PRE-EMPTIVE RIGHTS- A THEORETICAL AND EMPIRICAL EXAMINATION[1]

ABSTRACT

The premise for protecting shareholders from dilution, loss of wealth and control through providing pre-emptive rights is that agents may not act in the interests of principals. Proponents of pre-emptive rights emphasize protecting the democratic nature of the limited liability corporation while opponents argue that professional management have greater insights regarding capital formation and growth opportunities. From a financial theory perspective, the argument for protection rests upon whether the cost of debt and of equity reflect capital structure as well as the potential for changes, as ultimately reflected in share prices. Applying financial theory and statistical analysis, we explore if shareholders need protection from dilution, or if the risks are already capitalised into share prices. Our findings and insights cast doubt on the benefits of such protection and the legal basis for compensation.

Key Words: Dilution, Loss of Control, Pre-emptive Rights, Share Issuance

1.0 Introduction

The degree to which existing shareholders are protected from earnings dilution through the issuance of new shares varies according to both governance and regulatory-legal settings. Pre-emptive rights give existing shareholders the opportunity to purchase the shares of a new issue before they are offered to non-shareholders, often at a discount. The rationale for pre-emptive rights is that existing shareholders may see the value of their investment reduced if new shares are sold at a discount, i.e., lower than the market value of the existing shares. In addition, the issuance of new shares, formally a *Rights Issue* or *Rights Offering,* may lead to a loss of control.[2] Although existing shareholders may decline from using their rights to newly issued shares for various reasons including insufficient resources or simply no interest, having the Right of first refusal, is deemed to be beneficial. In some settings, shareholders may sell their rights though corporate bylaws may include Restriction on the transfer of rights or shares. Furthermore, such bylaws may require that shareholders holding pre-emptive rights to first offer their shares to other existing shareholders. If declined, in some settings, rights may be sold to non-shareholders. As a general observation, comparing major capital markets, it may be seen that shareholder protection against dilution and control is weaker in the United States (US) than in the United Kingdom (UK) and European Union (EU) capital markets.

[1] We acknowledge and appreciate the insightful comments of Dr Alison Lui, Faculty of Law, School of Business & Law, Liverpool John Moores University in reviewing our research.

[2] A Rights Offering is an offering to existing shareholders who hold rights entitling them to purchase newly issued shares at discount from the price at which the shares will later be offered to the public (Barrons, 2018).

In the US, the rights of pre-emption by existing shareholders are highly qualified. Initially, this right was recognized by the courts as mandatory. In more recent times, unless specifically granted by corporate charter, most state laws deny a preemptive right. Since the 1930s, pre-emption has been restricted by State Legislation and does not feature in the company law of the State of Delaware where most US companies are incorporated. Further, in many US states, corporations have the right to pay shareholders to waive such claims. Corporations may oppose the validity of such rights unless stated in their articles of incorporation. Where and when such rights exist, US shareholders typically receive a warrant to purchase the new issuance at an incentive price according to a formula based upon their existing ownership. Reflecting the separation of control from ownership, US shareholders place greater reliance upon ex-post litigation or the threat, to redress and protect their interests rather than upon ex-ante rules. Apart from regulated firms like utilities, the popularity of rights offerings has fallen sharply since the 1950s (Eckbo, et al. Chapter 6, 2007). It appears that the threat of legal action to enforce fiduciary duties to shareholders may explain why pre-emptive rights are weaker or difficult to enforce.[3] In the US, the creation of new share capital for the corporation as decided by Directors takes precedence, while the protection of existing shareholders, ex ante, appears secondary. The prerogative of management to sell new shares often at a discount, to the highest bidder gives existing shareholders limited protection (Burgis, 2010).[4]

In contrast, in UK and EU markets we see a greater reliance upon statute law and consequent regulation, to ensure directors respect and protect the interests of existing shareholders. In general, throughout the EU, various Company Law Directives, have accorded greater power to shareholders in deciding the issuance of new shares mandating pre-emptive rights (Torem and Focsaneanu, 1960). Explaining such differences in the EU, shares are often closely held and ownership may be aligned with management, supporting the rights of shareholders. As well, in Europe, we observe greater reliance upon bank lending within capital structure[5]. Providers of credit may also be shareholders and welcome protection from dilution or loss of control. Voting rights according to the classes of shares may also play a role in providing ex ante protection from dilution, though differences between countries exist.[6] Notwithstanding national differences, the European Union and its antecedents have promoted harmonization of such rights and regardless of residual differences in corporate governance and approaches to reconciling principal/agent conflicts (Renders and Gaeremynck, 2011). EU firms must be compliant with the 2017 Company Law Directive. Article 72 of the Directive requires that share issuances for consideration in cash include pre-emption rights, i.e. with the right for the existing shareholders to participate in the issuance

[3] Twenty-three US States have passed Universal Demand (UD) laws to restrict litigation with regard to the alleged mis-use of derivatives in executive compensation. Opinions are divided on the effects of such laws including how they impact capital structure: Downar and Keiling (2019) or Donnelson, Tori and Lust (2021).

[4] Such observations ignore the possible effects of voting rights according to classes of shares. Enhanced voting rights for certain classes of shares, as manifested in a voting right premium, *may* offer a form of *ex ante* protection from dilution while raising agency issues (Masulis, Wang and Xie, 2009).

