University of Strathclyde

Department of Accounting and Finance

M.Sc. Finance (January)

Financial Analysis ad Valuation of Relx Group Plc.

AG999: Research Project 2

Sidharth Gupta

202359420

12th December 2023

Word Count: 11,560

Abstract

As a global leader in information-based analytics and decision tools for a variety of sectors, RELX PLC, is examined comprehensively in this extensive financial analysis and valuation investigation regarding its financial performance and intrinsic worth. Using a multimodal approach, this analysis examines RELX's financial statements, key performance indicators, competitive landscape, and market dynamics to provide a comprehensive assessment.

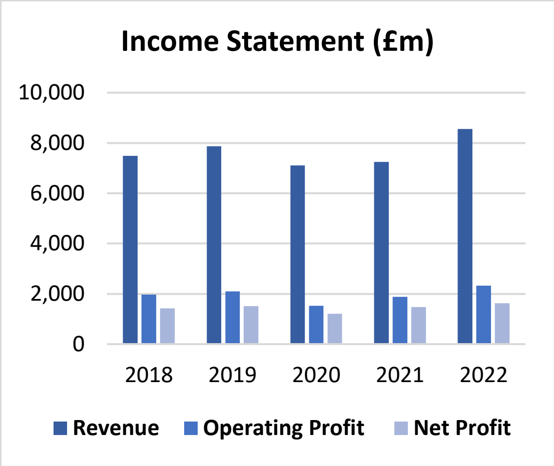
The analysis commencing with an extensive evaluation of RELX's financial statements, where revenue trends, profitability indicators, and cash flow patterns are broken down across several time periods. Additionally, it explores a segmented examination of RELX's multiple operations including Scientific, Technical & Medical, Legal Analytics, Exhibitions, and Risk & Business Analytics, offering insights into the relative contributions of each unit to the overall success of the organisation.

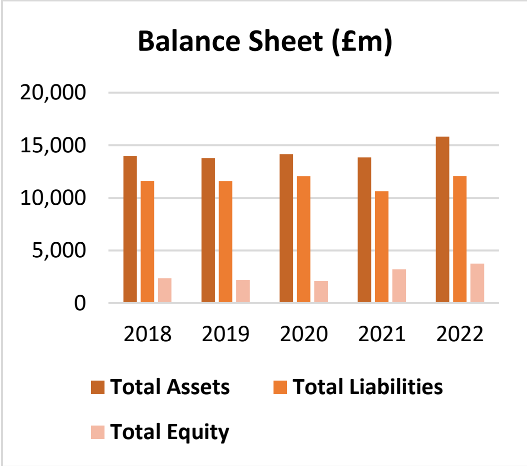
The report evaluates RELX's competitive positioning by using key performance indicators and market benchmarks to compare the company to industry peers. This enables for an accurate analysis of RELX's market share, competitive advantages, and areas for strategic improvement in the information and analytics industry.

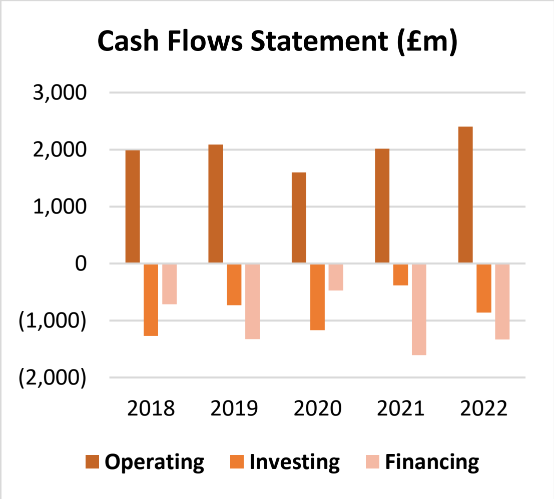
Furthermore, the valuation section combines intense techniques like the Dividend Discount Model (DDM), Discounted Cash Flow (DCF), and relative valuation models to determine RELX's intrinsic value and compare it to current market values. This helps to give a more complex picture of RELX's market positioning and investment appeal.

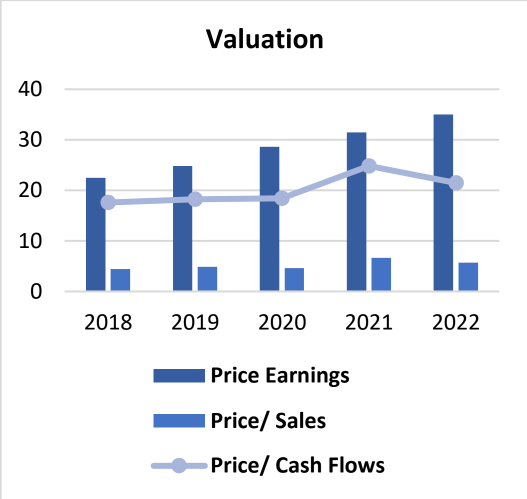
Keywords: Relx Plc., Financial Analysis, Key performance Indicators (KPI’s), Asset Beta, Risk-free Rate, Risk Premium, UK Economy, FTSE 100 Index, Discounted Cash Flows (DCF), Dividend Discount Model (DDM), Relative Valuation Model, Market Share Analysis

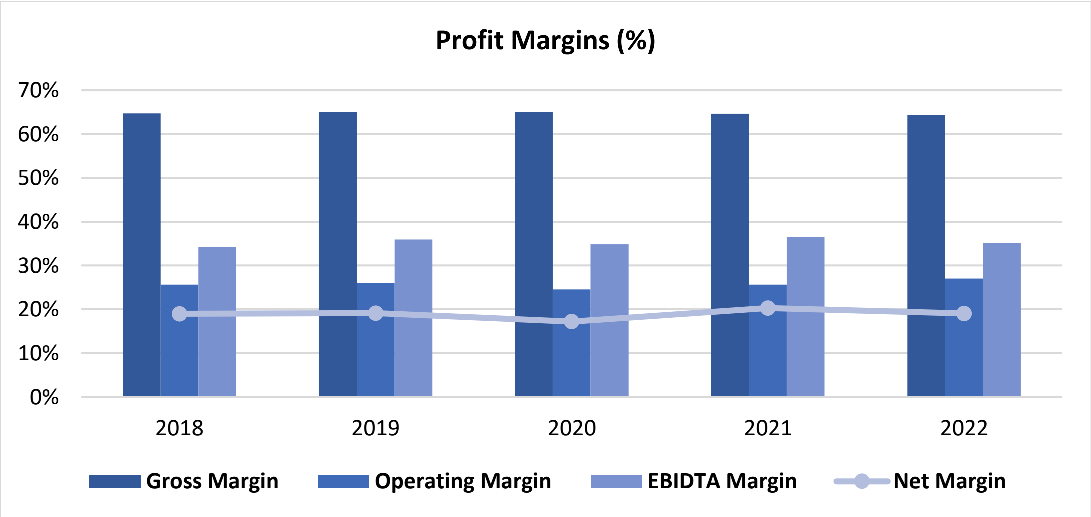
Financial Highlights











Source: Relx Plc. Valuation Excel

Table of Contents

CHAPTER 1

INTRODUCTION

1.1 UK Economy

The epidemic has resulted in a dramatic rise in long-term illness in the UK, which is reducing the country's labour force participation. This imposes additional limitations on the labour supply, which has already seen post-Brexit shortages in certain industries.

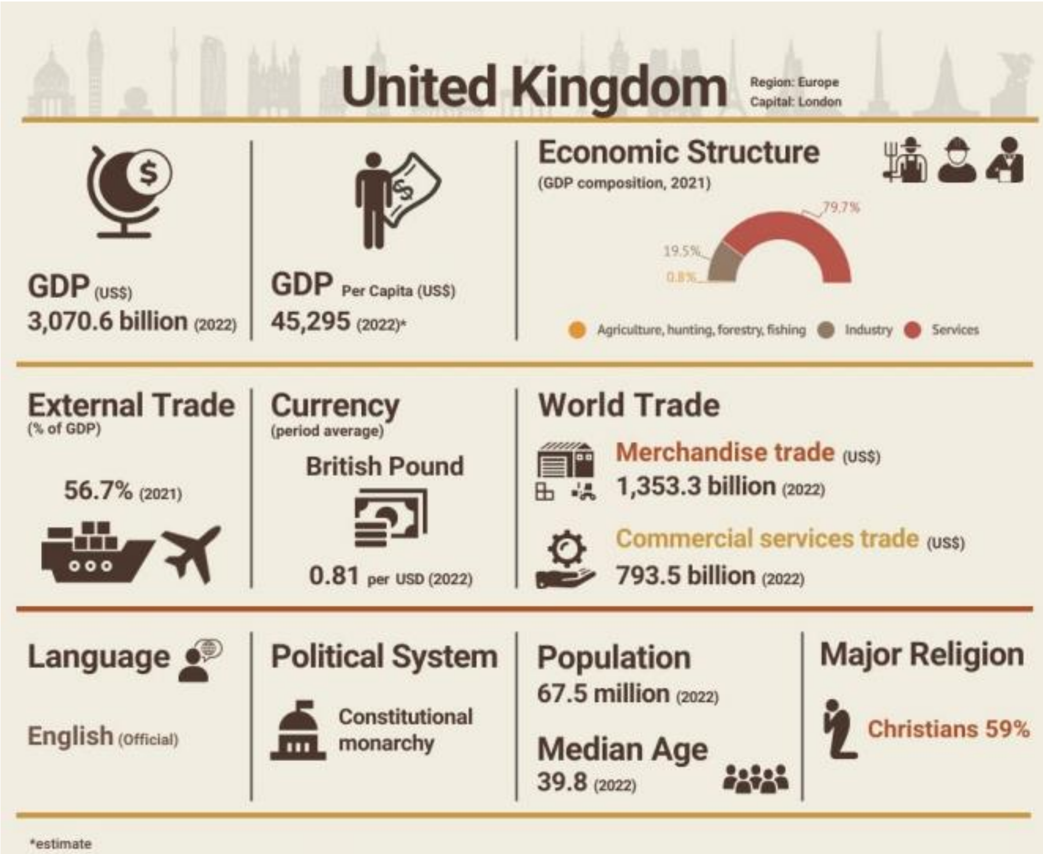


Figure 1: UK Economy ***Source: World Trade Organization***

Despite the ongoing regulatory obstacles caused by the UK's withdrawal from the European Union (often known as "Brexit"), high inflation brought on by rising energy costs, and the COVID-19 pandemic's aftereffects, the UK continues to be a vital market for US exports of products and services.

The number of products and services exported by the United States to the United Kingdom reached $157.1 billion in 2022, an increase of 21.5 percent from 2021. This causes the UK in second position for trade in services and fifth place for exporting American goods.

With a total bilateral stock in direct investment valued at over $1.5 trillion in 2021, the U.S.-UK investment partnership is the greatest in the world. The amount of U.S. direct investment going to the United Kingdom in 2021 exceeded $1 trillion, a 9.5% increase over 2020. There was a 22% growth in direct investment from the United Kingdom to the United States (inward) in 2020, totalling $565.2 billion. These investments directly sustain almost 2.6 million jobs—1.46 million in the United Kingdom and 1.17 million in the United States.

The UK economy is showing signs of stress. There is little chance of a severe recession taking place anytime soon, but high interest rates, ongoing uncertainty, and low productivity will likely hinder growth in the short term. Investment decisions will likely be affected by this, and sterling as well as UK-based assets will be affected.

Furthermore, due to market caution, two-year gilt rates have grown to nearly 5%, which is greater than during the volatile period of September–October 2022 associated with the fiscally expansive “mini budget”. Increased gilt rates have consequences for the property market as well as the government due to the higher cost of borrowing.

The growth-inflation trade-off in the UK is therefore worse than in other developed markets. Although its predicted core inflation of 3.8% is greater than the US's 3.2% and the euro area's 2.6%, its growth estimate of 0.6% is less than that of the US (2.1%) and the euro area (0.9%). This increases the difficulty of the BoE's task. Research sees a small (10%) chance of further rate rises in the first half of 2024 and a large possibility of rate reduction to support growth starting in mid-2024, even if it still anticipates rates to remain unchanged.

Table 1.1: KMPG Forecasts

	2022	*2023*	*2024*
Real GDP	4.1	0.4	0.3
Consumer Spending	5.3	0.7	0.5
Investment	8.6	2.7	0.5
Unemployment Rate	3.7	4.2	4.8
Inflation	9.1	7.5	2.7
Base interest rate	3.50	5.25	5.00

Source: Office for National Statistics (ONS)

Outlook for GDP: Sluggish Momentum

In the second half of the year, the UK economy may find it difficult to stay afloat due to the combination of declining global economic circumstances and the delayed effects of rising interest rates. According to our projections, real GDP growth will decrease from 4.1% in 2022 to barely 0.4% in 2023 and 0.3% in 2024 (a summary of the major estimates may be presented in Table 1.1). Risks to our prediction are weighted to the downside due to uncertainties surrounding the approaching general election, demand strength, and the future trajectory of interest rates.

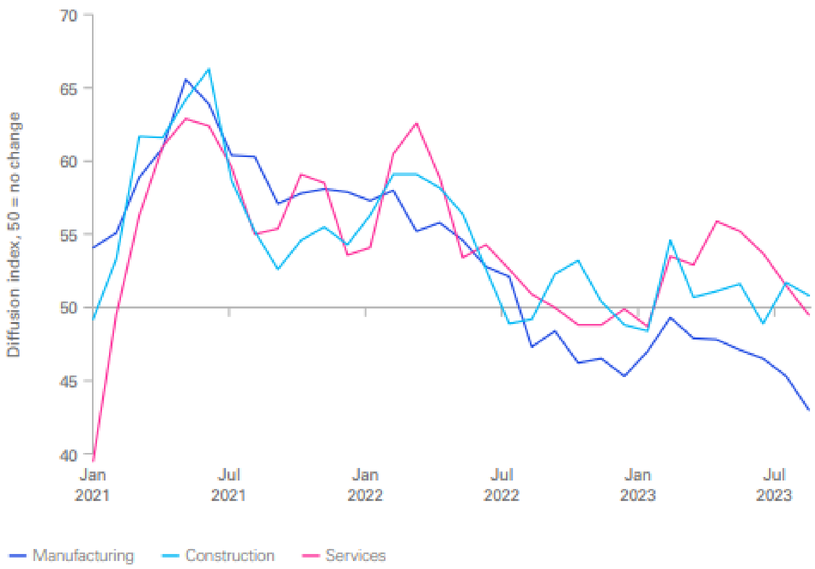


Figure 2: Momentum have weakened across all sectors ***Source: Refinitiv DataStream***

Increased borrowing rates and uncertainty will result in a dearth of business investment. The high attained by corporate bond yields following last year's mini budget is still quite close, and according to the Bank of England's Decision Maker Panel surveys, interest rates are predicted to cut company investment by 8% in the upcoming year. Furthermore, according to a poll conducted by the ONS, 17% of firms blame the present challenges facing capex on uncertainties around demand or company prospects. In addition, the estimate predicts that the growth of overall investments would decrease to 2.7% in 2023 and just 0.5% the following year due to the poor outcomes for residential investment.

