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Contents

.....	1
Abstract.....	4
Introduction.....	5
Understanding the Context	5
The UK Scenario	6
London Stock Exchange e Dual-Class Share	6
Policy Statement 24/6.....	8
Dual-Class Share (DCS) versus One-Share-One-Vote.....	9
Hypotheses	12
The First Hypothesis	12
The Second Hypothesis	12
The Third Hypothesis	12
Objectives	12
Problem Statement	13
Research Questions.....	13
Literature Review	14
Normative Research Approach about the topic	14
Common Ownership Theory	14
Modified Herfindahl-Hirschman Index	15
<i>Compile Data on Market Shares:</i>	16
Research Philosophy.....	17
Epistemological Perspectives	17
Objectivism.....	17
Data Strategies	18
Time Horizon	18
Exploring Longitudinal Trends (2020–2024):	18
Cross-Sectional Investigation (2025 and 2026).....	19
Sampling	19
Population Overview.....	19
Sample Selection and Analysis:	19

Selection Criteria:	19
<i>Listed Companies</i>	19
<i>Non-Listed Companies:</i>	20
Limitations and Issues	20
Quantitative Data	20
Qualitative Data	21
Ethical Considerations	21
Point for Conclusion.....	22
Alteration in the Theoretical Framework:.....	22
Economic Challenges:.....	22
Real-World Implementation:.....	22
Effects of Market Concentration:.....	22
Reference List & Appendix	23

Abstract

The study aims to evaluate the implementation of Policy Statement 24/6 among private firms, focusing on its influence on the UK's innovation and technology sectors, particularly regarding dual-class share issuance through Initial Public Offerings on the London Stock Exchange (LSE). It also seeks to understand private companies' views on share issuance and examine potential anti-competitive impacts on publicly traded firms. It uses the economic theory of Common Ownership and the Herfindahl-Hirschman index for analysis aiming measuring the effective anti-competitive that can hinder the attractiveness and competitiveness. Additionally, the research explores the connection between market concentration in innovative/technological sectors and the decrease in listings of such companies on the LSE.

Scholars have employed a critical interpretative methodology to identify obstacles by scrutinising a theoretical framework in Corporate Governance, supported by qualitative evidence. This process entails analysing experiences and results from nations such as the United States, Hong Kong, and Singapore, which advocate modernising stock exchanges by implementing a multiple share system. So, the study employs a positivist methodology to achieve its objectives, using primary and secondary data, including quantitative and qualitative analyses to obtain answers to the hypotheses raised. It applies the economic model above to objectively assess the competitive dynamics on the Main Market of the London Stock Exchange, recognised for its stability and conservative institutional investor base.

Keywords: Policy Statement 24/6; dua-class shares; modernising rules, London Stock Exchange; anti-competitive; common ownership theory; Herfindahl-Hirschman Index

Introduction

Understanding the Context

The dual-share structure stands for a capital arrangement predominantly employed by innovative companies, particularly within the technology sector, to secure funding in the stock market while maintaining the founders' control (Yan, 2021). This model has been strategically selected by several high-tech firms, given its critical role in minimizing shareholder interference. By facilitating multiple voting rights, this structure empowers insiders and management to procure financial resources for innovative projects, thereby preserving long-term objectives (Cao et al., 2020).

The global landscape is witnessing a significant transformation in stock market strategies, highlighted by the rise of diverse capital structures. A prime example is the substantial growth of dual-class share arrangements among companies in the United States, which experienced a remarkable 44% increase from 2005 to 2015 and continues to trend upward (Tech Nation, 2021).

In October 2019, major technology corporations such as Google, Apple, Facebook (now Meta), and Amazon collectively achieved a market valuation of \$4.4 trillion. The financial assets managed by these companies has been substantial, notably when juxtaposed with the gross domestic product of several nations (Reddy, 2020). In 2020, the U.S. Nasdaq Composite Index, which included a range of innovative and technology firms, demonstrated a remarkable growth of 43.64%. At the same time, the Nasdaq 100 experienced an increase of 47.6% during the same period (Macrotrends, 2024). An examination of the global technology sector's performance in the first quarter of 2024 indicated that tech companies successfully generated an impressive \$10.8 billion through Initial Public Offerings (IPOs), with the United States at the forefront of these activities, capturing a substantial share of the total funds raised (Chan and Ernest & Young, 2024).

Extensive research has convincingly demonstrated that corporations have the potential to attract a significant amount of capital from both local and international investors by utilizing the stock market effectively (Reedy, 2020; Cao et al., 2020; Goshen, Z. and Hamdani, 2016). This observation underscores the remarkable influence that the global expansion of technology enterprises has experienced, propelled mainly by prominent technology firms based in the United States. Furthermore, comprehensive data indicates the profound effect of the innovation and technology sector on the overall economy, a phenomenon often referred to as the "Knowledge Industrial Revolution" or "IR 5.0," as noted by Galore-Vila in the year 2023.

As a result, significant financial resources have transformed the global initial public offering (IPO) environment, with the United States leading the way in attracting investments through the NYSE and Nasdaq by implementing adaptable regulatory frameworks (Reddy, 2020). The US and Asian equity markets have strategically utilised this regulatory flexibility to accommodate various companies and improve the competitiveness by expansion of research and development in innovation and technology (Rahman and Howlader, 2022). This approach has fostered a more effective alignment between investors' risk preferences and the influx of new capital.

Considering recent developments, the United Kingdom increasingly prioritized the modernization of its stock market regulations, a strategic move that has arisen as a direct response to the evolving economic landscape. These comprehensive reforms anticipated to significantly invigorate economic growth by ushering in a new phase of development that is predominantly

propelled by the innovative and technologically advanced sectors. This ambitious initiative ultimately culminated in the publication of the 2021 report authored by Lord Jonathan Hill, which is widely recognized as the UK Listing Review.

The UK Scenario

In 2019, "Unicorns" in the tech sector had market capitalizations over \$1 billion. The UK ranked third globally with 77 such firms, yet these companies weren't eligible for Premium Listing, limiting their growth and making them targets for acquisition by larger investors. That year, investment in the UK tech sector reached nearly £10.1 billion, a 27% increase from the previous year. This indicates that liquidity wasn't the issue; rather, the lack of innovative firms in the premium segment and investors acquiring emerging businesses has been the main debate.

During the decade spanning from 2010 to 2019, the gross value added (GVA) produced by the technology sector witnessed an extraordinary and remarkable surge, surpassing a striking 25%. This substantial and noteworthy escalation serves as a clear testament to the sector's lively and dynamic transformation, as well as the ever-expanding array of innovative products and services that it now encompasses and provides to consumers. Within this thriving industry, one can discover a wide-ranging assortment of enterprises that focus on various specialized fields, including, but not limited to, electronics, software engineering, computing technologies, and social networking platforms, along with a multitude of other sectors that fall under the expansive umbrella of information technology.

In 2020, Net Nation report presented data on Brexit's impact on the British economy. Despite the withdrawal agreement's initial turbulence since 2016, some scenarios have drawn foreign investment. The UK ranks among Europe's top tech nations after the US and China, although it lacks listed innovative and tech companies in the public stock market.

The captivating phenomenon has served as a significant motivation for undertaking this research, which aims to uncover valuable insights through comprehensive investigations of existing academic literature, extensive financial databases pertaining to innovative and technological industries, and, most importantly, the regulatory frameworks and their tangible impacts anticipated on the development of the London Stock Exchange.

London Stock Exchange e Dual-Class Share

To fully grasp the British stock market's evolution, investors' participation, and the significant political landscape, it is essential first to comprehend the historical progression of a dual-share structure within the United Kingdom. The UK Stock Exchange, further referred to as the LSE, was founded in 1968, emerging from a formal organization known as 'New Jonathan's' or 'The Stock Exchange,' situated in the historically rich area of the City of London. Throughout its complex history, the English stock market encountered a multitude of challenges, including issues related to trade settlements and defaults, with records of such occurrences dating back to the year 1812, as noted by LSEG Business historical reports in 2024.

The emergence of dual-class shares on the London Stock Exchange can be traced back to the latter part of the 19th century, a significant development that was primarily influenced by the regulatory framework governing stock exchanges. These regulations explicitly stipulated that, in order to adhere to the established guidelines, a minimum of two-thirds of the total value of securities must be made readily accessible through public offerings. Zoe (2018) notably highlighted this crucial requirement, emphasizing the vital importance of transparency and

accessibility within the financial market, which ultimately serves to foster trust and confidence among investors.