[5] https://finance.ec.europa.eu/system/files/2016-12/1308-report-who-owns-european-economy_en_0.pdf

[6] According to a World Bank Study countries with legal systems originating in common law protect investors better than those systems based on civil law, especially the French Civil Law (page 2, La Porta, et al. 1997).

in proportion to the capital represented by their shares.[7] France introduced mandatory pre-emptive rights in 1935 (Serpoul, 2013). In Italy, not respecting the rules concerning pre-emptive rights can be a source of liability. Directors can be liable to a corporation or even to a single shareholder for illegally ignoring pre-emptive rights or diluting investment. Today, in both countries, the issuance of new shares requires an *extraordinary* meeting of shareholders and a supermajority is mandated.[8] In Germany, under the Second Company Law Directive an increase of capital must be approved in a shareholder meeting and represents an amendment to the corporate charter.[9]. In Spain, like other EU countries, the decision to increase capital resides with shareholders and is decided in annual meetings although it can be delegated for a period of up to five years. By ensuring share-holder involvement in new issuance, protection from dilution and loss of control is embedded across the countries of the European Union.

Though UK capital markets resemble those of the US in ownership being distinct from control and as well, share Common Law traditions, the protection of existing shareholders through pre-emptive rights resembles the approach found in continental Europe providing stronger protection (Vos, 2023). As formalized in the Companies Act of 1980, protection of existing shareholders from dilution is a touchstone for firms listing on the London Stock Exchange. Directors may issue new shares, i.e. to make a Right Offering, if authorized by the corporate charter as agreed by the shareholders. The maximum number of shares to be issued must be specified and the right can only last for five years. Lord Myners report of 2005 stated that the objective of the right of pre-emption is to ensure protection of shareholders from wealth transfer and erosion of control (Myners, 2005). Though the Company Act of 2006 involved greater alignment with European Union law on the rights of shareholders, uniquely UK rights are separately valued and shareholders electing to *not* use their entitlements, are compensated (Burgess, FT (2010)). As stated in the 2006 Act: 'A company must not allot equity securities to a person on any terms unless it has made an offer to each person who holds ordinary shares in the company to allot to him on the same or more favourable terms a proportion of those securities that is as nearly as practicable equal to the proportion in nominal value held by him of the ordinary share capital of the company.'[10] Further, in the Capital Raising Review of 2022, it was reaffirmed that companies should only be able to issue new shares, make a Rights Offering, in accordance with the wishes of existing shareholders.

Comparing equity markets, in the US we see the strongest separation of ownership from control while in Europe, shareholders often remain influential within the corporation.[11]

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[7] https://www.legislation.gov.uk/eudr/2017/1132/article/72?view=plain#:~:text=Article%2072%20Increase%20in%20capital%20by%20consideration%20in,proportion%20to%20the%20capital%20represented%20by%20their%20shares

[8] In Italy, Section 140 of Civil Code No. 60/1964 Coll Codice Civil was replaced in 2012 by Civil Code No. 89/2012 Coll weakening pre-emptive rights in some situations, (Janku, 2014).

[9] In Germany, to some degree the balance between shareholder protection and capital formation changed with the passage of the Financing for the Future Act (Zukunftsfinanzierungsgesetz) coming into force December 15, 2023, well after the focus of our research.

[10] https://www.legislation.gov.uk/ukpga/2006/46/part/17/chapter/3/crossheading/existing-shareholders-right-of-preemption?view=plain

[11] The prevalence of distinct classes of ordinary shares with different voting rights complicates comparison, however.

In the EU, institutional investors including banks are frequently lenders to the same corporations, facilitating a larger and stronger role. A U.S. company may give pre-emptive rights to all of its common shareholders but doing so is not required under Federal law. Though US shareholders may have pre-emptive rights in the original charter of incorporation, they have minimal control over basic governance decisions (Bebchuk, 2005). Arguably, the US approach emphasizes the *freedom of contract* over top-down regulation, as a protection to shareholders. It might be argued that weak regulation of transferability of rights in the US, acts as a 'safety-valve' though there is limited academic support of this contention.[12] The existence of common shares with enhanced voting rights *may*, ex ante, provide scope for protection (see, footnotes 4 and 6). According to Bebchuk (2005) the weakness of shareholder protection in the US, makes it an anomaly in global capital market governance. Summarising, in the EU and the UK, strong protection of rights through regulation is favoured over the benefits of contractual liberty and ex-post litigation as found in the US.

From a financial theory perspective, the different approaches raise intriguing issues. According to Efficient Market Theory, current prices embody all relevant information including the rights and protection of shareholders and its strong-form whether new share issuance is anticipated (Samuelson, Fama, 1965.) Protection against dilution and loss of control should have a cost and be reflected in share prices. US shareholders appear to face greater risk from dilution and loss of control, raising the question of how it impacts the cost of capital? Might shares without protection feature enhanced return to reflect the greater risk while shareholders with protection from dilution face a lower return? Under the *strong form* of *Efficient Market* theory, share prices reflect all available information including the degree of shareholder protection from dilution as well as the probability of new share issuance. Accordingly, share prices embody the degree to which the wealth of equity holders is protected undermining the case for pre-emptive rights. Under semi-weak forms of market efficiency, share prices embody all public information including the degree of shareholder protection from dilution but not the probability of new issuance. Formally, we are comparing different Pareto Optimal points on the Contract Curve.[13] Alternatively, if markets are inefficient or only *weak form* efficient, today's prices reflect embody the information in historic prices but returns do not incorporate the risks of dilution, making unanticipated redistributions of wealth possible while the cost of capital does *not* take into account the potential for changes to capital structure, i.e. more debt and/or equity. In this research we examine this perennial question by first framing it theoretically and then undertaking comparative empirical analysis of an event, viz., a Rights Issue. We begin in the next section by reviewing the relevant literature followed by presenting relevant theory. In Section 3, we