Inflation: Slow Improvement

Although it is still higher than in many western nations, UK inflation is also on the decline. In October of last year, headline inflation peaked at 11.1%; it has since dropped to 6.7% in August. The most recent estimate is in line with 3.7% in the US and 5.2% in the Eurozone. The decrease in wholesale energy costs, which translates into lower family energy bills, has contributed to the recent dip in inflation. The price ceiling imposed by Ofgem was lowered to £2,074 in July and is scheduled to drop even lower to £1,923 in October. Beyond that, the pricing of energy in the market indicates that the effect of energy on inflation may be about neutral through 2024, when prices regain their seasonal patterns observed before the epidemic.

Inflation in the UK has benefited from external sources. Sharp drops in transportation costs have been observed across a few metrics as global supply chain bottlenecks have eased. Because of this larger import composition, commodities inflation has significantly decreased recently, making it more susceptible to changes in the world economy. There may be further softening in the months to come, according to producer price inflation, which typically lags goods CPI inflation by around three months.

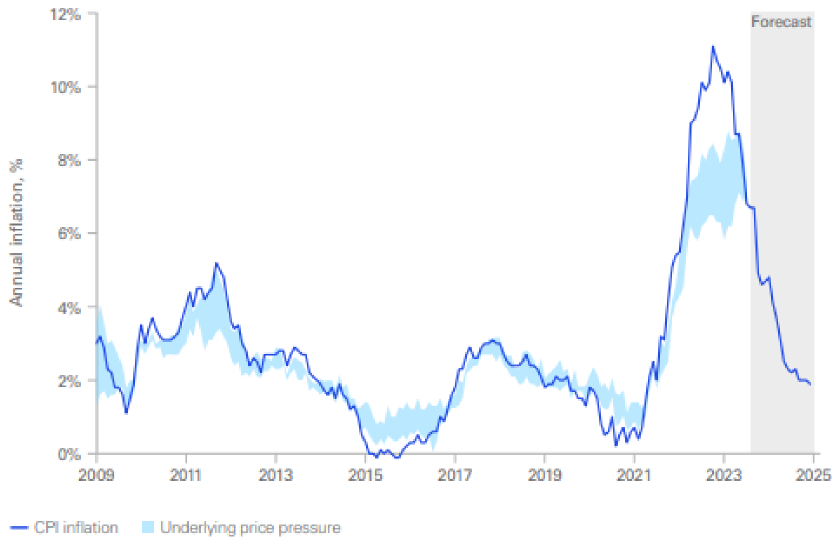


Figure 3: Underlying price pressure remains elevated ***Source: ONS, KPMG Analysis***

The Labour Market: Precarious State

The job market is progressively reflecting the downturn in activity. While the vacancy rate has fallen to 3.1%, its lowest point since mid2021, the unemployment rate in July was 4.3%, 0.7 percentage points higher than a year earlier. From about 1% in the beginning of 2023 to 0.5% in recent months, the annual growth in employment has decreased. Additionally, the participation rate has slightly rebounded from its previous low points. The difference between the supply and demand of labour that arose after COVID is therefore mostly closed.

One effect of the employment market's prior tightness has been a significant rise in wages. In July, the annual growth rate for regular pay was 7.8%, while the private sector had an 8.1% gain. Sectors with greater vacancy rates have usually seen faster pay increases this year at a disaggregated level. With the greatest vacancy rate and among the slowest rates of wage growth, the hotel industry has been an exception. Although the industry's average pay growth has stepped up to about 7% in the most recent statistics, this may reflect the generally low margins it operates in, which leaves less space for compensation increases.

Public Sector Finance: Under Pressure

The UK's public finances are somehow liable to tougher funding requirements and an unsteady economic outlook. Longer-term challenges still exist, raising questions about the budgetary picture into the next election. These include an ageing population (which drives up health and pension costs), a decreasing rise in the labour force participation rate (which holds down tax revenues), increased defence spending, and the financial burden of combating climate change. Because neither alternative is popular, the government will be forced to choose between raising taxes or cutting spending.

The central government's revenue from taxes has been steadily increasing. A healthy nominal tax base has been backed by pay growth and corporate profits in the face of rising inflation, while increased employment due to a robust labour market has allowed income tax rates to rise. But there has also been an increase in government spending. August saw a £33.9 billion rise in central government non-interest spending year over year, mostly due to higher energy and cost of living assistance expenditures.

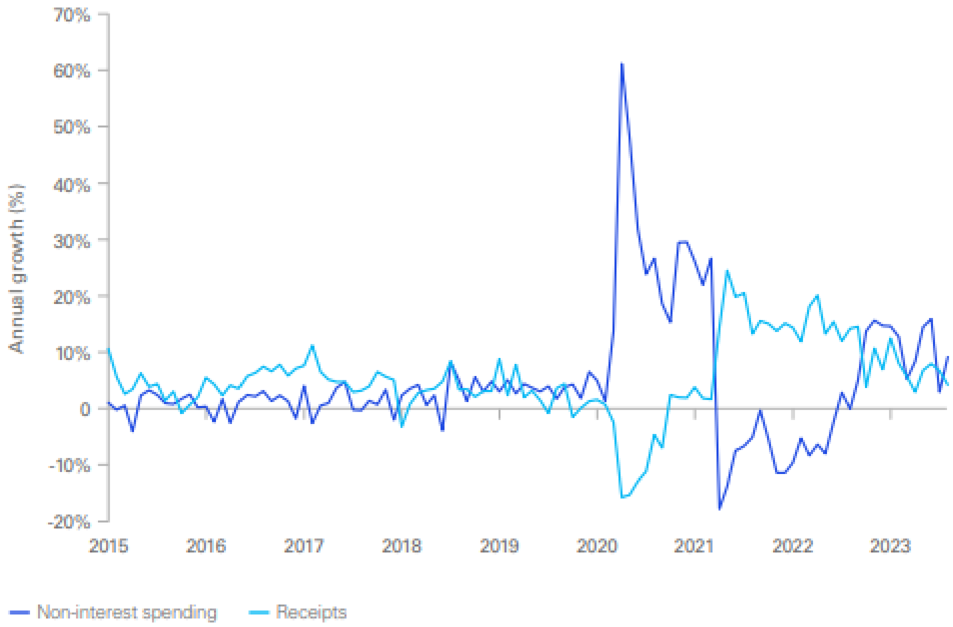


Figure 4: Central government receipts & spending growth ***Source: ONS, KPMG Analysis***

In a nutshell the UK economy is still 0.5% smaller than it was before to COVID-19, with Q1 GDP growth unrevised at 0.1% quarter over quarter. When inflation eats away at incomes, Britons deplete their savings. First net bank account outflow since 1987, Prior to the expiration of the tax advantage, business investment increases. The reduction in worldwide growth influences trade flows.

1.2 Specialty Business Service Industry

Companies offering specialised services to businesses, such marketing, legal support, and consulting, compose across the Specialty Business Services industry. Typically customised to meet the unique requirements of the company, these services might include anything from legal counsel to assistance in formulating a business plan. Firms within this sector frequently possess specialised knowledge in fields like technology, accounting, or finance, enabling them to provide firms personalised guidance and assistance.

It offers unique or specialised commercial services include consultants and businesses. Businesses may handle payroll, invoicing, postal processing, digital imaging, printing, and graphics with the aid of specialty business services. Companies that lack the capacity to manage these tasks internally frequently turn to specialised business services.

Business consultants that offer commentary on an organization's management style are among the specialty business services. Business consulting services include input on a range of business procedures, such as how a company should handle its distribution and production, employee skill levels and workflow timetables, organisational structures for reporting, and documentation or communication procedures. Businesses that use business process consulting services often get an outside viewpoint on procedures that need to be altered or new competencies that need to be added to an expanding company.

Businesses that are exporting specific skills globally or that are automating or reducing procedures may also benefit from specialty business services. Human resource consulting is frequently used to assess what competencies an organisation may need to acquire from a partner organisation vs what competencies it may already have on staff. A start-up business may benefit from human resources advice to create benefits programmes and health insurance choices.

A specialised company service may also handle or execute regular, everyday tasks including mail processing, payroll, billing, and promotional services. The medical industry makes widespread use of automated billing systems, which transfer patient billing administration to a third party that may concentrate only on keeping up-to-date billing and mailing processes. Invoices and statements are printed and mailed by automated billing systems, which also handle online or postal payment collection. Processing mail can range from manual small-scale sorting to automated folding and labelling. Printing, graphics or digital image services, technical writing and editing, and other promotional or documentation services are illustrations of additionally specialised company offerings.

1.3 Relx Plc.

RELX (XLON: REL) is a multinational supplier of decision tools and information-based analytics for commercial and professional clients. With locations in over 40 countries, RELX provides services to clients in over 180 nations. More than 33,000 workers, with 40% based in North America, are employed by it.

The company works in the following four market segments: Exhibitions, Scientific, Technical & Medical, Risk, and Legal. In order to help clients assess and anticipate risk, the Risk section offers information-based analytics and decision tools that integrate technology, algorithms, and industry-specific and public material.

Its Scientific, Technical, and Medical sector offers data and analytics to support organizations and experts in advancing healthcare and research. The Legal division offers commercial, legal, and regulatory information and analytics to help clients make better decisions and work more productively.

The Exhibitions area facilitates digital and in-person customer connections, market research, product sourcing, and transaction completion by leveraging industry knowledge, data, and digital technologies.

Business Model

RELX is a global supplier of decision tools and information-based analytics to commercial and professional clients. By integrating industry-leading content and data sets with potent international technology platforms, they attract on their in-depth knowledge of their clients to create sophisticated analytics and decision-making tools that provide their clients with more value. These commodities are often offered directly to consumers by trained sales representatives, priced on a subscription or transactional basis, frequently with multi-year contracts, and mostly supplied in electronic format.

Their items usually represent less than 1% of their clients' overall cost structures, still they may significantly and favorably affect the economics of the rest of the 99%. Their goal is to keep adding value to what they offer to their clients while gradually increasing their own overall cost base at a pace that is fundamentally lower than the increase of their income.

Figure 5: Revenue by Format

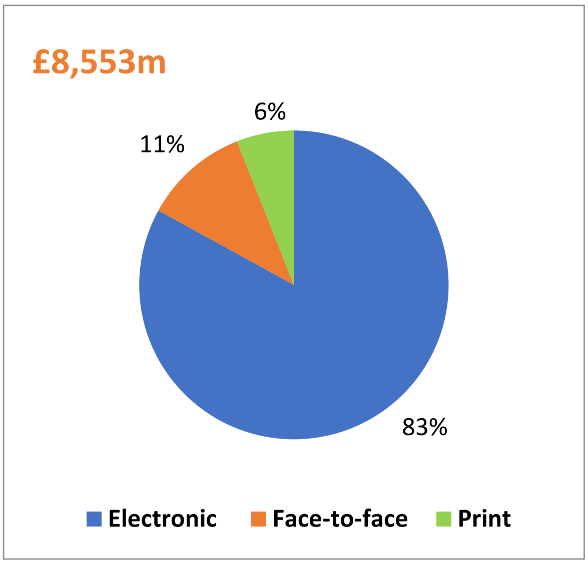


Figure 6: Revenue by Geographical Market

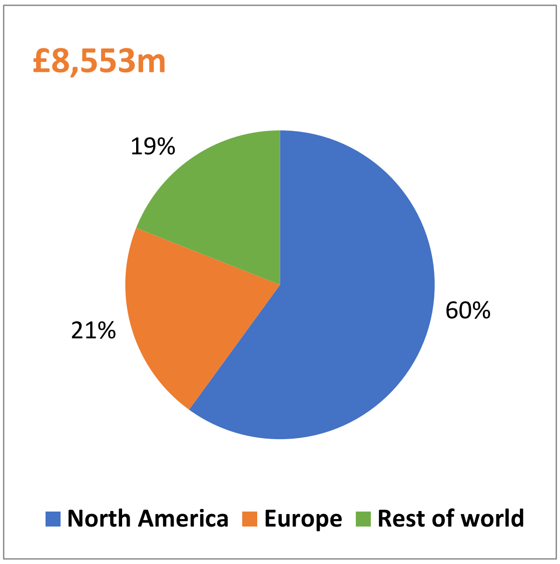
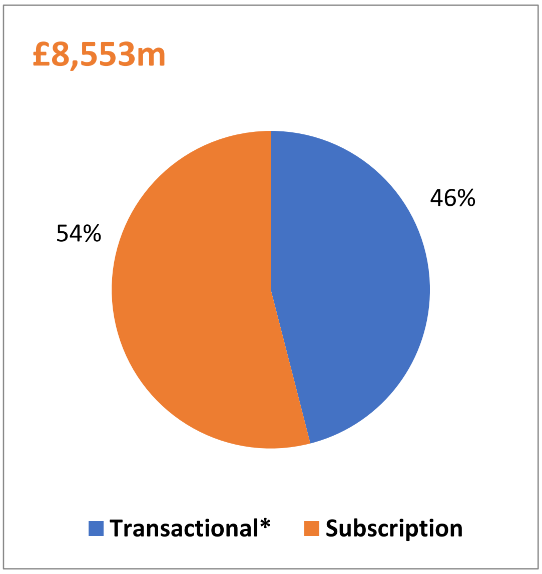