During the extensive timeline of the 20th century, a remarkable and significant change occurred with the formation of the Modern Stock Exchange, which carefully and thoroughly established an elaborate framework of regulations for the very first exchange situated in London. Over the course of two centuries, the capital city of England experienced an extraordinary transformation, ultimately evolving into one of the most vital and influential financial hubs on a global scale. In 1986, the launch of the FTSE 100 represented a crucial turning point by facilitating options trading, which encompassed a wide variety of notable national and international companies that complied with the stringent listing criteria set forth by the London Stock Exchange. As we approached the beginning of the first quarter of 2021, it was reported that London had risen to the esteemed position of being the leading destination for capital raising endeavours in Europe, as highlighted by Dialogic in their report published in April 2021.

The British stock market's remarkable success and established credibility have led various international institutions and corporations to actively promote a multitude of mergers and acquisitions involving companies that are either seeking to expand their operations or need additional funding to sustain their ongoing activities. In particular, when it comes to the innovation and technology sectors, venture capital firms have made significant investments. These firms strategically invest in the assets of small and medium-sized enterprises, acquiring a portion of their shares to foster the development and eventual maturation of their core business operations (Reddy, 2020). Typically, the capital for these investments originates from foreign countries such as the United States, France, Germany, Japan, and other investors who find the innovative and technological enterprises in the United Kingdom to be particularly appealing. However, this influx of foreign investment can inadvertently create obstacles for these firms when listing on the London Stock Exchange, limiting their access to the substantial liquidity available in the London Stock Market. Furthermore, institutional investors have strategically employed various methods to significantly bolster their industry influence. This has resulted in the substantial enhancement of their investment portfolios and overall profits. Moreover, they have been known to acquire businesses even before these enterprises reach their full potential, effectively eliminating any possible competition that could arise in the future. Consequently, data from LSE annual report 2020, the number of companies that should be listed has decreased by 40% since 2008, showing the lack of new competition in prospecting liquidity through stock market by Initial Public Offering.

The capital raised through IPOs in worldwide saw a significant increase of 42% compared to 2019, amounting to an added \$55 billion from domestic listings in the financial and technology sectors in the United States and China, which collectively accounted for 257 companies. According to New Financial, the United Kingdom held only 10% of global IPOs in 2006, and this figure dwindled to 5% over the next 12 years, highlighting the diminishing competitiveness of the London Stock Exchange (Financial Conduct Authority, 2017).

Unfortunately, according to data from the Statista website regarding the largest global stock markets by market capitalization, the United States accumulated approximately \$25 trillion on the NASDAQ in 2024. This figure was seven times greater than the market capitalization of the British stock market operated by the London Stock Exchange. Unfortunately, the London Stock Exchange has significantly declined from its previous position of 7th place among the top global stock markets in 2019 to a disappointing 10th place by 2025. This notable decrease has resulted in a substantial reduction of its market capitalisation, which has diminished by nearly an astonishing £600 billion.

The stringent and antiquated nature of the regulations that govern the London Stock Exchange, coupled with the outright ban on Dual-Class Shares, has significantly reduced its attractiveness and competitive stance in the financial marketplace. This particular concern was notably emphasized in the comprehensive report authored by Lord Jonathan Hill, which is commonly referred to as the UK listing review, and was presented to the current government of the United Kingdom in the year 2021. This transformation has proven to be crucial for maintaining a competitive advantage in the increasingly challenging landscape of global Initial Public Offerings (IPOs), as highlighted by Keum in 2020. Consequently, as the marketplace continues to evolve and present a myriad of new challenges, stock exchanges are progressively recognizing the imperative need to adapt their policies in order to effectively attract and retain listings. This proactive approach to policy modification is absolutely vital for ensuring their ongoing relevance and significantly enhancing their chances of success within the rapidly expanding and dynamic global market.

Policy Statement 24/6

In 2021, the UK Listing Review's publication triggered a recognition of the necessity to streamline the registration process and criteria for companies wishing to list their shares on the London Stock Exchange (Hill, 2021). Over the later years, the Financial Conduct Authority engaged in consultations, discussions, and intermediary policies to develop a robust proposal. This proposal, referred to as the regulatory framework for modernizing the London Stock Exchange, came into effect on July 29, 2024, by Policy Statement 24/9.



The Financial Conduct Authority has recently established a new policy that, notwithstanding the various reforms that have been put into place, aims to meticulously strike a harmonious balance between the level of transparency that is bolstered by strong corporate governance standards and the safeguarding of investments in crucial sectors. This policy also takes into account the buyout and takeover activities that took place during the 1980s, as highlighted in the report published by the Bank of England in 1989.

The document PS 24/6 has been strategically designed with the primary objective of enhancing market integrity and ensuring robust consumer protection, which in turn fosters a greater level of trust within the capital markets of the United Kingdom. The Financial Conduct Authority is actively promoting various initiatives aimed at minimizing obstacles for issuers, while simultaneously working to align the UK's listing standards with internationally recognized benchmarks. This alignment is intended to create a more competitive environment for all market participants. By placing a strong emphasis on transparency through the provision of clear and comprehensive disclosures, the framework ensures that investors are equipped to make well-

informed decisions regarding their investments. This comprehensive approach not only supports the growth of the market but also significantly bolsters investor confidence, all while diligently maintaining the financial integrity of the United Kingdom. The theoretical framework that encompasses the concept of dual-class shares has proven to be incredibly significant in facilitating a comprehensive understanding of the various roles played by each component involved. Additionally, it provides a robust structure for analysing the potential conflicts that may emerge between innovative technology companies and their investors. This framework allows for a deeper exploration of the intricate dynamics at play, thereby enhancing our ability to navigate the complexities inherent in these relationships.

Dual-Class Share (DCS) versus One-Share-One-Vote

The notion of share structure is fundamentally anchored in the more expansive concept of multiple-class shares, as highlighted by Brasserie in 2023. In essence, this framework entails a corporation creating various categories of shares, which consequently results in an imbalance of voting rights among its shareholders. The development and progression of dual-class share systems, along with the concentration of voting rights, have emerged as pivotal subjects within the realm of Corporate Governance in academic discussions since the latter part of the 20th century. This particular system is frequently championed by founders or businesses that are family-owned, as they seek to maintain a firm grip on control, limit the distribution of shares to the public, and confine influence to a carefully chosen group of individuals, as noted by Gurria-Martínez in 2021. This approach effectively reinforces both ownership and control, as emphasized by Rosborough in 2024. It is important to consider that this structure is one of the primary factors that attract innovation and technology sectors to the London Stock Exchange, enhancing its appeal and competitiveness in the global market.

Despite this, the regulatory framework that ensures every individual share carries the same voting rights—commonly known as the One-Share-One-Vote principle—has significantly enhanced the fairness and integrity of the transactions occurring within the British stock market. This foundational principle has played a crucial role in promoting equitable treatment among all shareholders, thereby fostering a trading environment that is not only more just but also markedly more transparent. By diligently ensuring that both ownership and authority are evenly distributed across all shares, this regulatory structure consequently offers substantial advantages to the individuals who hold these shares, thereby enriching their overall experience and influence within the market. Individuals or organizations that possess a sufficiently large number of shares can effectively exert influence and guide the company's decisions, thereby exercising considerable control over its operations and strategic direction.

The fundamental discord that exists between the guiding principles of the two distinct frameworks, which are required to operate simultaneously within the intricate dynamics of the London Stock Exchange, has led to various significant obstacles and pressing questions. These challenges, in turn, complicate the relatively straightforward achievement of the objectives outlined in Policy Statement 24/6. This complexity is particularly pronounced when a singular research methodology is employed to tackle these multifaceted issues, making the process even more convoluted and difficult to navigate.

The selection of the subject matter is intricately connected to the comprehension of the regulatory framework that is endorsed by scholars who advocate for an etymological and

subjective approach to the implementation of a dual-class share structure within a conservative stock market environment. This particular market has been experiencing a notable decline in the number of companies listed on international stock exchanges. Nevertheless, a thorough and comprehensive understanding of the modernization of rules, which serves as a crucial factor in enhancing both appeal and competition, is fundamentally based on a robust Corporate Governance approach. This understanding is sufficiently substantial to justify and ensure the competitive advantage that is anticipated from the implementation of Policy Statement 24/6.