[12] In the US, shares can generally be transferred between shareholders by written agreement. Company consent is not required unless restriction to transfers have been agreed previously while ensuring compliance with State securities laws. (https://www.dlapiperintelligence.com/goingglobal/corporate/index.html?t=38-restrictions-transferability-of-shares&c=US)

[13] From Welfare Economics, on the Contract Curve the various Marginal Rates of Substitution equal the Marginal Rates of Transformation and equal the ratios of prices. All points are efficient, i.e. no one can achieve a greater level of utility without reducing the utility of someone else. On strict economic grounds there is no basis for preferring one point over another, as addressed in any standard microeconomic text (*Microeconomic Theory,* chapter 13*,* by Layard and Walters, 1978).

introduce our data and proposed methods of analysis with results presented and analysed in Section 4. In Section 5, we interpret our results and concluding with implications for jurisprudence.

2.0 Review of Literature and Theoretical Perspective

Academic research into the role of pre-emption in protecting the interests of shareholders falls roughly into two areas of inquiry. Starting early in the 20th century, legal research on the balance between the protection of shareholders from dilution and loss of control versus satisfying the strategic needs of a modern corporation under professional management. Beginning with the legal perspective, there has been a long history of inquiry. In the law literature, the theme appears in the older works of Berle and Means (1932) or Barnard (1938). According to Morawetz (Harvard Law Review, 1928), pre-emptive rights might have made sense when corporations were simple organisations but with many different classes of shares including preference shares, they become an unworkable means of ensuring that directors behave as fiduciaries. Morawetz maintains that unless shareholders have the resources to purchase the offered shares or at least sell them, how can such a right, have any value? On the other hand, in the view of Drinker (1930), based upon numerous cases, the issue of pre-emptive rights represents the 'democratic position', i.e., protecting the rights of shareholders versus the 'expert' position emphasizing the management of a modern corporation. Regardless of which approach is favoured, Drinker argues good governance demands transparency; corporations must specify explicitly the protections which existing shareholders enjoy. A 1949 study by Adamson in the *Michigan Law Review* argued the importance of shareholders exercising their rights expeditiously as delay may be an obstacle to growth and performance. Introducing the concept of civil liability within the law of Tort, Cline writing in the *California Law Review* of 1952, argued that shareholder protection should be adjusted to the damages incurred. Creating rights without specifying the appropriate magnitude of compensatory settlement, he maintained, was inappropriate and neither served the interests of other shareholders nor the greater corporation.

Mirroring the evolution of case and statute law, litigation or the threat of litigation has as well, played a role in protecting the interests of stakeholders, notably shareholders from loss of wealth and control. In the US and its fifty states, under weak pre-emptive rights in both statute and case law, the courts play a key role. Though in the UK, even with recognised rights of preemption, the possibility of litigation remains important. Writing in the *Cambridge Law Journal (1992)*, Sealy praised the decision by the House of Lords to overturn a decision in which the legality of an agreement between minority shareholders designed to protect their interests, had been denied. In 2005, Lord Myners, in the Department of Trade and Industry Report argued that the objective of the right of pre-emption is to give protection to shareholders from wealth transfer and erosion of control (Myners, 2005). In addition, Lord Myners wrote that pre-emption rights are a cornerstone of UK company law and should neither be removed nor eroded. Further, that the existing legal framework should be protected as it provides sufficient flexibility to permit alternative capital-raising models.

Summarising, the focus of legal research on the role and importance of pre-emptive rights has been on reconciling the interests of shareholders as beneficial owners of the corporation, with the guidance of directors as professional managers on the requirements for commercial and financial performance.[14] It has been argued that the self-serving diversion of resources by management is likely to have a cost (Bebchuk and Jolls, 1999). Further according to Bebchuk (2005) shareholders need more power and should have the right to initiate and adopt rules-of-the game decision to change the corporate charter. Far too long, he maintains, has control over governance as designed to constrain and regulate management, has ironically resided with management. Proponents of pre-emptive rights within the legal framework, see them as a means of protecting the democratic character of the limited liability corporation from the designs of senior management. That management as agents may not prioritise the wishes of principals implies that shareholders need protection from a loss of wealth and loss of control. Meanwhile, some opponents of pre-emptive rights have argued that shareholders do not need protecting; there is no *Agency* problem because the right of contract, including litigation, may ensure alignment with the wishes of principals even if shareholders are of different size or possess different voting rights. Though professional managers as agents might have well-informed views on adjustments to capital structure, the corporation must prioritise shareholders as principles. Arguably, if modifications to capital structure or other changes to control have merit, it behooves management to convince the beneficial owners, the shareholders, accordingly. If shareholders are overly focused upon short-term financial performance, for example, senior management must make a case for strategic investments.