Figure 7: Revenue by type



* Includes long-term contracts with volumetric elements

Source: Relx Plc. Annual Report 2022

<u>Market Segments</u>

Table 1.2: Financial Summary by Marget Segment

	Market Position	*2022 Revenue £*	*Change Underlying*	*2022 Adj. Operating Profit £*	*Change Underlying*
Risk	Key Verticals #1	2,909	+8%	1,078	+8%
Scientific, Technical & Medical	Global #1	2,909	+4%	1,100	+5%
Legal	US #2 Outside US #1 or #2	1,782	+5%	372	+8%
Exhibitions	Global #2	953	+64%	162	nm*

*The change in underlying adjusted operating profit growth is not meaningful (nm) for Exhibitions. ***Source: Relx Plc. Annual Report 2022***

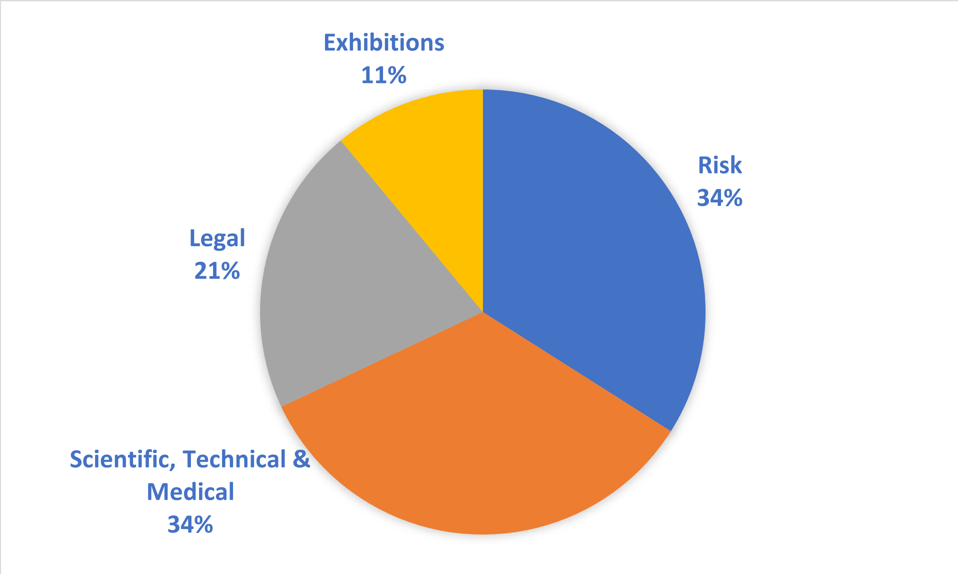


Figure 8: Relx Revenue by Segment ***Source: Relx Plc. Annual Report 2022***

The following business divisions comprise Relx's operations:

1. **Risk:**

   In order to help clients assess and anticipate risk and improve operational efficiency, Risk offers information-based analytics and decision tools that integrate publicly available and industry-specific knowledge with cutting-edge technology and algorithms.

   They help clients manage risk and make better decisions by combining deep sector experience with data and analytics. They provide insurance companies with intelligence and assistance in identifying and stopping internet fraud and money laundering. Their digital technologies help businesses enhance their operations in a variety of industries, including banking and aviation.

2. **Scientific, Technical & Medical:**

   Scientific, Technical, and Medical integrates high-quality data sets and information with analytical tools to support critical thinking and insight-based decision-making, assisting researchers and medical professionals in advancing science and improving health outcomes.

They facilitate information exchange, teamwork, financing possibilities, and scientific discovery for researchers. They provide analysis and insights to support academic institutions, government agencies, research centres, and funders in achieving their strategic objectives.

They provide the knowledge and resources necessary for medical professionals to identify the best clinical solutions, enabling them to better serve patients.

3. **Legal:**

Legal helps clients make better decisions, work more productively, and get better results by offering legal, regulatory, and commercial information and analytics.

They support lawyers in winning cases, running their businesses more profitably, providing superior assistance to clients, and expanding their practices. They help businesses keep an eye on pertinent news and gain a deeper knowledge of their markets. They collaborate with esteemed international groups and clients to promote the Rule of Law globally.

4. **Exhibitions:**

Exhibitions helps clients interact digitally and in person, learn about markets, discover goods, and conduct transactions by fusing industry knowledge with data and digital technologies.

Their company uses technology, big data sets, and industry knowledge to help their clients grow their businesses through in-person and virtual connections. This fosters innovation and produces billions of dollars in income for the global economic growth of regional and national markets.

CHAPTER 2

FINANCIAL PERFORMANCE AND POSITION OF THE RELX PLC

2.1 Peer Analysis

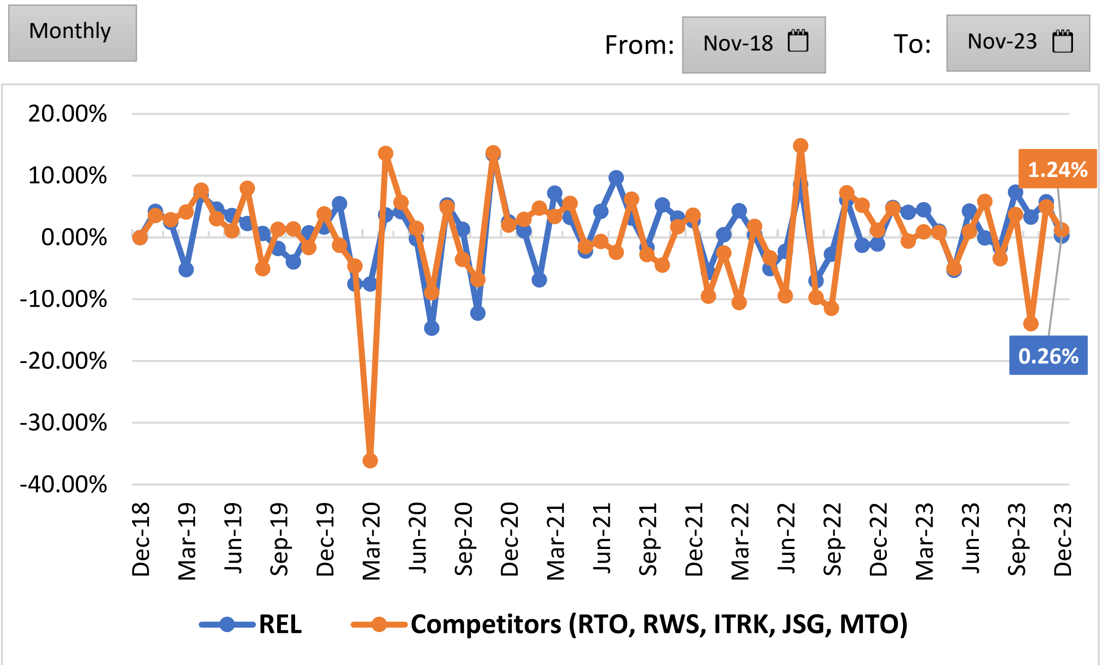


Figure 9: Peers Analysis ***Source: Investing.com***

Relx Plc. specialises in a variety of businesses, including exhibits, risk and business analytics, scientific, technical, and medical information. Although they might not be direct competitors in every one of these areas in terms of revenue and employment development, Rentokil Initial Plc., RWS Holdings Plc., Intertek Group Plc., Johnson Service Group, and Mitie Group Plc. Investors may favour comparative analysis of Relx Plc. above its intrinsic value since they compare the company to its competitors on a relative basis.

1. **<u>Overlapping Services or Offerings:</u>** Rentokil Initial Plc. provides environmental, hygiene, and pest control services. Their services may overlap in some areas, such as risk management or compliance in particular sectors, even if they are distinct from Relx's primary business.

2. **Business Information and Services:** RWS Holdings Plc. is an expert in life sciences, translation, and intellectual property support services. Even though they are not the same as Relx, their emphasis on information and services may sometimes overlap, particularly when it comes to topics like intellectual property, patents, or legal information.
3. **Quality Assurance and Testing:** Intertek Group Plc provides services related to testing, certification, inspection, and quality assurance. While having different primary products, there may be situations where their services complement one another to ensure standards and compliance, especially in the scientific or technological fields.
4. **Facilities Management and Support Services:** Facilities management, security, and support services are the areas of expertise for Mitie Group Plc. and Jonhonson Service Group. They may compete with Relx for contracts or services in common markets or sectors, even though their focus is different from Relx's information and analytics services.

In addition to providing comparable services, businesses may be viewed as rivals if they have a larger customer base, are present in the market, and could disrupt or take market share from one another.

While these businesses might not directly compete with Relx in every area of its many activities, they might cross paths with one another or do business in certain services or market niches. Their existence, offerings, or marketing approaches may create competitive dynamics or opportunities that might affect Relx's business practises or positioning in particular markets or industries.

2.2 Ratio Analysis

Ratio analysis offers an in-depth analysis of Relx Plc.'s financial performance and health, making it a vital instrument. By analysing several financial ratios that include issues such as profitability, liquidity, efficiency, and investment, Relx can obtain valuable information into its operational efficacy and resource utilisation.

Management, investors, and other stakeholders may make more informed decisions by using this study, which helps them recognise Relx's advantages, disadvantages, and problem areas. Valuable context is provided by comparisons with rivals and industry standards, which show Relx's position in the market and prospective areas for growth or competitive advantage. Ratios can serve as communication tools, informing lenders, investors, and other stakeholders about the company's financial situation.

They support continuous investigation, which makes it possible to promptly modify plans and procedures to preserve cash flow, boost output, and support expansion. Ratio analysis is essential to Relx because it helps with financial planning, strategy development, and investor confidence by providing a clear and comprehensive picture of the company's financial status and trends.

By contrasting Relx Plc.'s financial ratios with those of its peers or rivals in the industry, peer ratio analysis is carried out. Relx's relative performance, strengths, and opportunities for development are explored in this research by comparing its financial indicators to those of similar firms operating in the same sector. A better knowledge of Relx's position in the market is obtained by stakeholders through comparisons of profitability ratios, liquidity measurements, leverage indicators, and operational efficiency metrics.

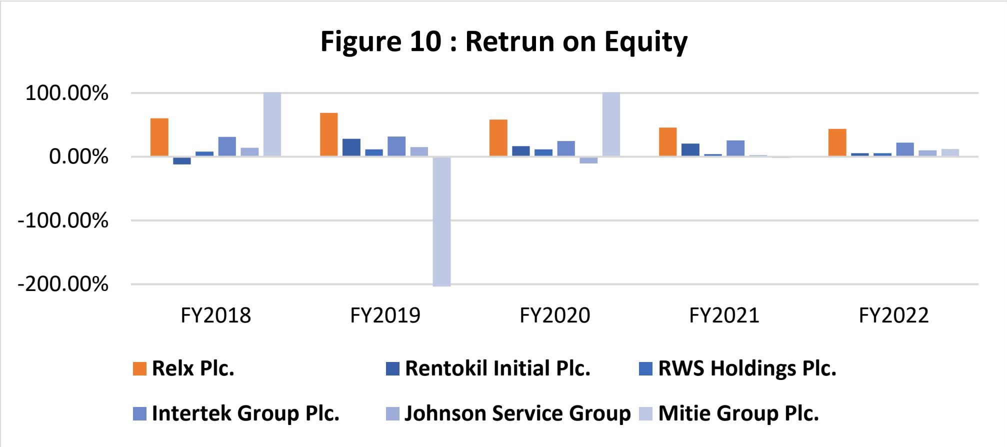
1. **Profitability Ratio:**

   The capacity of a business to turn a profit in relation to several facets of its operations, assets, and equity is shown by profitability ratios. When taken as a whole, these profitability measures provide Relx Plc. an accurate indication of how well it uses equity, controls expenses, and makes profits from operations. Robust financial performance and efficient resource management are critical factors that drive Relx's profitability in its business. These ratios show a steady or upward trend.

Return on Equity (ROE):

From FY2018 to FY2022, it looks like this figure shows the Return on Equity (ROE) figures for multiple companies throughout different fiscal years. A financial indicator known as return on equity (ROE) illustrates how profitable a business is in relation to the capital that shareholders have put in it. It's computed as

$$ROE = \frac{Net\ Income}{Shareholder's\ Equity} \quad (1)$$



With results that ranged from 43.53% to 68.72%, Relx Plc earned the greatest total return on equity. This shows that it has been making profitable use of the stock owned by shareholders. After showing weakness in 2018, Rentokil Initial Plc rebounded, reaching over 20% in 2021 before declining once further in 2022. Its profitability varies to some extent. Both Intertek Group and RWS Holdings have comparatively consistent ROEs in the 10–30% range, with slight declines in 2021.

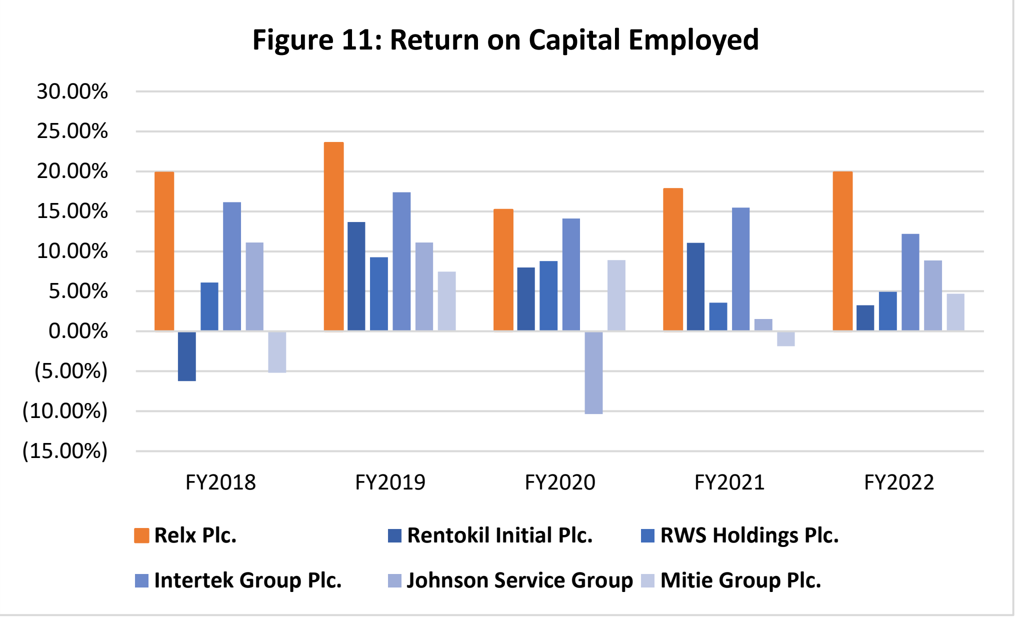
Their profitability has been quite steady. Johnson Service Group showed signs of returning profitability in 2022, as seen by their rise from a negative ROE in 2020 to 10.19%. The Mitie Group has extraordinary volatility, fluctuating between negative values in 2019 and 2021 and a very high 112.92% in 2018. Its profitability fluctuates depending on the amount of shareholder stock.