Voting Rights and Safeguards

In her comprehensive analysis conducted in 2005, Anabtawi notably underscores the fact that the One Share, One Vote (OSOV) framework has been meticulously crafted with specific mechanisms that are fundamentally aimed at safeguarding the interests of shareholders. This strategic design tends to attract significant investments from substantial investors. These influential stakeholders often wield their considerable power and influence over corporate governance, actively advocating for and promoting the interests of shareholders. However, Lauren Yu-Hsin Lin, in her thought-provoking article entitled “Controlling Controlling-Minority Shareholders: Corporate Governance and Leveraged Corporate Control,” highlights a critical issue: the uneven distribution of economic rights linked to stock shares has surfaced as a major concern within the sphere of corporate governance. This troubling issue continues to persist, even in the face of support from institutional investors who endorse the OSOV structure as a more systematic and organized approach. The stark reality is that controlling shareholders frequently take advantage of their voting rights in a manner that disproportionately benefits them, leading to an imbalance. Consequently, the existing body of literature serves to shed light on the persistent gap that exists concerning the agency conflict that arises from both Equal and Unequal voting rights. Additionally, it examines the protective measures that are currently in place for shareholders, as well as for the Owners or Founders of innovative and technology-driven companies operating within the United Kingdom.

Short-Term and Long-Term Conflicts

A comprehensive investigation conducted by Bradford D. Jordan, Soo Hyung Kim, and Mark H. Liu has demonstrated that the implementation of DCS (Dynamic Capital Structure) can significantly assist managers in mitigating the intense pressures that are often associated with the pursuit of short-term earnings. This, in turn, can promote the creation of long-term value, particularly for companies that encounter substantial initial research and development expenditures. The findings of this study underscore the critical importance of striking a careful balance between granting managerial autonomy and protecting the interests of minority shareholders. While a number of scholars advocate for prioritizing the long-term aspirations of innovators and technology entrepreneurs (as noted by Reddy in 2020, Cao in 2020, and Yan in 2021a), D. Daniel Keum points out that there is frequently a propensity for investors to gravitate towards short-term investment decisions. This inclination often stems from their apprehensions regarding potential risks or losses in the stock market. Such a situation suggests that organizations with institutional investors should ideally concentrate on achieving long-term goals and outcomes. However, in the face of riskier and more volatile market conditions, these companies may find themselves compelled to make decisions that favor short-term gains.

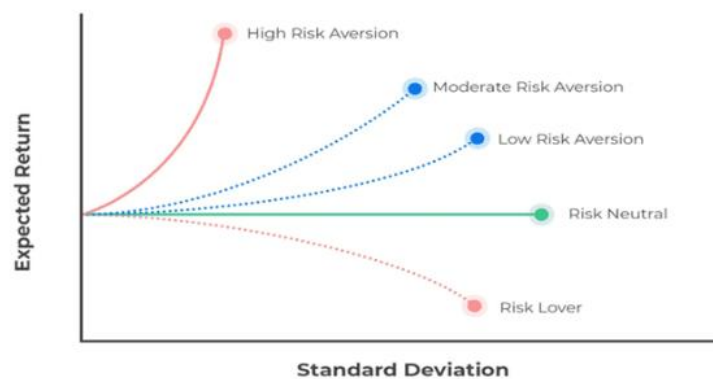
Modern Portfolio Theory

Large corporations, along with institutional investors, actively engage in strategic acquisition practices with the primary objective of significantly enhancing their market influence. This strategic maneuvering not only allows them to broaden and diversify their investment portfolios

but also leads to improved financial returns and an increase in profits for their shareholders, as noted by Backus, Conlon, and Sinkinson in 2021. This approach is in harmony with the principles outlined in Shareholder Theory. Furthermore, the framework of Modern Portfolio Theory is utilized by those who are in pursuit of favorable investment returns, as it effectively provides a balancing mechanism that addresses both risk and competition in the realm of stock market transactions. Consequently, large corporations and institutional investors are motivated to reduce competitive pressures in their stock market activities. This concept, which was originally articulated in Competitiveness Theory, was historically employed by producers and sellers in earlier centuries to ensure a stable and orderly market environment.

In essence, the Modern Portfolio Theory posits that by strategically allocating investments across a diverse array of companies, investors can markedly diminish the inherent risks that are typically linked to stock market investments. At the same time, this approach can enhance the probability of attaining favorable returns on those investments. The advantageous impact of diversification is fundamentally anchored in the core principles of common ownership theory. This theory, in turn, exerts a significant influence on various critical dimensions, including the competitive dynamics that unfold within the stock market, the varying degrees of risk tolerance that investors display, the emergence of new competitors in the marketplace, and the broader economic ramifications that ensue as a result.

Risk Aversion for Different Types of Investors



Hypotheses

This study carefully formulated three separate hypotheses to explore and validate the impact of policy statement PS 24/6 on the London Stock Exchange's appeal and competitive position. To achieve this, the research employed the Common Ownership and the Modified Herfindahl-Hirschman Index systematically and objectively, providing a crucial measure of market concentration and competitiveness within the sector. Furthermore, the investigation aimed to evaluate whether awareness of the modernisation of stock market regulations has enhanced the overall performance of trading shares and Initial Public Offering activities on the London Stock Exchange.

The First Hypothesis

The growing market concentration of UK innovation and technology companies listed on the LSE may lead to anticompetitive effects.

The Second Hypothesis

Institutional investors' common interest in investing in UK innovation and technology-listed companies can influence the entry of new competitors and their ability to remain listed on the UK stock market.

The Third Hypothesis

Regulatory policy (PS 24/6), which permits dual-class shares and simplifies LSE listings, positively influences private tech companies' listing strategies.

Objectives

This research endeavour aims to thoroughly explore and analyse three non-exhaustive hypotheses that bolster the understanding and perception of innovation within the realm of technological industries. The focus of this investigation will be directed towards both companies that are publicly listed on the London Stock Exchange as well as those enterprises operating within the United Kingdom that do not engage in public trading. Furthermore, the study will meticulously assess the influence of regulatory frameworks that promote the implementation of Dual-Class Share (DCS), which in turn serve to significantly enhance the attractiveness and competitive edge of these sectors, as delineated in the regulatory document PS 24/6.

Examine the real impacts of Policy Statement 24/6. This goal centres on comprehensively evaluating the results and effects stemming from Policy Statement 24/6. It seeks to determine whether the policy has positively or negatively influenced the targeted sectors. The examination aims to reveal both the direct and indirect repercussions, considering elements such as industry development, market behaviour, and adherence to the policy.

Assess the extent to which Policy Statement 24/6 has been communicated within the UK's innovative and technology sectors, explicitly focusing on non-listed companies. The objective is to evaluate the effectiveness and efficiency of the dissemination strategies expected by PS 24-6 that inform

these industries. This includes examining the approaches taken to engage stakeholders in the UK's innovative and technology landscape and assessing their awareness and comprehension of the policy. This investigation will highlight any communication deficiencies or opportunities for enhancement.

Examine the perspectives of non-listed firms on the process of share issuance at the London Stock Exchange. This aim centres on comprehending the views and attitudes of non-listed firms concerning the methods and strategies involved in issuing shares at the London Stock Exchange. The study will explore the challenges, opportunities, and obstacles that these firms identify, offering significant insights into their experiences and viewpoints.

Examine the possible anti-competitive repercussions on publicly traded companies resulting from Policy Statement 24/6. This entails assessing whether the policy has fostered or intensified anti-competitive practices among these firms. The aim is to analyse shifts in market behaviours and the competitive environment, emphasizing any instances where the policy may have inadvertently obstructed equitable competition.

Investigate the relationship between market concentration in particular industries and the decline in the number of innovative and technology firms choosing to list on the London Stock Exchange. This research seeks to explore how sector-specific market concentration correlates with the decreasing trend of innovative and technology companies opting for public offerings on the LSE. By uncovering significant patterns and contributing factors, this study aims to clarify the impact of market dynamics and regulatory environments on firms' listing decisions and the overall diversity within the sector.

Problem Statement

The primary difficulty arises from the notably limited amount of research that currently exists, which hinders our ability to thoroughly evaluate the genuine effects of the competitive environment that has been cultivated by PS 24/6 within the innovation and technology sector of the United Kingdom. At the same time, there is a significant absence of scholarly studies that utilize a positivist approach, which is essential for providing objective insights and effectively validating inquiries that are focused on an finance e economic frameworks of theories relevant to the stock market. The issues that have arisen have significantly contributed to the development of inquiries regarding the genuine objectives behind the policies aimed at enhancing attractiveness and competitiveness within the UK stock market.