Though financial-economic research on pre-emptive rights partially dovetails with earlier legal research through concerns around the principal-Agent problem, as for example, in the positivist approaches to Agency Theory (Jensen & Meckling, 1976 and Jensen, 1983), the issue is now seen through the lens of modern financial theory. The focus is upon how markets adjust to creating rights or having protection from dilution or loss of control. The premise of financial-economic research is that creating a right is not *free.* Protection might result in a lower return. While if asset prices incorporate the threat of dilution, then having pre-emptive rights, may not matter. Examining pre-emptive rights and the potential for 'trade-offs', however, awaited the development of modern financial theory in the 1950s with the seminal works of Harry Markowitz, Merton Miller, Franco Modigliani and William Sharpe. But it remains curious that the progress of legislation and statute law concerning pre-emptive rights seems to have side-stepped the advances in financial theory. Conferring rights and reducing risk must have a cost, but in legal research as well as legislation, such concerns appear muted. For example, the focus of policy arguments relating to the aforementioned UK Companies Act of 2006, were upon the rationale for protecting shareholder rights and privileges alongside the duties of fiduciaries. Mirroring the role of precedent in common law, it was a partial-equilibrium perspective looking at one market or security putting aside the larger implications. What tradeoffs may exist in creating and protecting such rights, was not discussed. In side-stepping such issues, arguably, it presumes that such rights are not

[14] Notwithstanding corporate priorities, concerns remain that undertaking Rights Issues remains unduly cumbersome impeding capital formation (Ferran, 2008).

capitalised into expected returns. That markets do not adjust. But if protection is capitalised into share price, is it needed?

Research in the field of finance examining effects of corporate actions like issuing new shares, are considerable though how distinct shareholder rights, may impact valuation and market efficiency have received less attention.[15] In the last four decades, there were only three articles in the *Journal of Finance* relating market efficiency to share issuance. Marsh (1979) looked at market efficiency from the perspective of Rights Issues in the UK. He examined whether new share issuance by increasing the amount of equity, has a negative price impact, i.e. whether the potential for dilution was capitalised into share prices. He found no evidence of prices falling post announcement, i.e. the market was efficient with respect to right issuance[16]. In his 1980 article, Professor Marsh examined the efficiency of standby underwriting agreements assuring offer take-up. He found that the additional cost of ensuring the price was equivalent to the value of a put price. Relating governance to corporate actions remains a topical as well though in neither the *Journal of Empirical Finance* nor the *European Journal of Finance* have there been articles concerning pre-emptive rights. In the Journal of the *European Economic Association*, there was one article analysing shareholder agreements in privately held corporations (Chemla, Habib and Ljungqvist., 2007). In the Journal of *Financial Economics* back in 1983, Bhagat examined the effect of pre-emptive rights on shareholder wealth finding that management minimize the cost of new capital to maximize their own wealth. Again, in the *Journal of Financial Economics*, Eckbo and Masulis (1992) investigated how and why firms choose alternate methods of share flotation. They found that wealth transfers between shareholders and outside investors are minimized through underwriter certification. According to the same authors, uninsured rights induce adverse selection effects when shareholder take-up is low and underwriting protection is weak. With the caveat that in the US, the presence of dividend reinvestment schemes for existing shareholders, may reduce the interest in fresh share issuance. Writing in the same journal, Holderness and Pontiff (2016) found that while US firms are not legally required to utilize rights offerings, participation rates or *take-up,* are low. More broadly, these authors found rights offerings are more common in countries in which shareholders are protected against wealth losses through the right of pre-emption.

Though the above financial research is useful and interesting, arguably it does not address the broader, equilibrium implications of alternative pre-emptive right regimes. For example, does having pre-emptive protection matter if share prices reflect such rights as well as the likelihood of new offerings? Mirroring legal research, the equilibrium implications of different degrees of shareholder protection have received minimal attention in financial research. To address this topic, we examine pre-emptive rights of shareholders using received

[15] https://www.jstor.org/action/doBasicSearch?Query=Valuation+Effects+of+Security+Offerings+and+the+Issuance+Process

[16] The subsequent article by Marsh (1982) examined the role of market conditions in deciding between debt and equity issuance.

financial theory and the statistical methods common to event studies. We acknowledge that controlling for other variables or even noise remains a perennial problem.

According to Modigliani-Miller (MM) (1958, 1963) theory, in the absence of transaction costs, information heterogeneity or taxes, the value of the firm is unaffected by changes to capital structure. The cost of debt and of equity adjust to changes to such changes. Further, under *strong-form* market efficiency, respective costs as well *anticipate* potential changes to capital structure.[17] Accordingly, issuing more debt should not change valuation as the cost of debt already anticipates such change. Of course, that does not imply that there cannot be a reapportioning of valuation between stakeholders. Existing equity holders as well as bond holders can charge a rate of return which adequately compensates for such risks. In contrast to MM theory, we have the option theory approach in which *unanticipated* variations in wealth are possible because the cost of debt and equity do not properly anticipate changes to capital structure (Copeland & Weston, page 509, 1992). Markets are at most weak-form efficient. Using the Black and Scholes (BS) (1973) options theory, the equity in a leveraged firm resembles a call option so issuing bonds is equivalent to selling the assets of the firm to the bond holders in return for cash and a call option. The value of the shareholders' position is equal to the discounted value of the bonds plus a call option. If on maturity of the bonds, the value of the firm, V, exceeds the value of the debt, D, or $V - D > 0$, the shareholders will exercise their call option by paying off the bond holders and keeping the difference. If the value of the firm is less than its debt, $V - D < 0$, the shareholders will default on repayment of the debt, deciding not to exercise their options. At payout, the wealth of shareholders (S) and bond holders (B) are, respectively:

(1) $S=Max[0,V-D]$

(2) $B=Min[V,D]$

Thus, when the costs of debt and equity do not take into account the possibility of changes to capital structure, there may be a redistribution of wealth from one class of security holder to another. Looking first at debt holders, if we assume investors hold either shares or bonds and holders of the former are not constrained in issuing more debt, then existing bondholders will experience a loss of wealth when new debt is issued because they cannot demand a higher yield on the bonds they already purchased. [18] Although new bond holders are receiving the return they expected, there is a gain to shareholders through greater leverage which is in effect 'paid' by the loss to current bondholders (Galai and Masulis, 1976).

But what happens when more shares are issued? Does a wealth transfer occur? Offering a simple numerical example, if the issued and outstanding shares were one-hundred and if a shareholder held 10% or ten, then to prevent dilution, the pre-emptive rights would entitle the same shareholder to purchase 10% of new shares.[19] Even without a discount on

[17] Paradoxically, under MM Theory and strong-form efficiency, would it imply that WACC should never change with alterations to capital structure as it already anticipates the probability of such changes?

[18] If investors held *both* debt and equity in the same corporation, then changes in their market value would not change their wealth position.

[19] See Appendix 1 for an example of how a Rights issue may dilute earnings of existing shareholders depending upon pre-emptive rights, the discounts on new shares and the degree of take-up.

new shares, the existing shareholders are protected from dilution in structuring a Rights Issue, firms must decide how many rights will be required to purchase a newly issued share, what is the value of each right, as well as the discount (if any) to analyse the effect upon the prevailing share price. So, with pre-emptive rights, the dilution impact depends upon the discount at which new shares are issued and the degree of take-up or participation (Holderness and Pontiff, 2016, Eckbo & Masulis, 1992, Myers & Majluf, 1984). If subscription rights are priced at a discount to the market price, there will be wealth transfers from those shareholders who do not participate to the shareholders who do participate.[20] The magnitude of wealth transfer is attenuated by shareholder take-up. The larger discount and the smaller the take-up, the greater the wealth transfer between existing and new shareholders. We can measure wealth transfer before and after the share trades ex-right, using the equations of Holderness and Pontiff (2016):

(3) $$Wealth\ Transfer\ as\ \%\ of\ Funds\ Sought\ = \frac{\%\ Non{-}Participation\ x\ Total\ subscription\ shares\ x\ (Market\ Price{-}Subscripton\ Price)}{Shares\ Offered\ x\ Subscription\ Price}$$

(4) $$Wealth\ Transfer\ as\ \%\ of\ Firm\ Value = \frac{\%\ Non{-}Participation\ x\ Total\ Subsciption\ Shares\ x\ (Market\ Price{-}Sub.\ Price)}{Market\ Capitalisation}$$

If shareholders lack pre-emptive rights as in the US, then participation or take-up is by definition zero, so the amount of wealth transfer depends entirely upon the difference between the market price and the discounted subscription price at which the new shares are sold and how many shares they may have been acquired.[21] In markets where existing shareholders have pre-emptive rights and they fully participate, a wealth transfer to new shareholders is avoided and they are protected against the value of their ownership being diminished.[22] To the extent that existing shareholders with rights choose to *not* participate or take-up, according to the magnitude of the discount, a transfer wealth to new shareholders occurs. Although the number of shares will have increased through new issuance, by receiving a pro-rated proportion according to their ownership, existing shareholders are protected against dilution of their earnings. To the extent that an existing shareholder is purchasing new shares below the prevailing market price, the value of one right may be calculated from the discount divided by the number of rights needed to purchase one share.[23] In effect, an existing shareholder with rights has a put option protecting the market value of his/her position from the effects of dilution as represented in the pay-off diagram below. The greater the discount, i.e. the lower the strike price, the more the option is in-the-money:

[20] This explains the recommendation for shareholders to participate in a right offering by exercising their rights; by selling their rights if the offering is transferable; or, if the offer is non-transferable and they do not wish to participate, then selling their shares *before* it goes ex rights. Further, the market may negatively respond to larger wealth transfers (Holderness and Pontiff, 2016).

[21] Such discounts are typically 15% to 20%. Westaway, K. (2023). Contributions//ww.forbes.com/sites/kylewestaway/2023/01/10/what-founders-need-to-know-about-convertible-notes-discounts-caps-and-more/

[22] The model is consistent with the Eckbo and Masulis model of 1992. If share prices are not guaranteed/insured (underwritten), the take-up is zero and all shares are sold to outsiders, this is a worst-case for wealth transfer.