Throughout this five-year period, Relx and Rentokil had outstanding returns overall, whereas Mitie showed the greatest year-to-year fluctuations. The returns on medium-level investments for the other three enterprises were very consistent.

<u>Return on Capital Employed (ROCE):</u>

Relx Plc's Return on Capital Employed (ROCE) calculates how profitable and efficient the capital used in its activities is. It is computed with the following formula:

$$ROCE = \frac{EBIT}{Capital\ Employed} \tag{2}$$



The graphic displays the Return on Capital Employed (ROCE) for several different firms for the 2018–2022 fiscal years. A business's ability to turn a profit with the capital it uses for operations is gauged by its return on capital employed (ROCE). With a range of 15.18% to 23.55%, Relx Plc. showed a variable but typically favourable trend, suggesting the company's capacity to profitably use the capital deployed. In terms of profitability in relation to capital employed, Rentokil Initial Plc. displayed a mixed record, starting off with negative statistics in FY2018 and FY2022.

Both Intertek Group Plc. and RWS Holdings Plc. showed sustained but moderate profitability with respect to capital invested, with their ROCE values remaining generally stable. With a notable negative ROCE in FY2020, Johnson Service Group fluctuated and suggested several issues that might have an impact on profitability. Throughout the period Mitie Group Plc. had a range of positive and negative ROCE statistics, demonstrating volatility in the company's ability to generate profits compared to the capital invested. These ROCE numbers show how profitable these businesses are in relation to the capital used in their operations and give insight into how well these businesses are using their capital to create profits.

<u>Gross Profit Margin:</u>

An important profitability measurement is the gross profit margin, which expresses the proportion of revenue left over after subtracting cost of goods sold (COGS) from total sales. The gross profit margin calculation for Relx Plc. may be expressed using the following formula:

$$Gross\ Profit\ Margin = \frac{Gross\ Profit}{Net\ Sales} \tag{3}$$

Figure 12: Gross Profit Margin

The gross profit margin performance of different firms from 2018 to 2022 is shown in the figure. Both Relx Plc. and Rentokil Initial Plc. have continuously maintained relatively high margins, demonstrating effective control of manufacturing costs in relation to sales. Relx has constantly ranged from 64.40% to 65.02%, while Rentokil Initial has ranged from 79.06% to 80.91%.

Although showing a cyclical pattern, RWS Holdings Plc. demonstrated an overall growing margin from 38.83% in 2018 to 46.74% in 2022, indicating possible gains in revenue enhancement or cost savings. Intertek Group Plc. demonstrated consistent profitability from sales with a margin that remained steady between 55.75% and 57.35%.

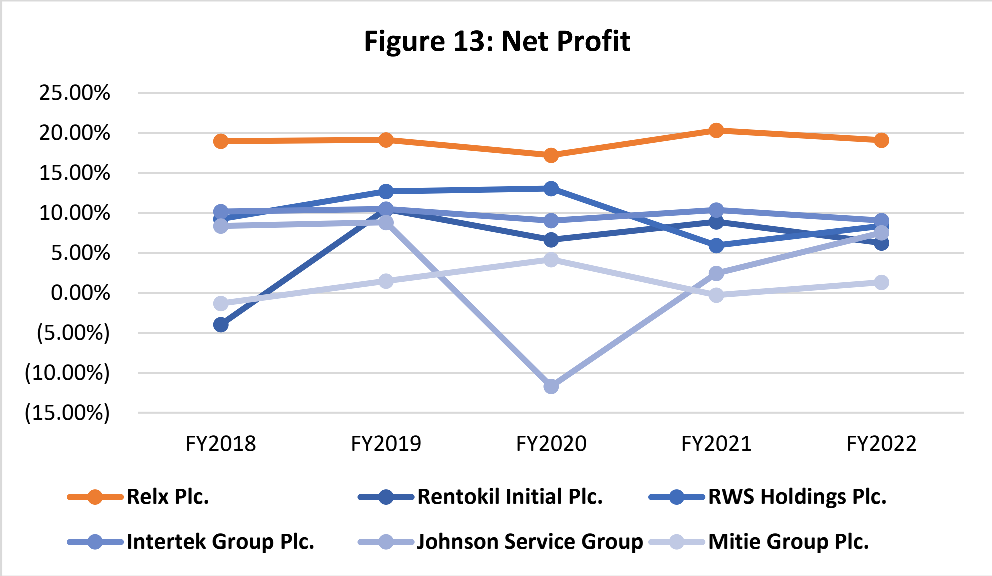
Notably, Johnson Service Group and Mitie Group Plc. showed different trends. Johnson Service Group had been able to maintain a consistent 100.00% margin in recent years, perhaps because of events or adjustments to its accounting, while Mitie Group showed a trend of margin stabilisation or strengthening. In terms of operational efficiency and profitability potential, these numbers provide an understanding of the firms' capacity to control direct production or service delivery costs in relation to sales revenue.

Net Profit Margin:

As a proportion of total sales, net profit is expressed as the Net Profit Margin, a financial statistic that gauges a company's profitability. This is an important indicator of how well a business is allocating its costs in relation to its income.

The following is the formula for obtaining net profit margin:

$$Net\ Profit\ Margin = \frac{Net\ Profit}{Net\ Sales} \qquad (4)$$



The Net Profit Margin for several organisations from 2018 to 2022 is depicted in the graph. This is a crucial indicator that shows the proportion of total revenue that is transformed into net profit after subtracting expenditures. Relx Plc. demonstrated stable profitability with a favourable margin that was consistent and stayed between 17.22% and 20.31%. After a bad start to FY2018, Rentokil Initial Plc.'s margins improved to range between 6.25% to 10.46%. RWS Holdings Plc. displayed mixed margins but overall upward trends.

Conversely, Johnson Service Group, Mitie Group Plc., and Intertek Group Plc. all saw erratic or occasionally negative margins, indicating difficulties maintaining steady profitability. Overall, these margins offer information about how well businesses manage their costs in relation to their income as well as about how different they are at maintaining profitability over the course of the observed years.

2. <u>Liquidity Ratio:</u>

Liquidity ratios evaluate how well a business can use its available liquid assets to cover short-term financial obligations. Common liquidity measures for Relx Plc. are the Quick Ratio (sometimes called the Acid-Test Ratio) and the Current Ratio.

Liquidity ratio analysis through the years, as well as comparisons with peers and industry standards, may provide Relx Plc. with valuable information about the company's capacity to handle short-term commitments and sustain an adequate financial position.

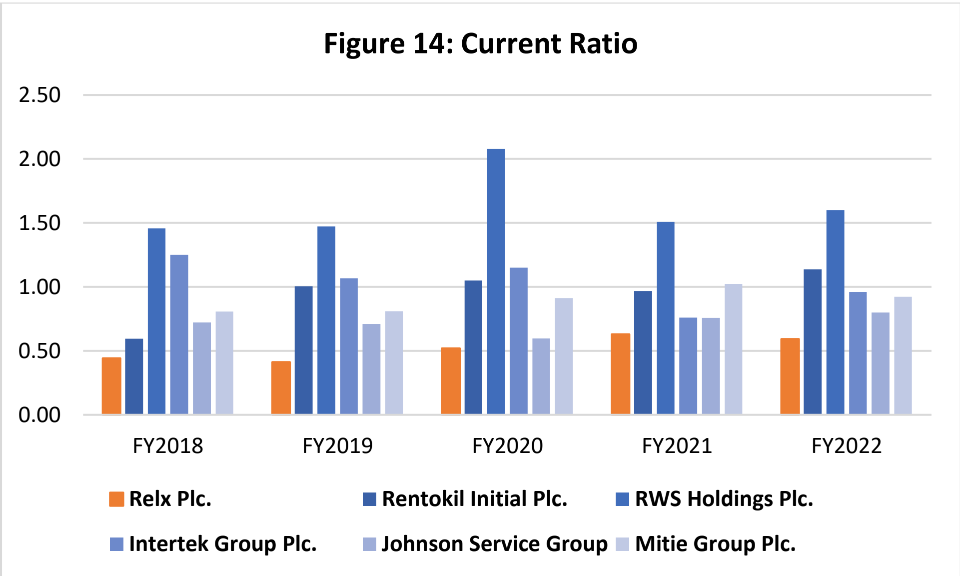
This evaluation aids stakeholders, creditors, and investors in assessing Relx's short-term financial stability as well as any possible hazards related to fulfilling urgent payment commitments.

Current Ratio:

When evaluating a company's short-term liquidity or its capacity to meet short-term commitments with its short-term assets, one financial measure to consider is the current ratio.

The following is the current ratio formula:

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities} \tag{5}$$



Relx Plc.'s current ratio showed a varying but usually rising pattern; it began at 0.41 in FY2019 and peaked at 0.63 in FY2021 before declining slightly to 0.59 in FY2022. Both RWS Holdings Plc and Rentokil Initial Plc maintained ratios that were typically over 1, indicating their steady ability to pay off short-term debt with available assets. Johnson Service Group, Mitie Group Plc, and Intertek Group Plc. all showed a range of ratios, with sporadic drops below 1 and other swings, suggesting possible difficulties fulfilling urgent payment commitments.

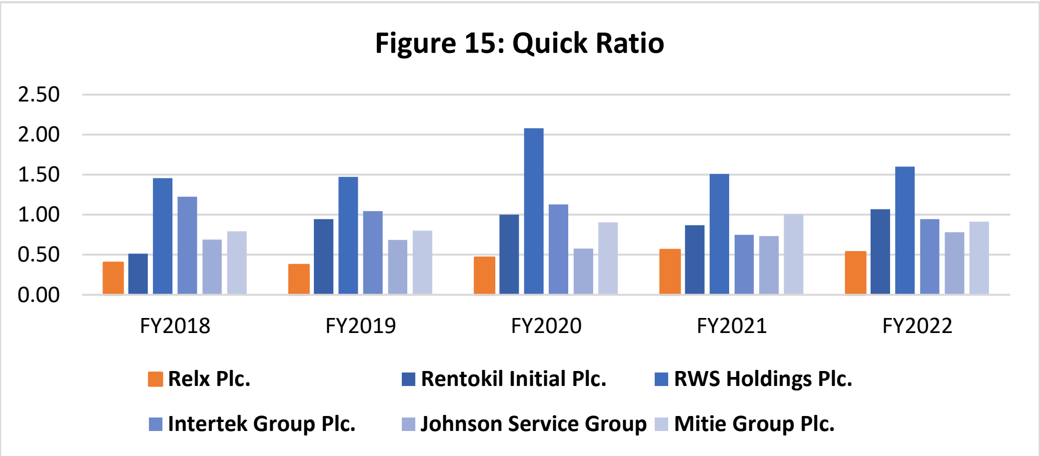
By showing the firms' capacity to handle short-term liabilities and possible hazards related to meeting immediate financial commitments throughout the course of the observed fiscal years, these current ratios provide valuable insights into the liquidity positions of the companies.

Quick Ratio:

The Quick Ratio, often referred to as the Acid-Test Ratio, is a financial indicator that assesses how well a business can use its most liquid assets excluding inventory to cover its short-term liabilities. Since inventory cannot always be quickly turned into cash, it is a stricter measure of liquidity than the current ratio.

Quick Ratio can be computed using the following formula:

$$Quick\ Ratio = \frac{(Current\ Assets - Inventory)}{Current\ Liabilities} \quad (6)$$



In FY2019, Relx Plc.'s Quick Ratio was 0.37; it increased to 0.56 in FY2021 before somewhat declining to 0.53 in FY2022, demonstrating an erratic but generally increasing approach. When it comes to short-term debt repayment, Rentokil Initial Plc. consistently shown ratios above 1, which is indicative of having liquid assets other than inventory on hand. Throughout the monitored period, RWS Holdings Plc. kept ratios substantially above 1, indicating a good ability to meet short-term commitments with relatively liquid assets.

Alternatively, the Quick Ratios of Johnson Service Group, Mitie Group Plc., and Intertek Group Plc. varied, fluctuated, and occasionally fell below 1, indicating possible difficulties in satisfying short-term responsibilities without using inventory.

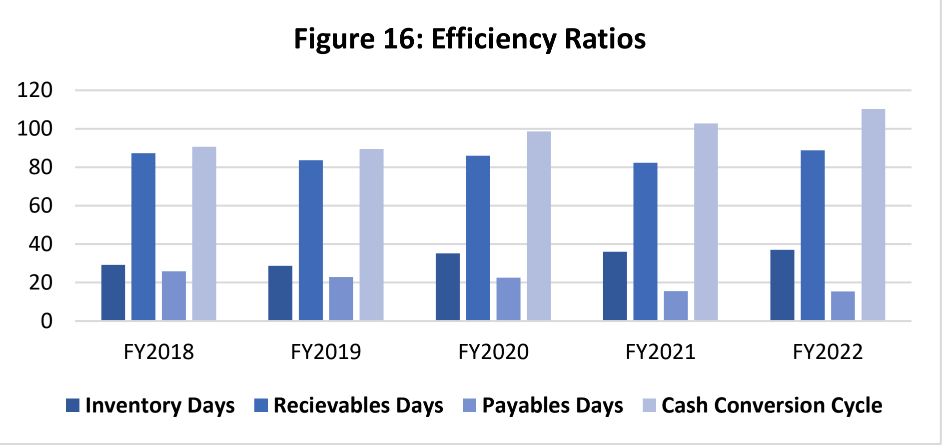
3. **Efficiency Ratio:**

Efficiency ratios calculate a company's sales or revenue generation based on how well it uses its assets and liabilities. Metrics including the asset turnover ratio, inventory turnover ratio, and receivables turnover ratio, among others, may be included in Relx Plc.'s efficiency ratios. These metrics offer insights into many facets of the business's operational efficiency.