Research Questions

Could adopting regulatory statement PS 24/6, institutional investors, and market consolidation increase the London Stock Exchange's attractiveness and competitiveness, leading innovation-driven industries to explore dual-class share options?

Literature Review

Normative Research Approach about the topic

The development of the comprehensive framework that underpins the justification for the dual-class structure originates from investigations centred on normative research regarding the subject. Researchers like Reddy (2020) and Cao (2020) have advocated for examining the difficulties associated with the dual-class structure through an epistemological lens. Normative research has focused on assessing, analysing, and contrasting aspects such as quality, value, practicality, and functionality as propose for scholars. Consequently, the insights into a topic and its possible solutions emerge from the assessment, analysis, and comparison of qualitative data, the significance attributed to this data, its practical implementation, and its applicability in real-world contexts.

The explanation of shareholders theory by Anabtawi (2005) when examined through the lens of conflict resolution as articulated by Cao (2020), it becomes evident that the approach only serves to alleviate tensions between the competing interests of corporate control and the fiduciary responsibilities owed to shareholders in a manner that is both empirical and somewhat detached from the broader theoretical framework typically associated with normative research. This suggests that while there may be a momentary easing of disputes, the underlying issues remain unaddressed within a more comprehensive theoretical context.

The current body of research indicates a notable shortcoming concerning the normative approaches utilised to tackle the challenges associated with the London Stock Market's diminished attractiveness and competitiveness.

This inadequacy is particularly pronounced in the strong advocacy for establishing innovative regulatory frameworks intended to validate the adoption of dual-class share structures, as suggested by the guidelines outlined in PS 24/6. Furthermore, academics such as (Rosborough, 2024; Reddy, 2020; Aggarwal et al., 2021) ground their analyses in a specific set of beliefs and assumptions about the evolution of knowledge within this domain in Corporate Governance rules. This foundational perspective compels them to scrutinise the circumstances through a regulatory perspective, a concept in research eloquently expressed by Saunders, Lewis, and Thornhill (2023). The primary objective of their scholarly work is to enhance the interaction between investors and managers during a significant transition in the control and management of assets by regulations, all of which is examined through corporate governance principles.

On the other hand, big corporations and Institutional Investors use takeover strategies to concentrate their control over the sector, increasing their portfolios, returns and profits for shareholders – Modern Portfolio Theory - and eliminating any concurrence – Competitiveness Theory (10). The first step was given, focusing on a regulation framework that supports and unveils benefits for companies that want the credibility of the London Stock Exchange and prospect a high amount of capital (11). Nevertheless, as the market, like all other transactions, depends on the behaviour and strategies of its players, the participation of institutional investors has a fundamental role in making the British stock market competitive.

Common Ownership Theory

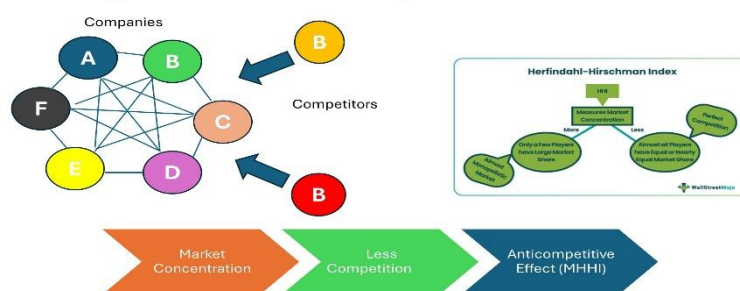
Baku (2021) emphasises that modern investigations into the theoretical framework are designed to elucidate the intricate connections between shareholder and investor ownership of corporate

stocks and the financial environment, which is influenced by a multitude of interests and strategic choices related to various products and services. These elements are meticulously orchestrated with the goal of attaining profitability and securing advantageous economic results.

The use of Common Ownership theory applied to the stock market found similarities in the initial conceptual definition as formulated for Julius Rosenberg in 1984. This theory posits that when substantial investors hold overlapping ownership stakes in rival companies operating within the same industry, it can significantly diminish the motivation for these firms to engage in competitive practices (Battocletti, Enriques and Romano, 2023). Consequently, this lack of competition may result in a notable decrease in innovation and an unfortunate increase in consumer prices, mainly, when combined with the finance theory of Modern Portfolio Theory (Baldrige, 2021) and their mechanisms of improvement stock performance.

When we apply this line of reasoning within the framework of the stock market, we can draw a comparison between shares and consumer products that attract investors due to their specific characteristics. The concept of quality is embodied in the sale of ownership, which is represented through equity, alongside returns that are contingent upon the performance of the company in question. A crucial difference lies in the influence that an investor has on the equity that is symbolized by the ownership certificate associated with a share. In contrast to the more straightforward process of selling a product or service to a consumer, the relationship between an investor and a company is maintained through the significant impact of ownership and the expectations of future outcomes. This dynamic interaction illustrates a complex web of interests that encompasses various elements, including the fluctuating share prices on the stock exchange, the dividends that companies distribute to their shareholders, and the potential for both profits and losses. Additionally, there exists competition that could threaten the performance of these companies, which in turn affects the interests of their shareholders. This

Testing Common Ownership



intricate network of relationships serves as the foundation for the theory of common ownership, underscoring its critical importance in the stock market for understanding market concentration and the anti-competitive risks that could potentially undermine the objectives outlined in PS 24/6.

Modified Herfindahl-Hirschman Index

The Herfindahl-Hirschman Index, often abbreviated as HI, is an important measure designed to indicate the concentration level within a specific industry relative to its total market (Battocletti, Enriques and Romano, 2023). This index is widely acknowledged as one of the most recognised and frequently employed metrics in economic decision-making. In this study, the authors suggest converting qualitative information into quantitative data, which will facilitate market share assessment for publicly traded firms focused on innovation and technology listed on the London Stock Exchange (LSE). Consequently, this methodology will produce an objective

outcome based on probabilities, particularly regarding the anti-competitive impacts that can be evaluated using the Modified Herfindahl-Hirschman Index (MHHI) framework (Backus, Conlon and Sinkinson, 2019).

Compile Data on Market Shares:

Determine the distribution of market share for each innovation and technology firm listed on the London Stock Exchange within its industries. The gathered data refines the portfolio of techMARK Index companies to ensure it is manageable for analysis while encompassing various innovative and technological segments in the UK. This approach illustrates their market shares, ranging from 0 % to 100%. The quantitative data is derived from the companies' sales figures and juxtaposed with the total sales of their respective industries

Convert percentages to decimals by changing the market share percentages into their decimal equivalents. For example, 58% is converted to 0.58, and 21% is converted to 0.21. Aerospace defence industries has five companies and they have such market share percentages 25%, 30%, 20%, 15% and 10% respectively. So, converting them in decimals (0.25,0.30,0.2,0.15 e 0.1)

Herfindahl-Hirschman Index

$$HHI = S1^2 + S2^2 + S3^2 + ... S_n^2$$

S represents the market share of each firm, which is squared and then aggregated with the squared market shares of other firms. For instance, using the data above we can calculate HHI this way.

$$HHI = 0.25^2 + 0.30^2 + 0.20^2 + 0.15^2 + 0.10^2$$

$$HHI = 0.225$$

To facilitate the comprehension of numbers, it is suggested that the result should be multiplied by 10,000.

$$HHI = 0.225 \times 10,000 = 2,250$$

HHI < 1,500	Competitive Market
1,500 < HHI < 2,500	Moderate Competitiveness
HHI > 2,500	High concentration – anti-competitive effect

Economists, policymakers, and regulatory bodies use this index to analyse market dynamics and promote fair competition. To effectively evaluate the degree of market concentration, they meticulously employ a range of specific parameters that provide valuable insights into the competitive landscape. For example, in the Aerospace and Defense sector, the Herfindahl-

Hirschman Index (HHI) reaches a moderate level of 2,250, as indicated by HHI benchmarks. Therefore, to foster a competitive landscape in this theoretical scenario, there is a potential for enhancing competitiveness through various mechanisms, including economic strategies, political actions, or regulatory frameworks.

Research Philosophy

Epistemological Perspectives

The research has taken an epistemological approach. Firstly, in Corporate Governance, the relationships between investors and companies are shaped by the opportunities perceived within the environment and when societal rules are established as a result of agreement between involved parts. To advance a capital prospecting framework such as DCS through regulatory measures and foster a competitive environment within the London Stock Market, it is necessary to challenge conventional research paradigms. This necessity is underscored by the findings of Reddy (2020) and Cao (2020), who emphasize the importance of understanding the researcher's intent.