[23] $$Value\ of\ one\ right = \frac{Market\ value\ of\ shares,\ \ cum\ rights{-}Subscription\ price}{Number\ of\ rights\ required\ to\ purchase\ one\ \ share}$$

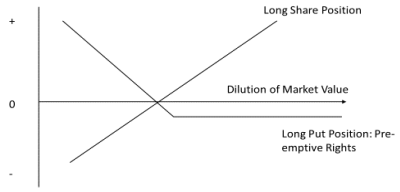

Figure 1 Pay-Off Diagram of Long Share and Long Put

Can we observe differences in how share prices respond to a Rights Issue event under different legal settings and do they support a MM theory in which the risk of changes to capital structure are already priced into the cost debt and equity or the BS theory that changes to capital structure are not anticipated? In the MM theory, regardless of the regulatory regimes with or without strong protection of existing shareholders from dilution, a Rights Issue event should have no impact. Under strong-form market efficiency, if the risk of dilution is already included in the cost of equity, the MM position, then notwithstanding different regulatory settings, the share prices upon announcement event, should be unaffected. Different regulatory settings represent different points on the Contract Curve; equally efficient, but are not comparable under *Positive* economic methods. Alternatively, if changes to capital structure are *not* anticipated, the BS proposition, then we should see a different response according to the regulatory setting: With weak shareholder protection, shares prices should fall reflecting the impact of dilution.

The above observations based upon received financial theory address if potential changes to capital structure are capitalised into share prices and how shares prices respond to a Rights Issue event. The protection of existing shareholders found in certain legal-regulatory settings, may come at a 'price' such as lower risk and lower returns. Under MM theory, if the risk of wealth transfer is already priced into share prices, i.e., changes to capital structure do not impact valuation- the return to equity includes this risk. In regimes lacking shareholder protection through pre-emptive rights, if the risk of wealth transfer as per equations 3 and 4, is priced into the capitalisation of shares, then presumably, shareholders might enjoy higher compensatory return. In either case, the announcement event should yield no impact on share price. Alternatively, if changes to capital structure are not anticipated as per the Black & Scholes theory and a Rights Issue were announced, then in a regime with weak shareholder protection, the return to equity is insufficient; according to the extent of wealth transfer and the share price should fall, as per Capital Asset Pricing Theory (CAPM).[24] While in regimes with strong protection, the share price should not respond to the event even

[24] As conjecture, shareholders knowing that changes to capital structure cannot be anticipated, bounded rationality, might demand greater return than under weak protection. Indeed, there might be a continuum in which the potential for small changes conform to MM theory while for the risk of larger share issuance, an unanticipated BS effect dominates raising questions on the degree and nature of risk aversion (Pratt, 1964) and the share price reaction of larger wealth transfers observed by Holderness and Pontiff (2016). (See, footnote 25, below.)

though it was not anticipated. Formalising our inquiry, we investigate the following two alternative propositions:

A. The cost of equity includes the threat of wealth transfer making shareholder protection through pre-emptive rights of no consequence. Neither share price nor returns respond to a Rights Issue event.
B. The cost of equity does not include the threat of wealth transfer: Share-holders with pre-emptive rights will see no change to share prices or their returns upon announcement *while* shareholders in markets lacking pre-emptive rights will see share prices and/or returns fall upon a Rights Issue event.

3.0 Data and Methods

To examine the propositions raised at the end of Section 2 and to address whether pre-emptive rights are useful in protecting the value of shareholding, we undertake an event study of how share prices respond on announcement of new share issuance. Event studies are a widely used tools in financial research having the objective of learning how market metrics like prices or returns respond to a well-defined event. Events are commonly related to the release of information or specific corporate actions which in our work concerns announcement of a Rights Issue. In addition to controlling for other variates, the challenge in event studies is to separate the effects of a specific event upon key metrics like share prices or returns, from general trends affecting all firms. In our analysis we examine both price changes post announcement with and without controlling for random variance as well as key financial metrics, like return to equity.

In measuring the impact of an event, a common procedure involves measuring excess returns although what is a 'normal' return may change due to the event, displaying 'reverse causality', i.e. endogeneity in which the error term is correlated with independent variables (Eckbo, 2009). The effects of events may also persist over several days, complicating measurement of the effects. We look at the effects of a new share issuance announcement by comparing the day prior with the day of announcement as well prices two days earlier with the day of announcement. Further, we are not looking to see if share prices responded to the event or whether returns have changed, but rather whether the responses observed in the three markets are different and if the differences are statistically significant. We use the procedures as found in other event studies going back to the work of Ball and Brown (1968) Fama Fisher, Jensen and Roll (1969) or Brown & Warner (1985). As shown in Table 1, using the data downloaded from Bloomberg®, we analyse if the distinct approaches to governance and the protection of shareholders of the three markets, EU, UK and US, are manifested in the aforementioned metrics.[25]

[25] All Rights Issues by dates and company abbreviations ('tickers') are found in Appendices II, III and IV. We note that the frequency of Rights Issues, per month, in the UK and EU are comparable. To have a comparable size data base, for the USA a longer time period is required as the frequency per month is about 60% less. Notwithstanding a comparable number of listed companies for the EU and UK, rights offerings are less popular in the USA (Eckbo, 2007) suggesting avenues for future research regarding feed-back effects of the weaker protection available to shareholders. EU Offerings are from the many European Exchanges including but not limited to those under Euronext (France (Euronext Paris), the Netherlands (Euronext Amsterdam), Belgium

RIGHTS ISSUES-OFFERING	OBSERVATIONS	DATES	DATA SOURCE
EU Rights Issues	150	29-6-2017 to 28-09-2017	Bloomberg Corporate Action Calendar
UK Rights Issues	102	05-01-2010 to 06-07-2011	Bloomberg Corporate Action Calendar
US Rights Issues	108	6-1-2010 to 27-5-13	Bloomberg Corporate Action Calendar