These efficiency ratios provide information on how well Relx Plc. runs its company, allocates its resources, and produces income. Greater efficacy and efficiency in employing resources and overseeing various facets of the business's activities are typically indicated by higher ratios in these categories. However, for a thorough evaluation of Relx's efficiency performance, it's crucial to take industry standards into account and compare these ratios with historical data or industry rivals.

The figure summarises key performance indicators for Relx Plc. from 2018 to 2022, providing insight into the business's working capital management and operational efficacy. Relx demonstrated a steady but progressive increase in Inventory Days across the monitored years, with the days to turnover inventory increasing from 29 to 37. This suggests that the rate at which the business sells and replenishes its inventory has slowed down somewhat.

The organisation demonstrated consistency in terms of Receivables Days, as the duration required to obtain payments from clients varied between 82 and 89 days. This consistency points to Relx's constant process of turning sales into cash by demonstrating the company's consistent handling of receivables collection.



Surprisingly, Relx's Payables Days dropped from 26 to 15 days, suggesting a noteworthy improvement in the organisation of supplier payments. The company's ability to efficiently manage its accounts payable is shown by this decrease in payables days, which might improve its cash flow situation.

But the Cash Conversion Cycle which is calculated using the days of inventories, receivables, and payables showed a steady rise from 91 to 110 days. This implies a possible delay in cash production from operating operations as Relx took longer to turn its investments in receivables and inventories into cash.

4. **Gearing Ratios:**

Leverage ratios, or gearing ratios, indicate how much of a company's activities are funded by debt as opposed to equity. They support the evaluation of the financial risk and debt-to-capital structure ratio of the business. The debt-to-equity ratio, the debt ratio, and the equity ratio are important gearing ratios.

By examining these gearing ratios, Relx Plc. may get knowledge about its funding methods, level of financial risk, and how debt and equity are distributed throughout its capital structure. A lower gearing ratio denotes a more cautious strategy that relies less on debt, thereby lowering financial risk, whereas a larger ratio denotes a more leveraged position that raises financial risk because of greater debt levels. When evaluating the risk profile and financial health of a firm, analysts and investors rely heavily on these parameters.

Debt to Equity Ratio:

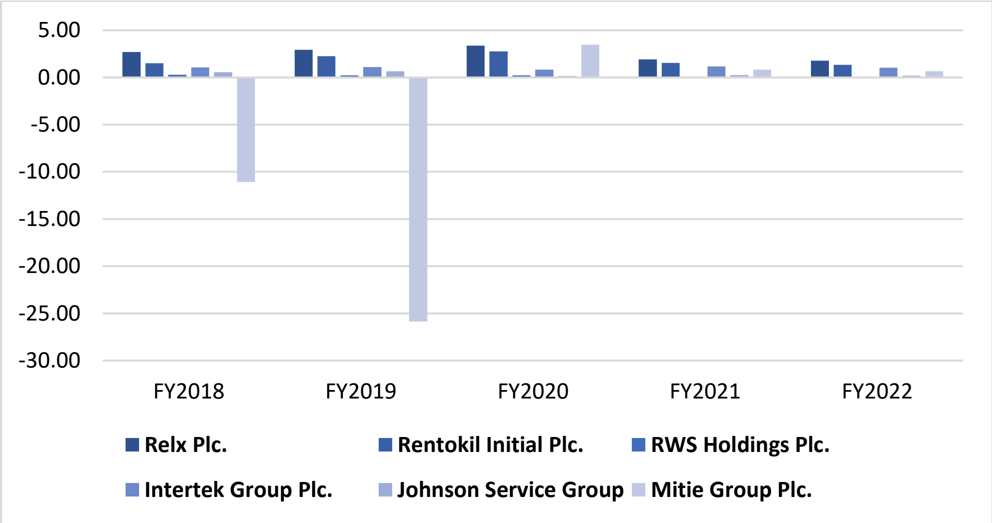
Financial metrics such as the Debt-to-Equity (D/E) ratio compare a company's total debt to its total shareholders' equity to determine how leveraged it is financially. It assesses how much a business needs to support its operations and investments through debt financing as opposed to the equity held by shareholders.

The Debt-to-Equity ratio may be computed using the formula below:

$$Debt\ to\ Equity\ Ratio = \frac{Total\ Debt}{Total\ Shareholder's Equity} \tag{6}$$

The graph shows the debt-to-equity (D/E) ratios for several Relx's Competitors from the 2018 to 2022 fiscal years. The ratios for Relx Plc. varied from 2.70 in FY2018 to 1.79 in FY2022. Over time, fluctuating ratios were also displayed by Rentokil Initial Plc. and Intertek Group Plc. Low ratios were continuously maintained by RWS Holdings Plc., suggesting a cautious financial structure. On the other hand, Johnson Service Group and Mitie Group

Plc. typically kept their ratios lower, with the exception of Mitie's negative ratios in the fiscal years 2018 and 2019, which indicated periods of negative equity. Over time, these ratios may be used to assess a company's financial health and debt management tactics by revealing information about its capital structures, financial risk, and leverage.



Source for Ratio Analysis: Relx Valuation Excel

Literature Review

In order to analyse and compare links between various financial data points over the course of the company's history, Relx Plc. and its investors can benefit from the usage of financial ratios. They offer as an example of what has happened in a specific period. Nevertheless, most users of financial statements are more concerned with what will happen in the future (Noreen, Brewer, & Garrison, 2011). As an instance, creditors, the company's future revenues, stockholders' dividends, investors' profitability, and managers' evaluation of the company's overall efficiency are all interested in Relx's capacity to meet its financial commitments in the future (Altman, 1968).

According to Edmister (1972), financial statements are inherently historical; yet this does not mean that they cannot still offer financial consumers valuable information. According to Altman (1968), accountants may compute and assess several financial ratios for diverse objectives by utilising data derived from a company's cash flow statement, balance sheet, and income statement.

2.3 Stock Price Performance

The holding company RELX PLC is publicly listed, and its shares are traded on the New York, London, and Amsterdam stock markets. The company's main asset is the shares it owns in RELX Group plc, an entirely owned subsidiary.

Every company in the Group is owned by RELX Group plc. The ticker symbols for the shares are as follows: REL for London, REN for Amsterdam, and RELX for New York.

Table 2.1: Share Price Information

Tuesday, 05 December 2023, 4:45PM (approx. 20min delay)

	Ticker	***Last Close***	***Latest***	***Change***	
London (GBP)	REL	30.47	30.75	+0.28	View Chart
Amsterdam (EUR)	REN	35.54	35.84	+0.30	View Chart
New York (USD)	RELX	38.59	38.8q1	+0.22	View Chart

Market Capitalization as at 05 December 2023 £58bn | €67.8bn | $73.1bn

Source: Relx Plc. Website

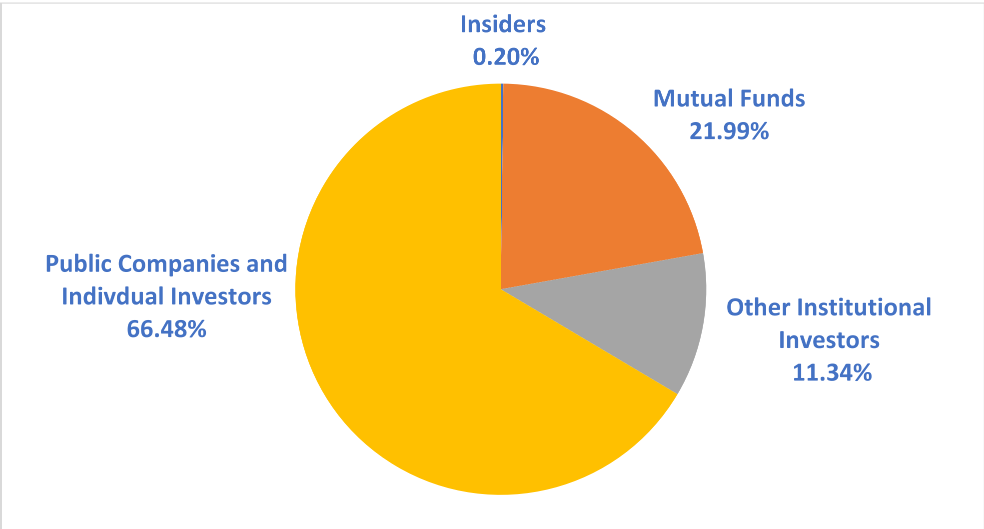


Figure 15: Relx Shareholders ***Source: Tip ranks***

The stock of RELX plc (REL.L) is owned by a combination of retail, institutional, and individual investors. Institutional investors hold around 33.33% of the company's shares, insiders own 0.20%, and public companies and individual investors own 66.48%.

Stock Chart

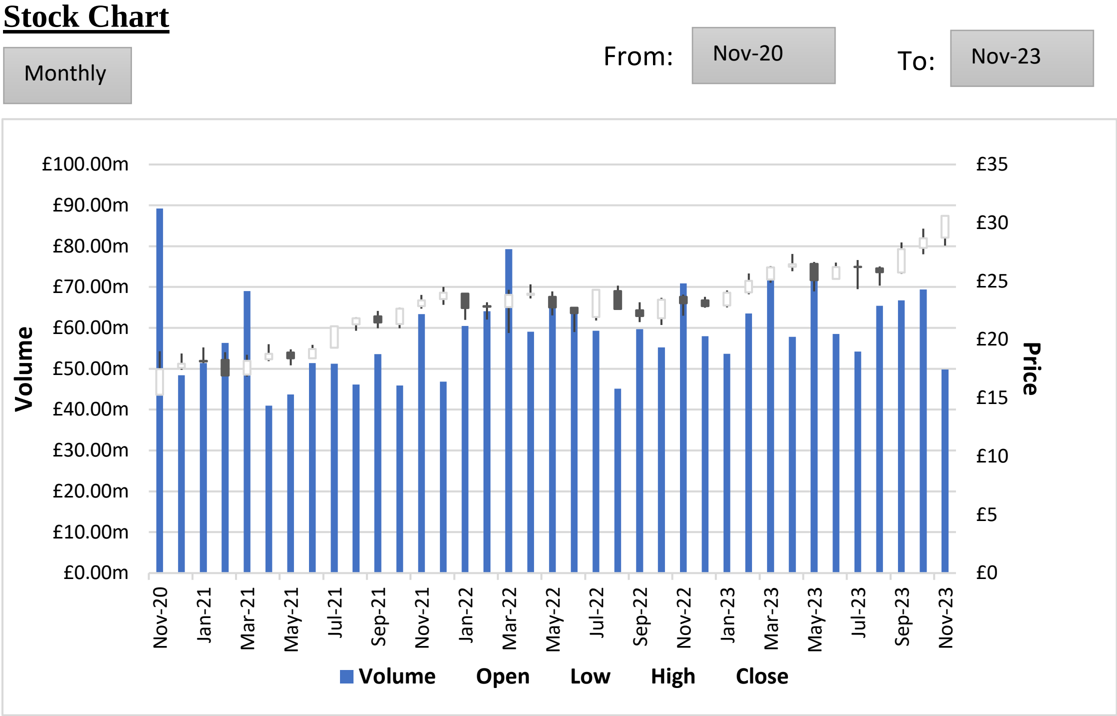


Figure 16: Relx Stock Price Performance ***Source: Relx Valuation Excel***

The following graph displays the Total Shareholder Returns (TSR) for RELX, which were determined by taking the average share price throughout the 30 trading days leading up to the end of the corresponding year and reinvested dividends. The performance of RELX and the FTSE 100 are contrasted. The performance period of the 2020–2023 cycle of the Long-Term Performance is covered by the three-year chart.

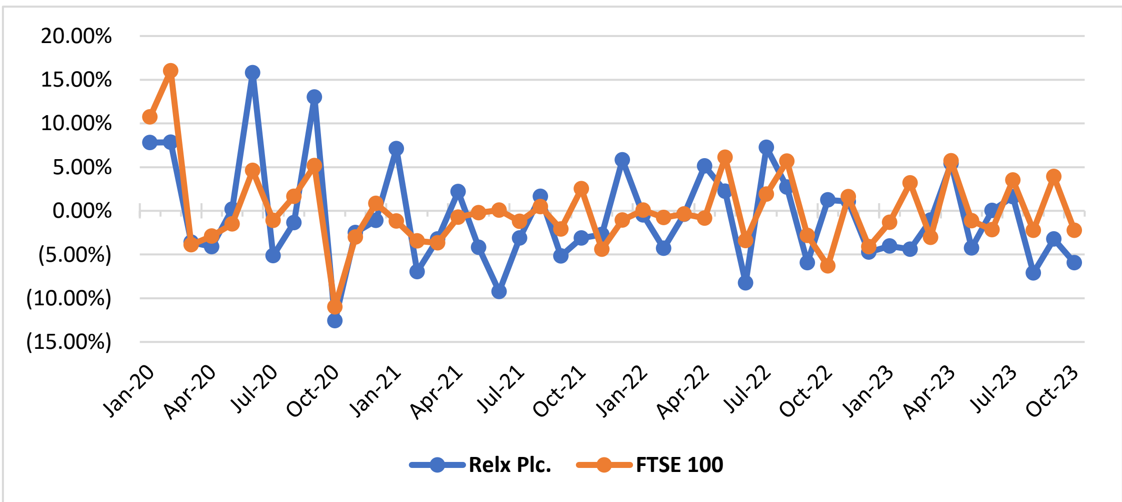


Figure 17: Relx VS FTSE 100 3-Year TSR ***Source: Investing.com UK***

Relx Plc. (REL) is an essential and resilient component of the FTSE 100. Despite shutdowns and downturns, consumer appetite for its data products has remained robust, and its analytics and decision tools have provided consistent revenue and profit growth. The epidemic hampered its events sector, but even that is improving.