Considering the above factors, the researchers chose a method that emphasizes societal regulation through dialogue, reasoning, debate, and critically analysing existing conditions to develop grounded solutions. This approach facilitates and encourages a profound transformation in perspective, a concept that Saunders, Lewis, and Thornhill effectively articulate in their esteemed book titled "Methods for Business Students" (2023). As a direct result of this understanding, the foundational trajectory of the research was notably influenced, leading to the incorporation of an epistemological perspective that deeply engages with the subject at hand.

Objectivism

While it is true that subjective realism holds a significant sway over various academic discussions, adopting an objective perspective in research endeavours aims to enhance and expand upon the body of existing studies. These studies predominantly originate from critical realism, which has been notably shaped by the influences of subjectivism and contributions from various scholars in the field. This particular form of subjectivism arises from the intricate dynamics within corporations and the decisions made by stakeholders, who operate based on their individual perceptions and accumulated knowledge about the object. And in a second moment, these decisions are evaluated through established financial and legal frameworks, which are further bolstered and validated by the application of mathematical and economic methodologies. However, the literature review revealed that this research did not adequately test economic theories to effectively substantiate the genuine purpose and impact of dual-class shares on the innovation and technology sectors, especially when these shares are listed on a more conservative stock exchange such as the London Stock Exchange.

In alignment with Kuhn's theory, the paradigm shifts in my research initiates with objectives that emphasize a perspective grounded in the observation of socio-economic realities within the London Stock Market. This approach seeks to assess the current landscape, with the goal of

gathering data and evidence regarding the influence of specific policies, while simultaneously quantifying the impact of the proposed phenomena.

Data Strategies

In the course of this research endeavour, a designed questionnaire comprising twelve closed-ended questions will be employed to systematically collect quantitative data in a structured manner. Following the collection of primary data, a comprehensive analysis will be conducted utilizing advanced SPSS statistical software, which is specifically designed to facilitate an in-depth exploration of the relationships pertaining to hypothesis 03 as delineated in the research framework. This analytical procedure is expected to produce significant and compelling evidence that will thoroughly address and provide insightful answers to the primary research question that has been posed in the context of this investigation.

Quantitative methods:

- Conduct survey using a closed format questionnaire.
- Select 26 innovative and technology companies not listed on the techMARK Index Portfolio.
- Categorize companies by sector of innovation and technology based on those publicly listed on techMARK Index.
- Choose these companies for representing relevant listed firms on the London Stock Exchange.

Qualitative methods

This study aims to deliver in-depth qualitative insights about the MHHI model and seamlessly integrate secondary data that has been meticulously gathered from various scholarly sources, as outlined in the accompanying bibliography. The references that have been identified will serve an essential function in significantly enhancing and robustly substantiating the findings of this research, thereby ensuring a comprehensive understanding of the subject.

- Literature review and references
- Financial statements of companies
- Institutional websites for listed and non-listed companies
- Revenue, market cap, equity data – Yahoo Finance
- Statista market database
- London Stock Exchange spreadsheets and articles
- Beahurst database
- Office for National Statistics

Time Horizon

Exploring Longitudinal Trends (2020–2024):

The primary objective of this research endeavour is to thoroughly investigate and meticulously analyse the intricate relationships and emerging trends that exist between the phenomenon of common ownership, the resultant anticompetitive effects, and the notable decline in the number of companies listed on the London Stock Exchange, with a particular focus extending up to the year 2024. By diligently examining a comprehensive dataset that spans a significant period of four years, this study aspires to offer valuable insights into the complex interconnections and

dynamics that are influencing corporate listings as well as competitive behaviours within the UK market landscape.

Cross-Sectional Investigation (2025 and 2026)

The methodology of employing cross-sectional time entails systematically administering a questionnaire at specific, predetermined intervals—namely, in July 2025 and 2026. This is done with the explicit aim of evaluating and understanding the evolving perspectives of non-listed companies regarding the potential implementation of dual-class shares on the London Stock Exchange. By utilising this particular approach, the intention is to effectively quantify these attitudes, thereby transforming them into meaningful statistical data that can be analysed in detail following the publication of Policy Statement 24/6. This comprehensive analysis will provide valuable insights into the shifts in sentiment within the corporate landscape.

Sampling

Population Overview

The United Kingdom has 7,771 innovative and technology companies as of 2024, according to Beahurst. This includes various specific subsets such as:

- **4,335** high-growth software-as-a-service (SaaS) businesses
- **1,891** artificial intelligence companies
- **1,545** fintech firms

Sample Selection and Analysis:

Utilising a t-test is justified due to several key reasons. This statistical method compares the average values of two independent groups, in this case, innovative and technology companies, whether publicly traded or not. It aligns well with your hypothesis testing goals, focusing on identifying significant differences in independent variables like revenue, market capitalisation, or equity structure between these groups. In smaller sample sizes, the t-test remains effective for detecting mean differences, which is beneficial for your dataset. Using a t-test, you can assess whether the differences in independent variables between listed and non-listed companies are statistically significant, offering insights into how market listing affects company characteristics or behaviour.

Selection Criteria:

The research employs both probability sampling techniques and a stratified sampling strategy.

Listed Companies

The TechMARK Index, which is part of the London Stock Exchange, prominently showcases a carefully curated collection of innovative and technology-oriented companies. This index is composed of a total of 26 distinct firms that are actively engaged in various sectors characterized by cutting-edge advancements and technological progress. Each of these companies plays a significant role in driving forward the landscape of innovation within the tech industry, reflecting the dynamic nature of this rapidly evolving field.

Non-Listed Companies:

This sample focuses on privately held capital firms not traded on public exchanges, particularly those distinguished by their advancements in technology and innovation. The selection of these firms is based on two primary factors: the number of patents they secured in 2023 and their capacity for revenue generation. In total, the analysis includes 26 companies from diverse sectors committed to innovation, underscoring their substantial impact in the industry.

Limitations and Issues

Quantitative Data

Inaccessibility of financial information for privately held companies that are not publicly traded.

Private companies that are not publicly traded do not have to adhere to the transparency standards that govern publicly listed firms. As a result, they are not obligated to share financial data in public disclosures, which limits the availability of crucial quantitative information for research endeavors. This lack of access creates difficulties in evaluating their economic performance, ownership structures, or revenue patterns, which may result in incomplete datasets.

Financial reports have not been released.

Many unlisted enterprises, especially smaller or privately held businesses, often do not prepare formal financial reports for external stakeholders. This limitation hinders researchers from accessing essential financial metrics such as profits, losses, or balance sheet information. The lack of organized data makes it challenging to draw comparisons with publicly traded companies.

Strategic Reports have been restricted.

In non-publicly traded companies, strategic documents outlining long-term objectives, potential risks, and operational strategies often remain confidential. To protect sensitive information from competitors, these firms typically limit access to such reports. This restriction hinders the ability to gain insights into the decision-making frameworks and strategies that influence their financial and operational performance.

Decentralisation of sector turnover and divergences.

In numerous sectors, turnover information is dispersed across various organisations or databases, complicating the obtaining of a unified and trustworthy dataset. This fragmentation obstructs the evaluation of market dynamics and the analysis of how specific policies or practices influence the economy on a broader industry level.

Qualitative Data

Structured surveys were developed aimed at generating quantitative data in tabular format.

Although closed questionnaires are beneficial for producing organised tabular data, they may limit respondents' ability to express their nuanced viewpoints. The lack of open-ended questions can hinder the richness of qualitative insights. Furthermore, creating effective closed questionnaires demands considerable time and effort to guarantee that the questions are clear and aligned with the research goals.

Engagement and feedback from the business proprietor or financial administrator (Ethical Constraint).

- Accessing influential decision-makers, such as business proprietors or financial executives, raises ethical considerations, especially when their involvement requires disclosing sensitive or proprietary data. Concerns about privacy, informed consent, and the potential for coercion on participants to respond may affect the reliability of the gathered information.
- The limitations discussed here underscore the complex difficulties of integrating quantitative and qualitative data in research. These difficulties highlight the necessity of developing alternative research methodologies or utilising a triangulation approach to data sources to tackle and reconcile the identified deficiencies effectively. Unfortunately, the inability to obtain data has hindered more comprehensive analyses using SPSS.