Table 1 Rights Issue Data

We compared closing prices *prior* to and *upon* the announcement date of Rights Offering to see the response to the threat of a wealth transfer. Further, under CAPM, given the systematic risk of enterprise, as measured by beta, the announcement of a Rights Issue, should negatively impact the expected returns; then accordingly, ceteris paribus, the price should fall until the return reverts to the security market line, i.e., one is paying *less,* the share price, to earn the same projected earnings. Provided the beta is unchanged and the required return is unchanged, then under MM theory and strong EMH, proposition A holds and the cost of capital reflects the risk of dilution and the share price should be unchanged. Alternatively, Proposition B, if the Rights Issue and dilution come as a surprise, then share prices should fall reflecting the extent of wealth transfer from existing shareholders and any perceived negative impact from a loss in control.

Expanding upon our methods, through examining share prices before and after the event, we investigate if the possibility of a Rights Issue/Offering as an event is already priced into the expected returns, the MM position, or whether it was unanticipated- the BS position. If according to the MM theory and under strong-form market efficiency, then apart from random noise, there should be no difference in how prices respond between equity markets with varying levels of shareholder protection: Controlling for noise, share prices should not move as the return is adequate given the *anticipated* risks, as per CAPM. [26] If Rights Issues were *not* anticipated, at most weak-form market efficient, the BS position, then, in regimes without protection, share prices should fall, as per the CAPM until return is restored to the Security Market Line. Alternatively, if protection from dilution and loss of control applies, notwithstanding that the Rights Issue is unanticipated, returns should be unaffected, leaving share prices unchanged. In this regard, to control for random price variability, noise, we provide both adjusted and unadjusted results. These results and tests of their statistical significance appear in Section 4.

Though we use the CAPM framework focusing upon price adjustments to examine the effects and importance of pre-emptive Rights Issues, we have also considered whether protection through pre-emptive rights against unexpected wealth transfer has a *cost*. Under the premise creating a right is not free, in markets where rights of pre-emption are strong and

(Euronext Brussels), Ireland (Euronext Dublin), Portugal (Euronext Lisbon), Italy (Borsa Italiana) and Oslo Børs) as well as Deutsche Börse (Frankfurt Stock Exchange/Xetra), SIX Group (SIX Swiss Exchange and Bolsas y Mercados Españoles) and other national stock exchanges of individual EU countries.

[26] We note in the study by Pathak and Gupta, (2018) a similar approach of comparing prices before and after was undertaken although their focus was upon informational asymmetry.

protection from dilution exists, we might see a lower return. In this regard, we have examined the following financial metrics for the respective groups of shares before and after the issuance. Metrics are compared and their statistical significance appears in Section 4.

RISK AND PEFORMANCE METRICS EXAMINED FOR RESPECTIVE RIGHTS ISSUES/MARKETS
Return on Common Equity
Return on Capital
Risk Premium
Weighted Average Cost of Capital
Adjusted Beta[27]

Table 2 Risk and Performance Metrics

There are limitations in our data set and research. In addition to aforementioned control issues, the number of observations in each data set reflects the available corporate action calendar of Rights Issues occurring over approximately similar time frames. Each data set, we note, exceeds the number required to assume parametric normalcy. Comparing the different markets, a Z-test was run to test for differences in means, as shown in Table 6. Further, we use share prices and data of firms which have remained listed. A further concern is that the size of a Rights Issue in relation to both issued share capital and to floating shares (the number of shares that a company has issued for general trading) varies. In one situation the volume of shares in a Rights Issue might be very small and notwithstanding the weak protection of existing shareholders, reducing the wealth and dilution impact to shareholders given many other factors (Hess and Bhagat, 1986).[28] In other situations, the volume of shares in a Rights Issue might be very large and because of weak pre-emptive rights, the existing shareholders may face a large potential loss in wealth in relation to their holding. *A priori*, the relationship may be neither linear nor proportionate. Lastly, regardless of assumptions upon either robustness or conformity with classical statistical assumptions, we acknowledge that statistical inquiries, cannot *prove* a theoretical proposition but merely present inductive support.

4.0 Results and Analysis

Starting with results in the aggregate, looking at the impact of a Rights Issue event, we see in Tables 3, 4 and 5 how the average share prices upon announcement of a Rights Issue changed compared to before the event. Like other research, we compare the day before the announcement and a versus the day of the announcement as well as comparing the announcement day with prices two days prior. For the EU sample we see average prices fell upon announcement 5.81% or 5.77% if we control for random variability in prices. For some

[27] As historic betas may have mean reverting properties; to be forward looking, we use Adjusted Beta (Echterling and Eierle, 2015).

[28] Applying the *Free Float Impact Ratio,* as used in other research might be a useful means of controlling for the size issues (see, Le, H. and Gregoriou, A. (2022), "Liquidity and asset pricing: evidence from a new free-float-adjusted price impact ratio", Journal of Economic Studies, Vol. 49 No. 4, pp. 751-771. https://doi.org/10.1108/JES-04-2021-0182)

shares, reactions to prices upon announcement were quite large as shown by other price figures and the standard deviation.