In the initial half of 2023, the overall rise in sales was 8%, and the adjusted operating profit increased by 20% to £1.49 billion. Every division had a terrific showing. The categories of risk, legal, and scientific, technical, and medical produced underlying sales growth of 8%, 6%, and 4%, respectively, while two of the three saw an increase in their operating margins.

The outstanding performance, though, was Exhibitions. Relx profited from a notable upsurge in in-person interactions as a result of exposition sites being reopened worldwide, following years of compromised conferences and travel restrictions. A 38% increase in revenue to £545 million was accompanied by an almost trebling of adjusted operating profit, £173 million.

Selection of the Benchmark

RELX PLC's strategic objectives may be served by using the FTSE 100 as a benchmark, particularly if the firm wants to establish a stronger presence in the UK market or if its main activities are centered overseas. The largest firms listed on the London Stock Exchange are represented by the FTSE 100, a well-known index. Being in this index has the potential to improve RELX PLC's market visibility and favorably impact stakeholders and investors' perceptions of the business.

RELX PLC uses the FTSE 100 as a benchmark to evaluate its own performance in comparison to other notable firms in the UK market. The firm may assess its growth, market position, and financial health using this contrast. Index-tracking funds and institutional investors that replicate or base their investments on the index's components may make their way into the FTSE 100. The demand for the shares of RELX PLC might improve as a consequence.

Although these rationales are frequently linked to businesses choosing large index such as the FTSE 100 as benchmark, RELX PLC's decision may have been influenced by a combination of these factors while attempting to improve its market position, investor appeal, and overall performance assessment in the UK and worldwide financial markets.

Abnormal Buy-and-Hold Returns (ABHR) Methodology:

Investment research uses the Abnormal Buy and Hold Returns (ABHR) methodology, a financial analysis technique, to evaluate the performance of stocks or portfolios over a given time period, usually in relation to a benchmark or market index.

The ABHR technique computes the discrepancy between the factual buy-and-hold yield of an asset or portfolio and the anticipated buy-and-hold yield, which is determined by fluctuations in the market or a predetermined benchmark. Determining whether a stock's performance surpasses or falls short of expectations in light of the market's performance over the same period of time is useful.

The difference between the actual buy-and-hold return of a stock or portfolio and the projected buy-and-hold return based on market movements or a selected benchmark is the method for calculating Abnormal Buy and Hold Returns (ABHR). This is the equation:

$$ABHR_i = \prod_{t=1}^{N}(1 + r_{i,t}) - \prod_{t=1}^{N}(1 + r_{benchmark,t}) \quad (7)$$

Understanding the influence of market circumstances on stock returns beyond what can be predicted from typical market movements, assessing investment performance, and assessing the efficacy of investment strategies are all made easier with the help of the Abnormal Buy and Hold Returns approach.

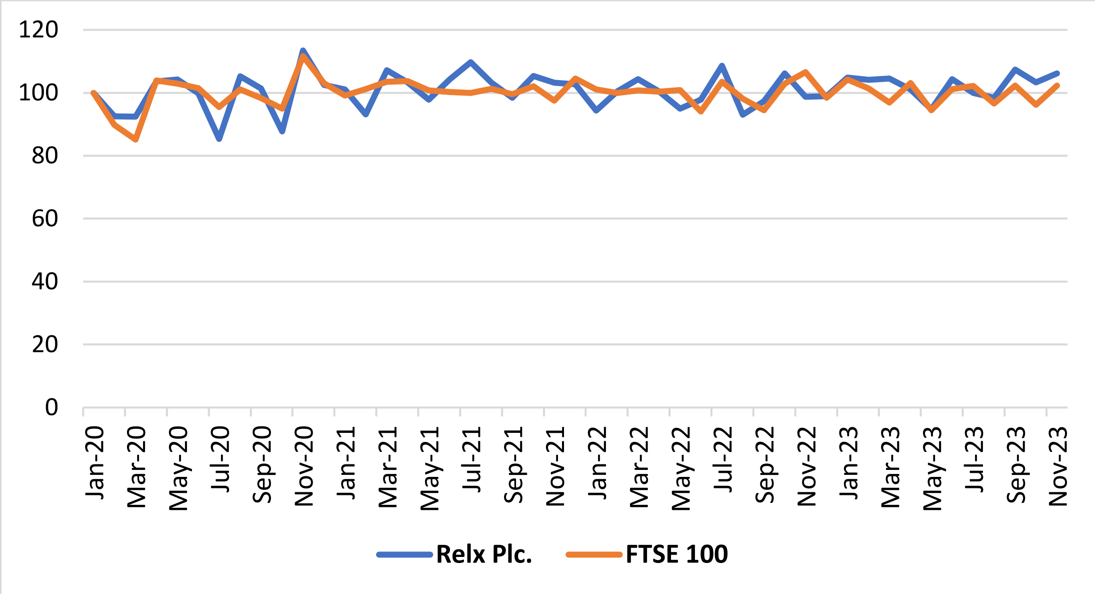


Figure 18: Relx VS FTSE 100 3-Year Price ***Source: Investing.com UK***

From January 2020 to November 2023, the graph seems to show the monthly stock values for the FTSE 100 index and Relx Plc. Relx 's closing price in November 2023 would have been £106.12, while the benchmark, the FTSE 100 index, would have been £102.25, if an initial investment of £100 had been placed in both. This indicates that, by November 2023, the £100 investment in Relx has increased to £106.12. The FTSE 100 index, which serves as a benchmark, increased from the original £100 investment to £102.25 over the same time frame.

When compared to the performance of the benchmark FTSE 100 index, the investment in Relx performed better. Out of the £100 original investment, Relx had a higher value rise (£106.12) than the benchmark (£102.25). From the original £100 investment to the closing prices in November 2023, this comparison shows that, according to the data supplied, investing in Relx produced a larger return than investing in the broader market represented by the FTSE 100 index.

CHAPTER 3

FINANCIAL MANAGEMENT POLICIES

3.1 Literature Review

Relx Plc. provides stakeholders with the most comprehensive image of its facts through corporate transparency. This covers the theories and financial information that are mandated by law and accounting regulations, as well as the voluntarily disclosed insights that result from internal or external decision-making constraints.

According to Zamil, Ramakrishnan, Jamal, Hatif, and Khatib (2021), a number of theoretical frameworks have been proposed to examine the disclosure practices of businesses. The literature has frequently emphasized the necessity of having a variety of theoretical frameworks in order to generate new concepts about the disclosure issue.

Durand (1952) is the one who initially presents the idea of the relationship between capital structure and cost of capital. In determining the value of a company such as Relx, he considers two methods: the net operating income (NOI) approach and the net income (NI) approach for both tax economy scenarios.

Durand (1952) also uses the tax world to verify business worth utilizing the aforementioned methods. He concludes that both approaches increase business value due to debt. Since the cost of capital is deducted and debt is valued at book value, the value of equity rises as a Relx's value improves.

In addition to introducing a cost of equity calculation, Modigliani and Miller (1958) theorized how business value is tied to capital structure decisions. Proposition I and Proposition II, which deal with capital structure theory in an ideal society without taxes and other economic frictions, are provided.

According to Proposition I, a company's capital structure decisions have no bearing on its worth. Furthermore, according to thesis II, the decisions made regarding capital structure (debt to-equity) are positively correlated with the cost of equity (see equation (ii)). The WACC, or weighted average cost of capital, is

$$R_A = W_E R_E + W_D R_D \tag{8}$$

Where WACC = R_A, W_E *and* W_D are the respective weights of debt and equity, and R_E *and* R_D are the respective costs of debt and equity. Because of the greater leverage in the capital structure, MM views this rise in the cost of equity (R_E) as a compensation for the unpredictability in equity returns.

Arguments over the assumptions were brought up shortly following MM's suggestions. Durand uses a fictitious example to argue that investors would not buy stocks because there would be no random opportunity in a perfect market. Additionally, he demonstrates that at varying income levels, debt and equity are not a perfect alternative. In conclusion, he contends that the actual world is devoid of flawless markets. Modigliani and Miller concur with every point Durand makes. On the other hand, assuming the circumstances is not restricted. Their presumption that the normal market is the ideal market is supported by their arguments.

According to the tax differential dividend theory, individual investors pay lower rates of regular income tax on long-term capital gains but higher rates on dividends under conventional income tax (Brigham and Ehrhardt, 2011). A bias towards paying dividends results from the different tax treatment of capital gains and dividends as well as transaction expenses. An explanation of this theory was attempted by Farrar and Selwyn (1967), and Brennan (1971) expanded on their ideas by incorporating them within a framework for market equilibrium. Individuals want to maximise their after-tax income, according to the partial equilibrium approach employed by Farrar and Selwyn.

An investor may choose to purchase shares in a levered business or acquire shares in an all-equity firm and utilise their own leverage. The company must decide whether to pay dividends or keep revenues so that shareholders may claim their income as capital gains. The first option is between using corporate or homemade leverage (Lola-Ebueku, 2016).

The Signalling Dividend Theory, which is linked to ideas made by Bhattacharya (1979), Miller and Rock (1985), and John and Williams (1985), asserts that investors interpret dividends as indicators of management's profits projections. It is predicated on the notion of information asymmetries existing between the various market participants, particularly between investors and managers. In these circumstances, management utilise the expensive dividend payment to tell the market about the company's prospects.

Dividend payments may also be interpreted by more established businesses as a show of optimism (Miller and Rock, 1985). This may cause companies to emphasise dividend smoothing over time and to be reluctant to reduce payments in the event of declining profitability. The idea states that companies may issue dividends to indicate their prospects, even in the event that investment decisions are distorted to maximise capital profits (Amidu, 2007).

The theory of the clientele effect suggests that the preferences of a company's shareholders for dividend payments can also have an impact on company boards (Baker and Wurgler, 2004). The preferences of shareholders can be impacted by tax incentives, as previously mentioned; they can vary cyclically, with dividends offering an income stream in a lower growth environment and posing less of an opportunity cost in terms of the company's investment opportunities; and they can differ by investor type, with retail investors thought to favour dividends over capital gains more than institutional investors.

The theory of firm life cycle dividends proposes that the ideal dividend policy for a company is contingent upon its stage in the life cycle. Over the course of the company's life, dividend payments are anticipated to fluctuate (Mueller, 1972). "Growth" companies often pay smaller dividends since they frequently have restricted access to financing, high initial investment costs compared to earnings, and both. However, since they have access to more reliable sources of finance and revenue, more established businesses are typically better equipped to pay dividends (Bulan & Subramanian, 2009).

In order to refute Modigliani and Miller's dividend irrelevance argument, Myron Gordon and John Lintner created the Bird-in-Hand argument (Lola-Ebueku, 2016). Investors favour current dividends above capital gains, according to Gordon and Lintner (1963). According to the hypothesis, investors are risk adverse and like present dividends since they carry less risk than payouts in the future. By lowering investor apprehension, dividend payments boost stock value. Investors will choose "what is available now is preferable to what may be available in the future" if they believe that future dividend payments are riskier than current ones.

Organisations should consequently establish a high dividend payout ratio and give a high dividend yield in order to maximise stock prices, since there is a link between a company's worth and its dividend payment (Linter, 1962; Gordon, 1963; Murekefu and Ouma, 2012). The model "Myron" was developed by Gordon (1963) and Lintner (1962). The Gordon Dividend Growth Model, often known as Gordon's Growth Model, describes how a company's dividend policy serves as the foundation for determining share value. The dividend growth rate divided by the difference between the investor's needed rate of return and the dividend growth rate is how Gordon's growth model, which employs the dividend capitalization technique for stock valuation, calculates the worth of a firm.

3.2 Relx Plc’s Policies

1. **Dividend and Share Repurchases**

   The Board has suggested a final dividend of 38.9p per share. As a result, the year's total dividends are 54.6p (2021: 49.8p), 10% more than the previous year. Dividend cover (2021: 1.8x) is the ratio of adjusted profits per share to the amount of the year's planned interim and final dividends. It is now 1.9x. The reported profits per share yielded a dividend cover ratio of 1.6x (2021: 1.5x). RELX PLC's long-term dividend policy is to achieve a cover ratio of at least two times while broadly increasing payments in accordance with adjusted profits per share.

   A total of 21.7 million shares of RELX PLC had been acquired within 2022, with an average price of 2,303p. £500 million was the total consideration for these repurchases. Additional shares (2021: 61,040) were acquired by the Employee Benefit Trust. The total number of shares in circulation as of December 31, 2022, net of shares owned by the Employee Benefit Trust and in treasury, was 1,909.5 million. As of February 15th, 2023, a further 6.3 million shares have been bought back.

2. **Accounting Policies**

   As mandated by the Companies Act of 2006 and International Financial Reporting Standards (IFRS) published by the International Accounting Standards Board (IASB) in compliance with accounting policies, the Relx Plc. consolidated financial statements have been prepared in compliance with UK-adopted International Accounting Standards.

   Taxation, defined benefit pension plan accounting, capitalization of development expenditures, and the identification of distinct intangible assets upon purchase are the accounting principles and estimations that provide for a high level of judgement.

3. **<u>Tax Principles</u>**

Taxation is a significant concern for Relx Plc. and its stakeholders, which include their authorities, shareholders, clients, suppliers, workers, and the international communities in which we conduct business. Their worldwide tax strategy outlines the taxation strategy. This includes Relx Tax Principles and other details about the tax payment locations and overall societal contributions.

All of this is accessible to the general public via our website, www.relx.com/go/taxprinciples. They stay in constant communication with tax authorities and take care to make sure they abide by the most recent tax regulations. The expert tax unit, with assistance from outside consultants, handles tax concerns, and they have straightforward and uniform tax rules.

4. **<u>Treasury Policies</u>**

The RELX PLC Board approves the policies for handling treasury risks. The primary policies cover foreign exchange hedging, target fixed/floating interest rate exposure for debt, security of financing requirements, and counterparty exposure limitations. Financial instruments are employed in both transaction hedging and business financing for RELX. The firms within the Group refrain from engaging in speculative investments.