Ethical Considerations

The researchers meticulously emailed questionnaires to designated individuals within each company, following specific instructions provided by the organizations. This thoughtful approach ensured participants' isolation, preventing interactions or meetings and preserving their anonymity and confidentiality. The collected primary data is used for statistical analysis using SPSS software, focusing on aggregated information from the innovation and technology sectors. By avoiding analysis of individual companies or specific datasets, the research emphasised broader trends and insights, providing a comprehensive understanding of the overall landscape in these dynamic fields. Participating organizations explicitly permitted using their data solely for academic research purposes. The researchers strictly adhered to ethical guidelines, maintaining the trust and confidence of all individuals involved throughout the study.

The secondary data gathering was deliberately confined to publicly accessible databases specifically permitted to disclose corporate information to the public. This approach strictly follows the fundamental principles of openness, transparency, and accountability that are actively encouraged among businesses. By following these guidelines, the intention is to ensure that the information shared is available and fosters a sense of trust and responsibility within the corporate sector.

Point for Conclusion

Alteration in the Theoretical Framework:

The primary objective of this research endeavour is to effectively shift the existing theoretical framework, which has predominantly revolved around a contentious debate concerning corporate governance, towards a more comprehensive economic discourse that emphasizes the wider implications of these issues.

Economic Challenges:

Economic theory significantly underscores various challenges that extend beyond mere corporate governance solutions. This emphasizes the critical necessity to effectively address conflicts and enhance accessibility, particularly for innovative and technology-driven industries, within the context of the London Stock Exchange.

Real-World Implementation:

The established framework significantly facilitates thorough investigations into the market's intricate behaviour while simultaneously emphasising the crucial enhancement of both competitiveness and overall attractiveness within the industry as a whole.

Effects of Market Concentration:

Increased levels of market concentration within a specific industry can significantly jeopardise the attractiveness and competitive advantages that regulatory frameworks have previously established and maintained. This situation poses a serious risk to the effectiveness of such regulations, potentially undermining their intended purpose and diminishing the overall vibrancy of competition in the marketplace.

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Manual for Respondents

We appreciate your willingness to engage with this survey. This inquiry aims to gain insights into your views and choices related to corporate governance, awareness of policies, and prospective strategic initiatives, particularly emphasising dual-class share arrangements and reforms in the London Stock Exchange. Kindly ensure you thoroughly review the subsequent instructions before filling out the questionnaire.

1. Purpose and Confidentiality:

- The information you provide will be utilized exclusively for scholarly research aimed at examining corporate methodologies and viewpoints.
- All feedback will be handled with the utmost confidentiality and will solely be examined in a collective manner

2. Question Types:

- Rating Scale Questions: This assessment necessitates that you convey your likelihood assessment using a numerical scale that extends from one to five, where:
 - 1 = Not Likely
 - 2 = Slightly Likely
 - 3 = Moderately Likely
 - 4 = Very Likely
 - 5 = Extremely Likely
- Selection of Options: In response to these inquiries, please choose the most relevant answer(s) from the options presented.
- Open-Ended Questions: Certain inquiries might necessitate further clarification or detail, such as identifying "Other" as a potential source of liquidity.

3. Guidelines for Successfully Executing the Questionnaire:

- Commit to Authenticity: Please ensure that your replies are both honest and precise, drawing from your current insights and the established protocols of the organization.
- Provide Answers to All Questions: Make an effort to respond to each inquiry to ensure a complete assessment. Should a question be inapplicable, please denote it as "N/A" or "Not Applicable."

- Further Explanations: Should you desire to expand upon any of your answers, you are welcome to utilize the designated area or attach a supplementary document.

4. Example for Rating Scale Questions:

Question: How likely are you to require additional capital to expand your operations?

Answer: If you believe it is highly likely, please select option 4.

5. Submission:

- Once completed, please submit the questionnaire by the specified deadline to 2330476@student.uwtsd.ac.uk

6. Need Assistance?

- If you find yourself in need of further explanations or assistance while engaging with the questionnaire, please do not hesitate to reach out to 2330476@student.uwtsd.ac.uk.

NON-LISTED COMPANIES QUESTIONNAIRE

Screening Questions

1. How likely do you think your company's performance will increase over the next two years?
 - ☐ [1] Not Likely
 - ☐ [2] Slightly Likely
 - ☐ [3] Moderately Likely
 - ☐ [4] Very Likely
 - ☐ [5] Extremely Likely
 2. Is it your belief that your firm will require further capital to facilitate its expansion in the coming years?
 - ☐ [1] Not Likely
 - ☐ [2] Slightly Likely
 - ☐ [3] Moderately Likely
 - ☐ [4] Very Likely
 - ☐ [5] Extremely Likely
 3. How probable is it that your company will markedly enhance your investment in research and development over the upcoming five-year period?
 - ☐ [1] Not Likely
 - ☐ [2] Slightly Likely
 - ☐ [3] Moderately Likely
 - ☐ [4] Very Likely
 - ☐ [5] Extremely Likely
 4. What is the primary source of liquidity currently used to sustain your company's operations?
 - ☐ [] Shareholders investment
 - ☐ [] Bank loans
 - ☐ [] Venture investment
 - ☐ [] Own Profits
 - ☐ [] Other (please specify): _____
-

Policy Awareness

5. Has your company been familiar with the recent reforms in the London Stock Exchange aimed at attracting innovation and technology industries?
 - [1] Not Likely
 - [2] Slightly Likely
 - [3] Moderately Likely
 - [4] Very Likely
 - [5] Extremely Likely
 6. Has your company been informed or accessed any information about the Policy Statement 24/6 enabling companies to issue dual-class shares for IPOs on the London Stock Exchange?
 - [1] Not Likely
 - [2] Slightly Likely
 - [3] Moderately Likely
 - [4] Very Likely
 - [5] Extremely Likely
 7. How likely do you think the concentration of decision-making authority with owners, CEOs, and founders might pose challenges in attracting capital through share issuance?
 - [1] Not Likely
 - [2] Slightly Likely
 - [3] Moderately Likely
 - [4] Very Likely
 - [5] Extremely Likely
-

Future Decisions

8. How likely are you to consider sharing voting power with other shareholders as an alternative strategy to raise funds for investment purposes?
 - [1] Not Likely
 - [2] Slightly Likely
 - [3] Moderately Likely
 - [4] Very Likely
 - [5] Extremely Likely

9. What is the probability of your company undertake any research or analysis regarding the potential for issuing shares via an IPO on the London Stock Exchange?
- ☐ [1] Not Likely
 - ☐ [2] Slightly Likely
 - ☐ [3] Moderately Likely
 - ☐ [4] Very Likely
 - ☐ [5] Extremely Likely
10. Has your business been considering the execution of a stock issuance to raise capital through an initial public offering (IPO) in the forthcoming three years?
- ☐ [1] Not Likely
 - ☐ [2] Slightly Likely
 - ☐ [3] Moderately Likely
 - ☐ [4] Very Likely
 - ☐ [5] Extremely Likely
11. Do you believe allowing the issuance of dual-class shares enhances the attractiveness and competitiveness of the London Stock Exchange for innovation and technology companies?
- ☐ [1] Not Likely
 - ☐ [2] Slightly Likely
 - ☐ [3] Moderately Likely
 - ☐ [4] Very Likely
 - ☐ [5] Extremely Likely
12. How likely do you think measures like Policy Statement 24/6 are sufficient to create a compelling and competitive edge for UK stock markets?
- ☐ [1] Not Likely
 - ☐ [2] Slightly Likely
 - ☐ [3] Moderately Likely
 - ☐ [4] Very Likely
 - ☐ [5] Extremely Likely

