 511.25	\$ 561.25	\$ 616.14	\$ 676.40	\$ 742.55	\$ 815.18
Number of Shares Repurchased:	2.41	2.19	2.00	1.82	1.66	1.51	1.38	1.25	1.14	1.04
Shares Outstanding (beginning of the year)	184	182	180	178	176	175	173	172	171	170
Plus: Shares Issued Through ESOP	0.192	0.192	0.192	0.192	0.192	0.038	0.000	0.000	0.000	0.000
Less: Shares Repurchased in Treasury	2.41	2.19	2.00	1.82	1.66	1.51	1.38	1.25	1.14	1.04
Shares Outstanding (end of the year)	182	180	178	176	175	173	172	171	170	168

Moody's*Valuation of Options Granted under ESOP*

Current Stock Price	\$352.00
Risk Free Rate	4.84%
Current Dividend Yield	0.83%
Annualized St. Dev. of Stock Returns	17.59% Do this on bloomberg

(in millions)

Range of Outstanding Options	Number of Shares	Average Exercise Price	Average Remaining Life (yrs)	B-S Option Price	Value of Options Granted
Options outstanding as of December 2022	1	181.01	5.20	\$ 196.84	\$ 197
Total	1	\$ 181.01	5.20	\$ 211.58	\$ 197

Moody's

Sensitivity Tables

Risk free Rate	Beta							
	351.53	1.00	1.05	1.10	1.15	1.25	1.30	1.35
	5.50%	359.97	341.21	324.03	307.05	280.26	267.78	256.18
	5.25%	380.56	359.98	341.22	322.73	293.72	280.27	267.79
	5.00%	403.25	380.57	359.99	339.80	308.28	293.73	280.28
	4.84%	419.03	394.83	372.95	351.53	318.23	302.91	288.78
	4.50%	456.34	428.39	403.27	378.88	341.25	324.08	308.30
	4.25%	487.66	456.35	428.40	401.39	360.03	341.26	324.09
	4.00%	522.98	487.67	456.36	426.30	380.62	360.04	341.27

		Marginal Tax Rate						
Cost of Debt	351.53	15%	17%	19%	21%	22%	25%	27%
	6.25%	343.34	344.47	345.61	346.75	347.32	349.05	350.21
	6.00%	345.27	346.36	347.46	348.56	349.12	350.79	351.92
	5.75%	347.21	348.27	349.33	350.40	350.93	352.55	353.63
	5.60%	348.41	349.45	350.49	351.53	352.06	353.64	354.70
	5.30%	350.75	351.74	352.73	353.74	354.24	355.75	356.77
	5.00%	353.14	354.09	355.04	355.99	356.47	357.91	358.88
	4.50%	357.19	358.06	358.93	359.80	360.24	361.56	362.45

CV NOPLAT Growth								
WACC	351.53	3.50%	4%	4.50%	5%	5.50%	6%	6.50%
	13.00%	170.40	175.80	181.83	188.61	196.30	205.09	215.23
	12.00%	200.20	207.72	216.25	226.00	237.25	250.37	265.88
	11.00%	238.19	249.01	261.49	276.05	293.26	313.91	339.14
	9.94%	291.70	308.28	327.90	351.50	380.42	416.67	463.46
	9.50%	319.58	339.70	363.85	393.36	430.25	477.68	540.91
	9.00%	356.78	382.22	413.32	452.18	502.16	568.78	662.06
	8.50%	401.54	434.31	475.26	527.92	598.12	696.41	843.85

Equity Risk Premium	Beta							
	351.53	1.00	1.05	1.10	1.15	1.25	1.30	1.35
	6.50%	302.91	284.74	268.29	252.18	227.10	215.56	204.89
	6.00%	334.88	315.06	297.12	279.56	252.23	239.65	228.03
	5.50%	372.95	351.16	331.44	312.14	282.11	268.29	255.54
	5.00%	419.03	394.83	372.95	351.53	318.23	302.91	288.78
	4.50%	475.94	448.76	424.17	400.13	362.76	345.59	329.74
	4.25%	509.73	480.75	454.56	428.95	389.16	370.87	354.00
	4.00%	548.00	516.99	488.97	461.58	419.03	399.48	381.45

WACC	Marginal Tax Rate							
	351.53	15%	17%	19%	21%	22%	25%	27%
	13.00%	188.62	188.62	188.61	188.61	188.61	188.61	188.60
	12.00%	226.01	226.00	226.00	226.00	226.00	225.99	225.99
	11.00%	276.05	276.05	276.05	276.05	276.05	276.04	276.04
	9.94%	351.51	351.51	351.50	351.50	351.50	351.50	351.50
	9.50%	393.37	393.36	393.36	393.36	393.36	393.36	393.35
	9.00%	452.19	452.19	452.19	452.18	452.18	452.18	452.18
	8.50%	527.92	527.92	527.92	527.92	527.92	527.91	527.91

Cost of Debt	Dividend Yield							
	351.53	0.55%	0.65%	0.75%	0.83%	0.87%	0.90%	0.95%
	6.25%	347.22	347.05	346.88	346.75	346.68	346.63	346.55
	6.00%	349.04	348.87	348.70	348.56	348.50	348.45	348.36
	5.75%	350.87	350.70	350.53	350.40	350.33	350.28	350.19
	5.60%	351.98	351.81	351.64	351.50	351.44	351.39	351.30
	5.30%	354.21	354.04	353.87	353.74	353.67	353.62	353.53
	5.00%	356.47	356.30	356.13	355.99	355.92	355.87	355.78
	4.50%	360.29	360.12	359.94	359.80	359.73	359.68	359.59