5. **<u>Liquidity and Capital Management</u>**

RELX's goal of maximizing long-term shareholder value is supported by the management of the capital structure, which includes appropriate funding security, easy access to debt and capital markets, affordable borrowing, flexibility to fund business and acquisition opportunities, and the maintenance of appropriate leverage to ensure an efficient capital structure.

Long-term goals for RELX include maintaining a 90% or greater cash flow conversion and credit rating agency indicators that align with a strong investment grade credit rating. These measurements encompass several measures of cash flow as a proportion of net debt and net debt to EBITDA, including and excluding pensions, as specified by the rating agencies.

RELX maintains a strong balance sheet to have access to affordable sources of borrowing while using the cash flow it generates to fund capital expenditures necessary to support organic growth, make strategic acquisitions, and pay a growing dividend to shareholders. Repurchasing shares is done in order to keep the balance sheet running smoothly.

6. Risk Management

a) Relx Plc. processes for identifying and assessing climate-related risks:

The major and significant risks that the Relx is facing, which the board and audit committee have evaluated. The directors have considered the potential impact of climate change on the company, considering the good effects that RELX has on the world by funding research at universities, setting prices for recyclable materials, and allowing customers to access our goods online. Risks associated with climate change are evaluated as part of the RELX risk management procedure.

Formal reviews of risks are conducted every six months. Based on the possible impact on revenue and the probability that the risk would materialize, each risk is given a relevance. The evaluation of transition and physical hazards, as mentioned above and below, is a component of our Environmental Management System. It also evaluates current and new regulations pertaining to climate change. These consist of levies, carbon pricing plans, and more reporting obligations.

b) **<u>Relx Plc. processes for managing climate-related risks:</u>** Accountability for climate change is delegated to critical positions, such as the executive level CFO. The CFO serves as the chair of the environmental checkpoint group, which oversees performance evaluation and monitoring throughout the year. New initiatives are implemented as needed to mitigate physical hazards and transitions associated with climate change.

7. <u>Pensions and Investments</u>

As evidenced by the UK pension scheme's Statement of Investment Principles, the Trustee acknowledges that considering financially significant issues, such as climate risk and ESG, is pertinent at various phases of the investing process. ESG considerations may have a significant influence on both risk and return, thus as long-term investors, the Trustee incorporates them into their decision-making process. The Responsible Investment Policy, created by the Trustee, has been sent to every manager. The Trustees Board organized a special Sub-Group on Responsible Investment and heard presentations from ESG specialists all year long.

The corporate venture arm of RELX, RE Venture Partners, makes investment decisions that take corporate responsibility into consideration. RE Venture has made investments in inclusive content development, environmental education, and sustainable food production.

CHAPTER 4
COMPANY VALUATION

4.1 Dividend Discount Model (DDM)

The Dividend Discount Model (DDM) is a stock valuation technique that determines the intrinsic value of Relx's shares by identifying out the current value of the company's anticipated future dividends. It is predicated on the notion that the total of all projected dividend payments, discounted to their present value, determines the fair value of Relx Plc.

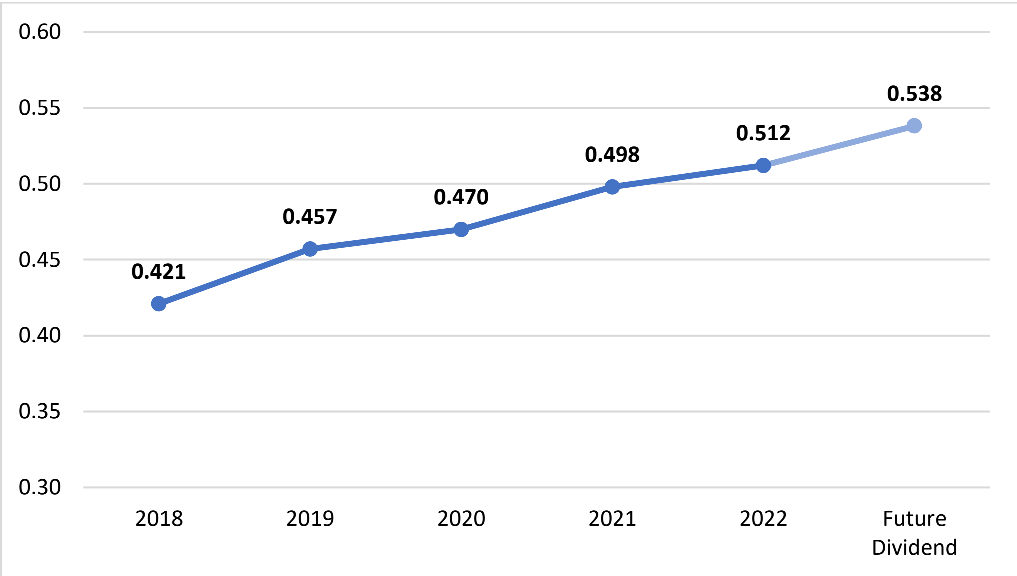


Figure 18: Relx Dividends (£) ***Source: Relx Valuation Excel***

Using the Dividend Discount Model with constant growth assumptions, the computed intrinsic value of REL's shares is around £16.22. Based on the dividend statistics and growth rates supplied, this predicted value indicates what the stock's price would be if the model were to be used. It is crucial to note that this is a simplified model, and actual market pricing may be impacted by a variety of different variables.

The cost of equity (r) for REL is 8.36% based on the formula Risk-Free Rate + Beta x ERP. The future dividend (D_1) is computed by multiplying the previous dividend i.e 0.512 (D_0) by the average constant growth rate and adding one. The intrinsic value is determined using the continuous growth (g) assumptions of 5.04% and the cost of equity.

The formula for calculating the intrinsic value is:

$$P_0 = \frac{D_1}{r-g} = \frac{D_0\,(1+g)}{r-g} \qquad (9)$$

The intrinsic value of REL's shares is estimated to be £16.22. The current market price of £30.40 suggests that the stock is 46.63% overpriced.

4.2 Earnings Model

A technique or methodology used to project or evaluate Relx's earnings is referred to as an earnings model. It's a financial model that assists in forecasting or estimating future earnings for a corporation by taking consideration several characteristics, historical data, and business environment assumptions.

The ability to comprehend and predict Relx's financial performance depends heavily on its earnings model. To forecast future earnings, a variety of financial parameters, industry trends, market circumstances, and internal business dynamics are analysed. Despite this, it's critical to understand that, given the wide range of variables that might impact a Relx's actual performance, earnings estimates are prone to uncertainty and need to be utilised with caution when making decisions.

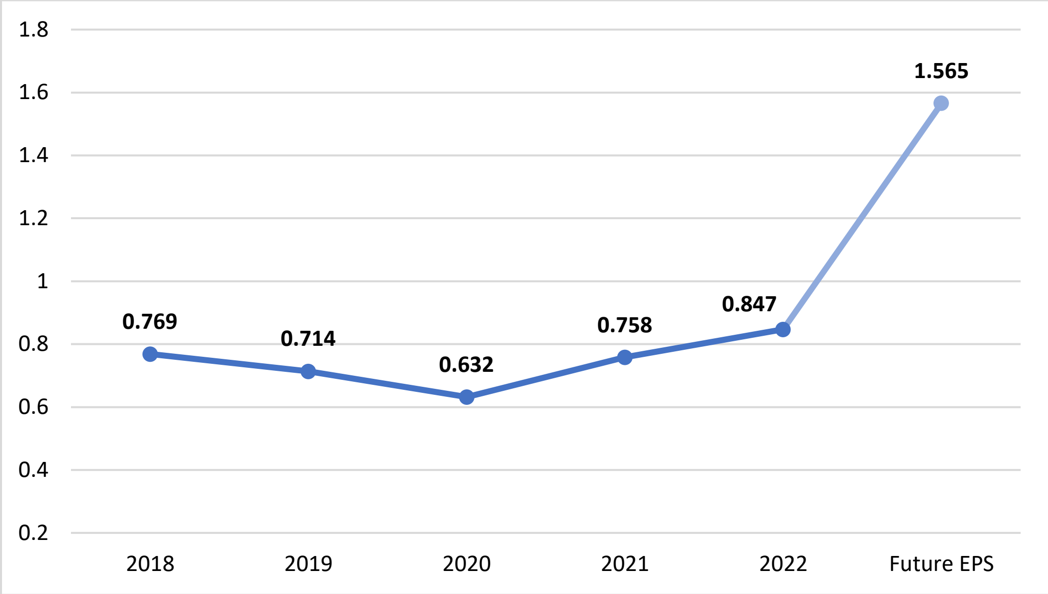


Figure 18: Relx Earnings Per Share (£) ***Source: Relx Valuation Excel***

The return that investors need to keep REL's stock is shown by the computed cost of equity (r), which comes out to be 8.36%. A lower cost of equity indicates a lesser perceived risk or volatility of the stock. Based on the calculation of net income divided by shareholder equity, REL's return on equity (ROE) of 43.53% demonstrates a strong level of profitability. An efficient use of shareholders' equity by the business to produce earnings is indicated by a high return on equity (i), which is typically considered positive. Reinvesting most earnings back into the firm rather than giving them to shareholders is shown by REL's high retention ratio (b), which stands at 92.15%. Growth, expansion, R&D, and other strategic endeavours can be fuelled by this investing.

The following formula can be used to determine intrinsic value:

$$P_0 = \frac{E_1\,(1-b)}{r-ib} \qquad (10)$$

An intrinsic value estimate of £0.39 is assigned to REL's shares. The current market price of £30.40 indicates that the stock is 98.73% overvalued.

4.3 Free Cash Flows Model

In a discounted cash flow model, the future cash flows are discounted to their current value at the discount rate after being initially projected using a cash flow growth rate and a discount rate. The present intrinsic value of Relx Plc is calculated by adding all the discounted future cash flow.

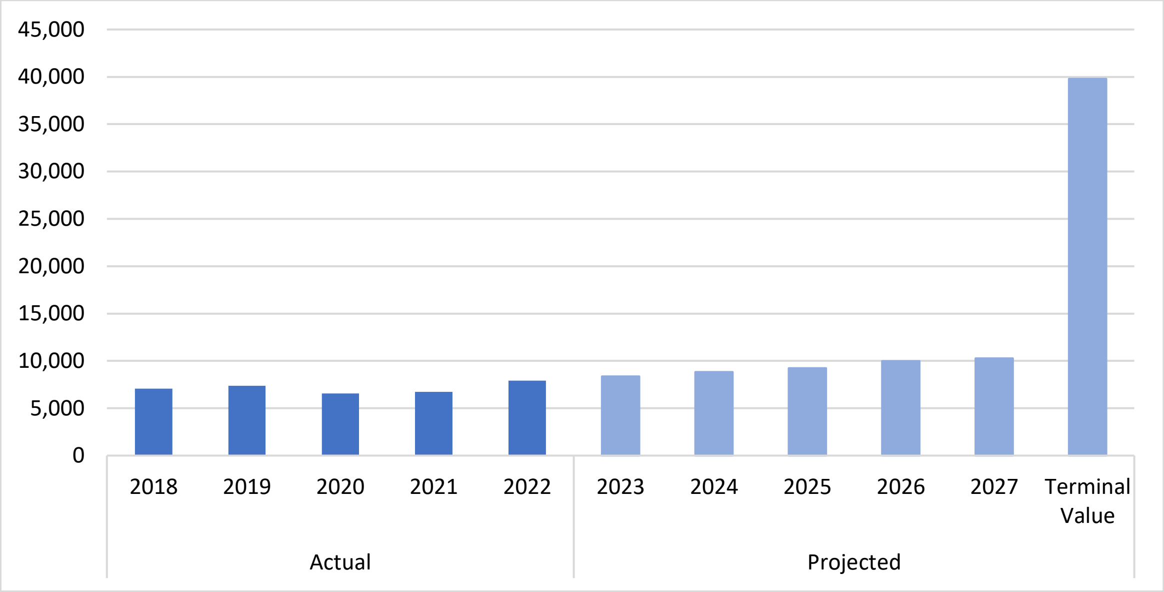


Figure 18: Relx Free Cash Flows (£) ***Source: Relx Valuation Excel***

REL's Cost of Equity is 8.36% based on the formula Risk-Free Rate + Beta x ERP. The current Risk-Free Rate, which is based on the yields on government bonds, is 4.16%. The Equity Risk Premium (ERP), which measures the additional return that investors want above the risk-free rate, is 5.91%. The beta, which indicates the volatility of the company in relation to the market, is 0.71.

The weighted average of REL's cost of debt and cost of equity, after taxes is deducted, is its weighted average cost of capital, or WACC. WACC is currently 6.54%. This comprises the cost of debt, which is 4.36% and represents the interest rate on debt adjusted for tax advantages, as well as the cost of equity, which is 8.36% and is computed as Risk-Free Rate + Beta x ERP.

REL's stock is estimated to be valued at a DCF intrinsic value of £15.94. The stock is 47.56% overpriced in relation to the current market price of £30.40.

4.4 Price-Earnings Multiplier

In finance and investing, the Price-Earnings (P/E) multiple, often known as the multiplier, is a valuation fact that evaluates Relx's stock price in relation to its profits per share (EPS). It facilitates their investors' understanding of the price they are prepared to pay for every pound of earnings produced by a Relx Plc.

Investors are paying around 35 times the company's earnings for each share of Relx. This comparatively high P/E ratio may indicate more market trust in its growth prospects and business stability.