Revenues of listed companies of TechMARK Index (£)*										
Item	Companies	Sector	Subsector	Business Core	2024	2023	2022	2021	2020	TOTAL
1	Aptitude Software Group PLC - APTD	Technology	Technology	Software - Application	70,044,000	74,685,000	74,394,000	59,330,000	57,266,000	335,719,000
2	Astrazeneca PLC - AZN	Health Care	Health Care	Drug Manufacturers - General	54,073,000,000	45,811,000,000	44,351,000,000	37,417,000,000	26,617,000,000	208,269,000,000
3	Bae Systems PLC - /	Industrials	Industrial Good and Services	Aerospace & Defense	26,312,000	23,078,000	21,258,000	19,521,000	19,277,000	109,446,000
4	Batm Advanced Communications LD - BVC***	Telecommuncitation	Telecommunication	Telecom Services	96,037,073	96,488,610	95,985,287	103,486,550	134,289,058	526,286,577
5	Bt Group PLC - BT/A	Telecommuncitation	Telecommunication	Telecom Services	20,797,000,000	20,681,000,000	20,850,000,000	21,331,000,000	22,905,000,000	106,564,000,000
6	Computacenter PLC - CCC	Technology	Technology	Information Technology Services	6,964,800,000	6,992,800,000	6,470,500,000	5,034,500,000	5,441,300,000	30,903,900,000
7	Dialight PLC - DIA (Mar)	Industrials	Constructions and Material	Electrical Equipment & Parts	226,000,000	148,800,000	169,700,000	131,600,000	119,000,000	795,100,000
8	Flutter Entertainment PLC - FLTR	Consumer Discretionary	Travel and Lesure	Gambling	14,048,000,000	11,790,000,000	9,463,000,000	7,619,000,000	5,264,000,000	48,184,000,000
9	Genus PLC - GNS (June)	Health Care	Health Care	Biotechnology	668,800,000	689,700,000	593,400,000	574,300,000	551,400,000	3,077,600,000
10	Gsk PLC - GSK	Health Care	Health Care	Drug Manufacturers - General	31,376,000,000	30,328,000,000	29,324,000,000	34,114,000,000	34,100,000,000	159,242,000,000
11	Haleon PLC - HLN	Health Care	Health Care	Drug Manufacturers - Specialty & Generic	11,233,000,000	11,302,000,000	10,858,000,000	9,545,000,000	9,892,000,000	52,830,000,000
12	Ncc Group PLC - NCC	Technology	Technology	Software - Infrastructure	429,500,000	335,100,000	314,800,000	270,500,000	263,700,000	1,613,600,000
13	Oxford Biomedica PLC - OXB	Health Care	Health Care	Biotechnology		89,539,000	139,989,000	147,797,000		377,325,000
14	Oxford Instruments PLC - OXIG	Industrials	Industrial Good and Services	Semiconductor Equipment & Materials	470,400,000	444,700,000	367,300,000	318,500,000	317,400,000	1,918,300,000
15	Qinetiq Group PLC - /	Industrials	Industrial Good and Services	Aerospace & Defense	1,912,100,000	1,580,700,000	1,320,400,000	1,278,200,000	1,072,900,000	7,164,300,000
16	Renishaw PLC - RSW	Industrials	Industrial Good and Services	Scientific & Technical Instruments	691,301,000	688,573,000	671,076,000	565,559,000	510,215,000	3,126,724,000
17	Ricardo PLC - RCDO (June)	Industrials	Constructions and Material	Consulting Services	474,700,000	445,200,000	380,200,000	351,100,000	368,700,000	2,019,900,000
18	Rm PLC - /	Consumer Discretionary	Consumer Products and Services	Software - Application	166,143,000	175,886,000	214,167,000	210,900,000	189,000,000	956,096,000
19	Smith & Nephew PLC - /	Health Care	Health Care	Medical Devices	5,810,000,000	5,549,000,000	5,215,000,000	5,212,000,000	4,560,000,000	26,346,000,000
20	Spectris PLC - SXS	Industrials	Industrial Good and Services	Scientific & Technical Instruments	1,298,700,000	1,449,200,000	1,327,400,000	1,292,000	1,336,200	4,077,928,200
21	Spirent Communications PLC - SPT	Telecommuncitation	Telecommunication	Software - Infrastructure	460,200,000	474,300,000	607,500,000	576,000,000	522,400,000	2,640,400,000
22	Sage Group PLC - SGE	Technology	Technology	Software - Application	2,332,000,000	2,184,000,000	1,947,000,000	1,680,000,000	1,560,000,000	9,703,000,000
23	Triad Group PLC - TRD	Technology	Technology	Information Technology Services	14,046,000	14,858,000	17,015,000	17,815,000	19,354,000	83,088,000
24	Vodafone Group PLC - VOD	Telecommuncitation	Telecommunication	Telecom Services	36,717,000,000	37,672,000,000	37,010,000,000	43,809,000,000		155,208,000,000
25	Xaar PLC - XAR (Dec)	Industrials	Industrial Good and Services	Computer Hardware	61,400,000	70,614,000	72,782,000	59,254,000	47,984,000	312,034,000
26	Xp Power Limited - XPP	Industrials	Industrial Good and Services	Electrical Equipment & Parts	247,300,000	316,400,000	290,400,000	240,300,000	233,300,000	1,327,700,000
Total					190,663,783,073	179,427,621,610	172,166,266,287	170,686,954,550	114,766,821,258	827,711,446,777

*Data collected on 30/12/2024 from companies' Financial Statement rand institutional reports

*** Revenues in US \$ converted to £ (currency) of year end of 31/12/2020 and 31/12/2024

o	Company	Patent Count	Privaty	Controlled	Control (Company)	Contro%	LSE Listed	Market Cap
1	Nicoventures Trading (Subsidiary of British American Tobacco)	1,283	yes	yes	Private	75% or more	No	
2	Rolls Royce	911	no	no	Oversea	75% or more	Yes	
3	Dyson Technology	678	yes	yes	Private	75% or more	No	
4	Jaguar Land Rover	457	yes	yes	Private	75% or more	No	
5	Imagination Technologies	440	yes	yes	Private	75% or more	No	
6	Airbus Operations	385	yes	yes	Oversea	75% or more	No	
7	Johnson Matthey	364	no	no	-	-	No	
8	BAE Systems	318	no	no	-	-	Yes	
9	Ocado Innovation	264	yes	yes	Public	75% or more	No	
10	ARM	257	yes	yes	Public	75% or more	No	
11	Envisics	226	yes	yes	Private	75% or more	No	
12	Oxford Nanopore Technologies	50	yes	yes	Public	75% or more	No	
13	Ceres Power	47	yes	yes	Private	75% or more	No	
14	SPTS Technologies	47	yes	yes	Private	75% or more	No	
15	British American Tobacco	46	no	no	-	-	Yes	
16	IQE Plc	46	no	no	-	-	No	
17	Prevayl Innovations	45	yes	yes	Private	75% or more	No	
18	Tokamak Energy Technology	44	yes	yes	people	25% & 50%	No	
19	Deep Render	43	yes	no	people	25% & 50%	No	
20	Gripple	43	yes	no	people	25% & 50%	No	

SECTORS LISTED IN LSE's MAIN MARKET*

Main Stock Market (Technology)	2020	2021	2022	2023	2024
Consumer Discretionary (Consumer products and Services)	57	29	28	27	26
Consumer Discretionary (Travel and Leisure)	74	42	37	36	33
Health Care	105	26	31	28	25
Industriais (Construction and Materiais)	44	21	21	21	19
Industriais (Industrial Good and Services)	231	108	101	100	92
Technology	39	43	41	36	31
Telecommunication	16	14	14	14	13
	435	212	208	199	180

* The sector listed here are the same of the sector listed in TechMARK Index companies.

*Unit from LSE Issuer List referent to Dez 2020/2021/2022/2023/2024

SAMPLE

14%

TechMARK Index Sectors

2024

Consumer Discretionary (Consumer products and Services)	1
Consumer Discretionary (Travel and Leisure)	1
Health Care	6
Industriais (Construction and Materiais)	2
Industriais (Industrial Good and Services)	7
Technology	5
Telecommunication	4
TOTAL	26

Bayesian ANOVA

Bayesian Estimates of Coefficients^{a,b,c,d}

Parameter	Mode	Posterior		95% Credible Interval	
		Mean	Variance	Lower Bound	Upper Bound
Sector = Aerospace&Defense	1.986	1.986	2.551	-1.200	5.173
Sector = Biotechnology	3.000	3.000	7.393	-2.425	8.425
Sector = ComputerHardware	5.000	5.000	80.530	-12.903	22.903
Sector = ConsultingServices	6.000	6.000	10.416	-.439	12.439
Sector = DrugManufactureGeneral	7.367	7.367	.058	6.887	7.847
Sector = DrugManufactureSpecialty	9.000	9.000	.440	7.676	10.324
Sector = Eletrical Equipment&Parts	10.523	10.523	10.447	4.074	16.971
Sector = Gambling	12.000	12.000	.352	10.816	13.184
Sector = InformationTechServices	13.002	13.002	.709	11.323	14.681
Sector = MedicalDevices	15.000	15.000	.851	13.160	16.840
Sector = MedicalInstruments&Supplies	16.000	16.000	51.486	1.685	30.315
Sector = Scientific&Technical Instruments	17.653	17.653	2.485	14.508	20.797
Sector = SemiconductorEquip&Materials	19.000	19.000	10.511	12.532	25.468
Sector = SoftwareApplication	22.041	22.041	1.649	19.479	24.603
Sector = SoftwareInfrastructure	24.000	24.000	10.744	17.461	30.539
Sector = TelecomServices	25.638	25.638	.086	25.053	26.223

a. Dependent Variable: Companies

b. Model: Sector

c. Regression Weight Variable: 2023

d. Assume standard reference priors.