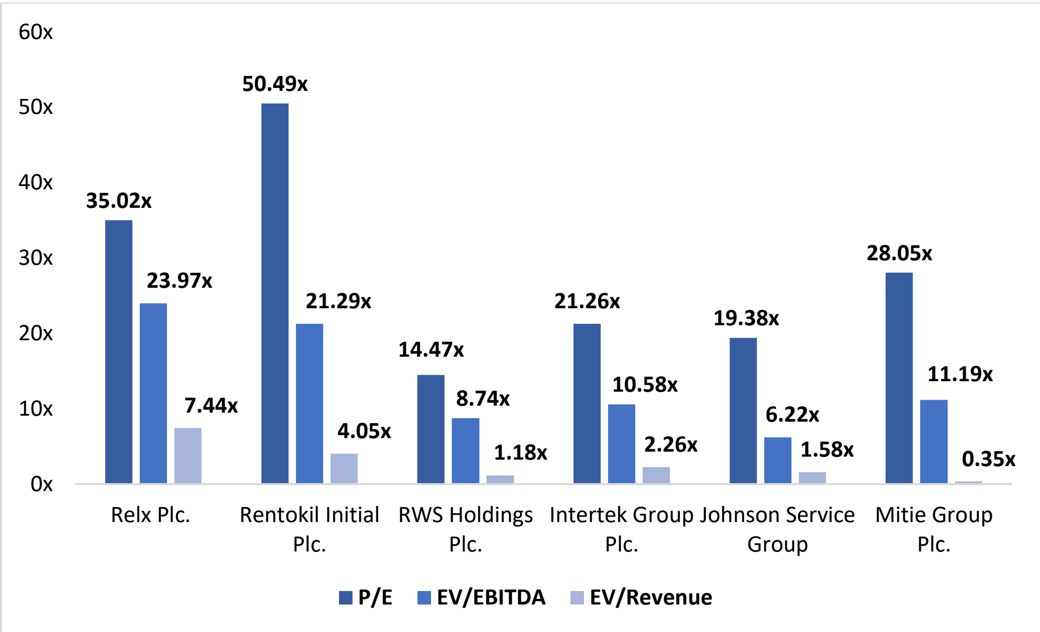


Figure 19: Price-Earnings Multiplier Valuation ***Source: Relx Valuation Excel***

Variations in P/E ratios across firms with identical growth prospects and risk profiles can be caused by a variety of factors, including perceived growth rates, market sentiment, industry dynamics, and even past performance variances. Companies with better growth potential or more steady profitability are typically associated with higher P/E ratios according to investors.

To gain a deeper knowledge of a company's valuation than merely P/E ratios, an in-depth investigation taking consideration of industry characteristics, competitive advantages, and fundamental elements is required.

In the base case scenario, the Relative Value of REL stock is £18.45. Relx PLC is 39.31% overpriced in relation to the current market price of £30.40.

The estimated worth of a stock, as determined by multiples of valuation such as P/E and EV/EBITDA, is called relative value. It provides a brief overview of how a stock is valued in respect to its competitors and historical averages.

4.5 Models Comparison

Table 4.1: Valuation Summary

	Intrinsic Value	*Downside*
Dividend Discount Model (DDM)	£16.22	-46.63%
Earnings Model	£0.39	-98.73%
Free Cash Flows Model	£15.94	-47.56%
Price-Earnings Multipliers	£18.45	-39.31%

Current Share Price: £30.40 ***Source: Relx Plc. Valuation Excel***

In comparison with the current market price of £30.40, it is obvious that all the models indicate that Relx shares are overpriced. It is calculated that the intrinsic value of the company will be £18.45 in line with the Price-Earnings Multipliers model, implying a downside of -39.31% from the current stock price.

The following are potential explanations for the deviations:

1. The intrinsic value that is closest to the current share price is the Price-Earnings Multipliers valuation, suggesting that this is the most accurate one. Compared to the significantly bigger negative predicted by the other models, it has an expected downside of -39.31%.

2. Reasonable values of £16.22 and £15.94 are also provided by the Dividend Discount Model and the Free Cash Flows Model, respectively. The Price-Earnings Multiple, on the other hand, more accurately accounts for growth forecasts and market condition.
3. The anticipated downside of the £0.39 Earnings Model value makes it appear excessively cheap. This implies that the model's assumptions or inputs could be faulty.

Assumptions behind each model:

1. **Dividend Discount Model (DDM):** Depends on desired rate of return and anticipated dividend growth rates. attentive to these presumptions.
2. **Earnings Model:** Probably based on a P/E multiple and profit projections. The extremely low value of £0.39 points to faulty presumptions, such as an unduly negative earnings projection.
3. **Free Cash Flow (FCF):** Requires estimates of working capital, revenue, costs, and capex. More components mean potential circumstances.
4. **Price-Earnings Multiplier:** Makes use of relevant peer-based P/E ratio and real trailing earnings. Less assumptions means that it could be more trustworthy.

Table 4.2: Key Valuation Metrics

Market Cap. (mil)	57,228	Equity Risk Premium	5.91%
Beta	0.71	Cost of Equity	8.36%
Outstanding Shares (mil)	18.83	Cost of Debt	4.36%
Enterprise Value (mil)	63,624	WACC	6.54%

Source: Relx Plc. Valuation Excel

Validity of forecasts: The results of these models are significantly influenced by how accurately the projections are produced. It is essential to make assumptions regarding future growth rates, dividend payments, profitability, and cash flow estimates. Any variation from these projections may have a major impact on the calculation of Relx Plc. intrinsic value.

Discount Rates: Discount rates are frequently used in these models to account for the time worth of money. Because it captures both the investment's risk and opportunity cost of capital, the discount rate selection is crucial. Significant variations in intrinsic value estimations can result from variations in discount rates for Relx Plc.

Growth Rates: When projecting future dividends, earnings, or cash flows, future growth assumptions are essential. Establishing Relx's growth trajectory consistently and accurately is difficult and has a significant influence on the intrinsic value computation.

Risk Factors: Risk assessment is essential to value. Relx Plc. must consider a number of hazards, such as financial, commercial, regulatory, and market concerns. Various risk premiums or modifications may be applied by models, which might affect the Relx ultimate valuation.

It's imperative to take a comprehensive strategy in light of the disparities between the computed intrinsic values and the current market price for Relx Plc. When forming an opinion before making an investment, Relx investors frequently blend several valuation methods, qualitative analysis (e.g., evaluating management quality, market positioning, and competitive advantages), and market perceptions. When analyzing these models and their consequences for investing initiatives, experienced financial advice can also be very beneficial.

Conclusion

Amid the COVID-19 pandemic aftermath, the UK economy shown a combination of resilience and problems. With the help of public health initiatives, financial regulations, and mass immunisation drives, the recovery trajectory showed indications of improvement. Nevertheless, there were still significant obstacles to overcome, chief among them being supply chain interruptions that had ripple effects throughout other sectors, resulting in manufacturing constraints, shortages of products, and increased strain on inflation.

These disruptions, which affected consumer spending and the nation's total economic production, were caused by global issues including rising commodity costs and logistical difficulties. They also presented obstacles for companies and consumers.

The performance of RELX PLC in the UK market demonstrates a combination of adaptation, creativity, and resilience across its many business areas. Operating in key UK industries like science, law, risk management, and exhibitions, RELX has strengthened its position in the market by utilising a creative approach to information-based analytics and decision tools along with a strong portfolio. The firm has demonstrated remarkable financial stability in difficult economic times, demonstrating its resilience to changes in the market and capacity to continue a consistent path. Specifically, RELX's focus on innovation and technology improvements has strengthened its competitive advantage in the UK market and enabled the business to quickly adjust to changing market conditions and client demands.

RELX PLC appears to be overpriced based on valuation criteria. RELX has the potential to underperform the market, as evidenced by its growth prospects and financial stability.

Within the £15.94–£18.45 range, DDM, FCF, and multiplier estimates cluster. For values in that range, cross-validity provides further support. According to the cluster of models, the market price is down by 40–48%. It is crucial to consider the 98% downside outlier from the Earnings Model to be less trustworthy.

Relx Plc's intrinsic values may vary depending on the model used to calculate these valuation estimations. The Price-Earnings Multipliers model shows the highest intrinsic value estimate of £18.45, representing a downside of -39.31%, when taking these estimations into consideration.

Discussion of overall Analysis

RELX PLC's financial statements covering the previous five fiscal years offer a useful summary of the company's financial situation and operational performance. The corporation has seen a consistent increase in sales, rising from £7.492 billion in FY2018 to £8.553 billion in FY2022. Its profits per share (EPS), which have increased throughout the same period, reflect this rise. Operating income did, however, vary despite the rise in sales, hitting a low point in FY2021 and then somewhat improving in FY2022.

The company's capacity to produce cash from its core business operations is demonstrated by the consistently positive cash flow from operational activities found in the cash flow statements. The net cash flow from investing operations did, however, change over time due to large swings in the amount invested and the non-current asset sale. In addition, the cash flow from financing operations displayed volatility as a result of share issue, loan repayments, and other financial activity.

The company's liabilities and asset structure are shown on the balance sheet. The expansion in non-current assets, especially intangible assets, was the main factor behind RELX's total asset increase from £13.999 billion in FY2018 to £15.829 billion in FY 2022. The overall balance between liabilities and shareholders' equity has been impacted by the growth of liabilities, which have mostly taken the shape of trade payables and non-current loans.

Cash and cash equivalents have been consistently increasing, suggesting that the company's financial situation has improved over time. The fact that the company's overall liabilities increased along with its expansion, however, emphasizes how crucial it is to keep an eye on its leverage ratios and debt management procedures.

With its remarkable market capitalization of £58 billion, Relx has a low P/E/G ratio of 2.33 and a P/E ratio of 35.02, suggesting that investors believe the company's earnings growth to be sustainable. With a beta of 0.71, Relx appears to be less volatile than the market as a whole.

Relx also exhibits financial stability, exemplified by its current ratio of 0.59 and quick ratio of 0.53, which both show that it can effectively meet short-term commitments. It is notable that the business keeps its debt-to-equity ratio at a rather high 1.79.

Interpreting the Relx ratios involves comparing them to industry averages, historical performance, and peer companies in the same sector. An analysis that shows RELX with ratios performing better than industry averages or demonstrating improvement over time might indicate favorable financial health and operational efficiency.

Investment Opportunities

Based on an investor's risk tolerance, investment horizon, and more thorough market research, investing in RELX PLC may be viewed differently according to the results thorough financial analysis. Although RELX shows good revenue growth, great profitability, and growing liquidity, there are other factors to consider, such as protracted cash conversion cycles, probable overvaluation in relation to intrinsic value, and liquidity problems.

REL Stock Potential

The performance made towards long-term goals is monitored using RELX's key performance indicators (KPIs). Given the diversity of the end markets, they examine group-level financial measures, corporate responsibility and sustainability metrics, the business's ongoing shift towards electronic distribution, and the growing introduction of electronic decision tools. The pay policy for executive directors may comprise non-financial indicators in addition to those connected to the financial KPIs.

RELX plc's 12-month price expectations throughout the last three months. The expected value ranges from a low of £27.64 to a high of £30.32, with an average price target of £28.98. The projected average price is indicative of a change of 6.56% from the previous price of £30.40.

Throughout the first half of 2023, RELX saw robust growth in both sales and profit. The continuous transition of the company mixes towards higher growth analytics and decision tools that provide their clients across market categories with greater value ultimately contributes to the better long-term growth trajectory.

Analysis Limitations

Although financial statement analysis is a fundamental tool for evaluating a company's performance, there are a few things to keep in mind when analysing the financial statements of RELX PLC. The historical character of financial data, which provides insights into previous performance but does not guarantee future patterns or market circumstances, is one major limitation. Due to the subjectivity of accounting rules and procedures, financial statements may not be as accurate or comparable when different organizations use different reporting strategies, which can have an influence on ratios and numbers. Furthermore, it can be problematic when intangible assets, like intellectual property or brand value, are undervalued because their representation on balance sheets is insufficient despite the fact that these assets are frequently essential to a company's performance.

Analysis is made more difficult by RELX's varied activities across several industries and regions. Financial statements may not give a complete picture of performance across different corporate divisions, which might lead to an oversimplification of the subtleties and complexity inside each one. External variables can have a big impact on a company's operations, but they might not be completely reflected in financial statements, which would limit how comprehensive the analysis is. Examples of these external influences include regulatory changes, economic upheavals, and geopolitical events.

Financial measurements are useful, but they have limitations since ratios and numbers may not make sense without a better comprehension of the dynamics unique to a certain sector and the underlying business factors. Financial statements are also susceptible to fraud and manipulation, which highlights the need of interpreting the data carefully.

It is imperative to complement financial research with qualitative evaluations, industry-specific expertise, and macroeconomic insights in order to overcome these limitations. This thorough methodology enables a more sophisticated comprehension of RELX's financial situation and future prospects. To further reduce the influence of these restrictions on the study and obtain useful views, it might be beneficial to engage financial analysts or consultants with industry experience. This can help make more informed judgements regarding RELX's performance and prospects going forward.

References

1. https://www.goldmansachs.com/intelligence/pages/will-the-uk-economy-keep-up-with-the-rest-of-europe-in-2024.html
2. https://www.investorschronicle.co.uk/news/2023/07/27/relx-still-strong-and-steady/
3. Relx Plc: https://www.relx.com/
4. KPMG UK Economic Outlook: https://assets.kpmg.com/content/dam/kpmg/uk/pdf/2023/09/uk-economic-outlook.pdf
5. A.R Chnar 2018, "Efficiency of Financial Ratios Analysis for Evaluating Companies' Liquidity, Vol.4, pp. 1-14
6. Equity Risk Premium: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html
7. Relx Beta: https://valueinvesting.io/REL.L/overview
8. Risk-Free Rate: https://tradingeconomics.com/bonds
9. Baxter, Nevins D. "Leverage, risk of ruin and the cost of capital." the Journal of Finance 22, no. 3 (1967): 395-403.
10. B Boodhoo, Roshan. "Capital structure and ownership structure: a review of literature." Journal of Online Education, January (2009).
11. Durand, David. "Costs of debt and equity funds for business: trends and problems of measurement." In Conference on research in business finance, pp. 215-262. NBER, 1952.
12. Brennan, M. (1971). A note on dividend irrelevance and the Gordon valuation model. The Journal of Finance, 26 (5), 1115-1121.
13. Bujang, I. (2007) .The relevance of Gordon's model and Earnings multiplier approach in emerging stock Market: Test with appropriate refinements. International Research Journal of Finance and Economics, ISSN 1450- 2887
14. Bulan, L. T., & Subramanian, N. (2009).The firm life cycle theory of Dividends. Dividends and Dividend Policy, Baker KH (Ed.). John Wiley & Sons, Inc.: Hoboken, NJ: 201-213.