Bayesian Estimates of Error Variance^a

Parameter	Mode	Posterior		95% Credible Interval	
		Mean	Variance	Lower Bound	Upper Bound
Error variance	3146530947.6	4944548632.0	9.779E+18	1819495500.9	12817351136

a. Assume standard reference priors.

Frequencies

		Statistics				
		2020	2021	2022	2023	2023
N	Valid	24	26	26	26	25
	Missing	2	0	0	0	1
Mean		4781950885,8	6564882867,3	6621779472,6	6901062369,6	7626551322,9
Mode		1.336.200 ^a	1.292.000 ^a	17.015.000 ^a	14.858.000 ^a	14.046.000 ^a
Sum		1.E+11	2.E+11	2.E+11	2.E+11	2.E+11

a. Multiple modes exist. The smallest value is shown

Frequency Table

		2020			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.336.200	1	3.8	4.2	4.2
	19.277.000	1	3.8	4.2	8.3
	19.354.000	1	3.8	4.2	12.5
	47.984.000	1	3.8	4.2	16.7
	57.266.000	1	3.8	4.2	20.8
	119.000.000	1	3.8	4.2	25.0
	134.289.058	1	3.8	4.2	29.2
	189.000.000	1	3.8	4.2	33.3
	233.300.000	1	3.8	4.2	37.5
	263.700.000	1	3.8	4.2	41.7
	317.400.000	1	3.8	4.2	45.8
	368.700.000	1	3.8	4.2	50.0
	510.215.000	1	3.8	4.2	54.2
	522.400.000	1	3.8	4.2	58.3
	551.400.000	1	3.8	4.2	62.5
	1.072.900.000	1	3.8	4.2	66.7
	1.560.000.000	1	3.8	4.2	70.8
	4.560.000.000	1	3.8	4.2	75.0
	5.264.000.000	1	3.8	4.2	79.2
	5.441.300.000	1	3.8	4.2	83.3
	9.892.000.000	1	3.8	4.2	87.5
	22.905.000.000	1	3.8	4.2	91.7
	26.617.000.000	1	3.8	4.2	95.8
	34.100.000.000	1	3.8	4.2	100.0
	Total	24	92.3	100.0	
Missing	System	2	7.7		
Total		26	100.0		

2021

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.292.000	1	3.8	3.8	3.8
	17.815.000	1	3.8	3.8	7.7
	19.521.000	1	3.8	3.8	11.5
	59.254.000	1	3.8	3.8	15.4
	59.330.000	1	3.8	3.8	19.2
	103.486.550	1	3.8	3.8	23.1
	131.600.000	1	3.8	3.8	26.9
	147.797.000	1	3.8	3.8	30.8
	210.900.000	1	3.8	3.8	34.6
	240.300.000	1	3.8	3.8	38.5
	270.500.000	1	3.8	3.8	42.3
	318.500.000	1	3.8	3.8	46.2
	351.100.000	1	3.8	3.8	50.0
	565.559.000	1	3.8	3.8	53.8
	574.300.000	1	3.8	3.8	57.7
	576.000.000	1	3.8	3.8	61.5
	1.278.200.000	1	3.8	3.8	65.4
	1.680.000.000	1	3.8	3.8	69.2
	5.034.500.000	1	3.8	3.8	73.1
	5.212.000.000	1	3.8	3.8	76.9
	7.619.000.000	1	3.8	3.8	80.8
	9.545.000.000	1	3.8	3.8	84.6
	21.331.000.000	1	3.8	3.8	88.5
	34.114.000.000	1	3.8	3.8	92.3
	37.417.000.000	1	3.8	3.8	96.2
	43.809.000.000	1	3.8	3.8	100.0
	Total	26	100.0	100.0	

2022

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	17.015.000	1	3.8	3.8	3.8
	21.258.000	1	3.8	3.8	7.7
	72.782.000	1	3.8	3.8	11.5
	74.394.000	1	3.8	3.8	15.4
	95.985.287	1	3.8	3.8	19.2
	139.989.000	1	3.8	3.8	23.1
	169.700.000	1	3.8	3.8	26.9
	214.167.000	1	3.8	3.8	30.8
	290.400.000	1	3.8	3.8	34.6
	314.800.000	1	3.8	3.8	38.5
	367.300.000	1	3.8	3.8	42.3
	380.200.000	1	3.8	3.8	46.2
	593.400.000	1	3.8	3.8	50.0
	607.500.000	1	3.8	3.8	53.8
	671.076.000	1	3.8	3.8	57.7
	1.320.400.000	1	3.8	3.8	61.5
	1.327.400.000	1	3.8	3.8	65.4
	1.947.000.000	1	3.8	3.8	69.2
	5.215.000.000	1	3.8	3.8	73.1
	6.470.500.000	1	3.8	3.8	76.9
	9.463.000.000	1	3.8	3.8	80.8
	10.858.000.000	1	3.8	3.8	84.6
	20.850.000.000	1	3.8	3.8	88.5
	29.324.000.000	1	3.8	3.8	92.3
	37.010.000.000	1	3.8	3.8	96.2
	44.351.000.000	1	3.8	3.8	100.0
	Total	26	100.0	100.0	

2023

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14.858.000	1	3.8	3.8	3.8
	23.078.000	1	3.8	3.8	7.7
	70.614.000	1	3.8	3.8	11.5
	74.685.000	1	3.8	3.8	15.4
	89.539.000	1	3.8	3.8	19.2
	96.488.610	1	3.8	3.8	23.1
	148.800.000	1	3.8	3.8	26.9
	175.886.000	1	3.8	3.8	30.8
	316.400.000	1	3.8	3.8	34.6
	335.100.000	1	3.8	3.8	38.5
	444.700.000	1	3.8	3.8	42.3
	445.200.000	1	3.8	3.8	46.2
	474.300.000	1	3.8	3.8	50.0
	688.573.000	1	3.8	3.8	53.8
	689.700.000	1	3.8	3.8	57.7
	1.449.200.000	1	3.8	3.8	61.5
	1.580.700.000	1	3.8	3.8	65.4
	2.184.000.000	1	3.8	3.8	69.2
	5.549.000.000	1	3.8	3.8	73.1
	6.992.800.000	1	3.8	3.8	76.9
	11.302.000.000	1	3.8	3.8	80.8
	11.790.000.000	1	3.8	3.8	84.6
	20.681.000.000	1	3.8	3.8	88.5
	30.328.000.000	1	3.8	3.8	92.3
	37.672.000.000	1	3.8	3.8	96.2
	45.811.000.000	1	3.8	3.8	100.0
	Total	26	100.0	100.0	

2023

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	14.046.000	1	3.8	4.0	4.0
	26.312.000	1	3.8	4.0	8.0
	61.400.000	1	3.8	4.0	12.0
	70.044.000	1	3.8	4.0	16.0
	96.037.073	1	3.8	4.0	20.0
	166.143.000	1	3.8	4.0	24.0
	226.000.000	1	3.8	4.0	28.0
	247.300.000	1	3.8	4.0	32.0
	429.500.000	1	3.8	4.0	36.0
	460.200.000	1	3.8	4.0	40.0
	470.400.000	1	3.8	4.0	44.0
	474.700.000	1	3.8	4.0	48.0
	668.800.000	1	3.8	4.0	52.0
	691.301.000	1	3.8	4.0	56.0
	1.298.700.000	1	3.8	4.0	60.0
	1.912.100.000	1	3.8	4.0	64.0
	2.332.000.000	1	3.8	4.0	68.0
	5.810.000.000	1	3.8	4.0	72.0
	6.964.800.000	1	3.8	4.0	76.0
	11.233.000.000	1	3.8	4.0	80.0
	14.048.000.000	1	3.8	4.0	84.0
	20.797.000.000	1	3.8	4.0	88.0
	31.376.000.000	1	3.8	4.0	92.0
	36.717.000.000	1	3.8	4.0	96.0
	54.073.000.000	1	3.8	4.0	100.0
	Total	25	96.2	100.0	
Missing	System	1	3.8		
Total		26	100.0		