EU RIGHTS ISSUES		
METRICS – AVERAGE PRICES	**NO CONTROL**	**CONTROLLED FOR RANDOM VARIABILITY**
PRE VS ANNOUNCEMENT DAY PRICE CHANGE	-5.8063%	-5.7703%
PRE (-2) VS ANNOUNEMENT PRICE CHANGE	-4.1159%	-4.1152%
MAX PRE VS ANNOUNCEMENT DAY PRICE CHANGE	160.9438%	160.4693%
MIN PRE VS ANNOUNCEMENT DAY PRICE CHANGE	0.0000%	0.0034%
STDEV OF PRE VS ANNOUNCEMENT DAY PRICE CHANGE	22.7404%	22.6488%

Table 3 EU Share Price Movements upon Announced Rights Issue

Turning to US Rights Issues, where share holder protection from dilution is weak, the average change not controlled for variability was -4.27% and 4.25% controlled. The variation in changes were slightly smaller compared to shares traded in EU markets. Like the EU share markets, upon announcement share prices fell.[29] In issuing new shares, whether this suggests that other metrics may have changed, we will consider below.

US RIGHTS ISSUES		
METRICS	**NO CONTROL**	**CONTROLLED FOR RANDOM VARIABILITY**
PRE VS ANNOUNCEMENT DAY PRICE CHANGE	-4.2719%	-4.2482%
MAX PRE VS ANNOUNCEMENT DAY PRICE CHANGE	33.9020%	32.9125%
MIN PRE VS ANNOUNCEMENT DAY PRICE CHANGE	-60.1120%	-55.9613%
STDEV OF PRE VS ANNOUNCEMENT DAY PRICE CHANGE	14.8423%	14.0997%

Table 4 US Share Prices Movements upon Announced Rights Issue

Unlike the US and EU shares, UK share prices upon Announced Rights Issues, rose slightly by 3.54% or 3.48% controlled for random variability. Some other differences and comparisons with the EU and US may also be observed.

UK RIGHTS ISSUES		
METRICS – AVERAGE PRICES	NO CONTROL	CONTROLLED FOR RANDOM VARIABILITY

[29] Such a result might be used in support of the non-equilibrium signalling hypothesis of Ross (1977) and subsequent research arguing that raising additional capital might be perceived by the market as indicative of growth opportunities.

PRE VS ANNOUNCEMENT DAY PRICE CHANGE	3.5443%	3.4750%
MAX PRE VS ANNOUNCEMENT DAY PRICE CHANGE	76.2396%	76.1037%
MIN PRE VS ANNOUNCEMENT DAY PRICE CHANGE	-42.3966%	-42.1848%
STDEV OF PRE VS ANNOUNCEMENT DAY PRICE CHANGE	15.8239%	15.7520%

Table 5 UK Share Prices upon Announced Rights Issue

To assess the above results, we conducted Z-Tests (shown in Table 6) to see if the observed differences in means were significant. Curiously, while the difference between the US sample and the EU sample is not significant, the difference between European Union data and United Kingdom data is significant even though they involve share markets in which pre-emptive protection, is strong. The differences in means between the US data and UK data is statistically significant at the 95% level, with rounding.

Z - TEST FOR DIFFERENCES IN MEANS				
COMPARISONS	**Z-Value**	**Z one-tail**	**Z two-tail**	**Interpretation**
US vs. European Union Data	-0.3672	0.3567	0.7135	Difference in means is not significant at 95%
European Union Data vs UK Data	-2.7533	0.0030	0.0059	Difference in means is significant at 99% percentile
UK vs USA Data	-1.5970	0.0551	0.1103	Difference in means is significant at 94.49%

Table 6 Z-Test for Differences in Means

Based upon the above results, the position that share prices upon announcement respond differently because of the lack of pre-emptive rights is not strongly supported. Putting aside control issues, if pre-emptive rights had additional value as opposed to being capitalised into share prices, then, all other factors equal, we would see meaningful changes in share prices, like the US with weak protection and smaller prices changes in the EU and UK markets. Recognising the limitations of examining aggregate data, we looked at individual time series to see if prices changes observed on the announcement date were statistically significant given the random variations observed in prices. As summarised below in Table 7, the average Z value for EU and UK shares are highly significant. In contrast the Z value result for US shares is significant at the 92nd percentile.

STATISITCAL SIGNIFICANCE OF ANNOUNCEMENT DAY PRICE CHANGE			
SHARE MARKET	AVERAGE Z VALUE	MAX Z VALUE	MIN VALUE
EUROPE	-9.2251	-0.3912	-78.5803
UNITED KINGDOM	-2.0054	-0.0356	-32.3297
US	-1.4273	2.5404	-19.9223

Table 7 Z-Value for Price Change on Announcement Day

These results are *counter-intuitive:* One would expect in EU and UK share markets that price changes upon announcing a new issue would not be significant given share-holder protection through pre-emptive rights. As well, *counter-intuitively*, share price changes on announcement day for US firms should be larger given the absence of share-holder protection through pre-emptive rights. The results appear to support Proposition A, above, that the cost of equity includes the threat of wealth transfer and strong-form market efficiency, making alternative degrees of shareholder protection through pre-emptive rights analogous to different points on the Contract Curve: Equally Pareto efficient but not preferable from the perspective of positive economics. Upon announcement share prices will not change. Counter-intuitively, we see greater changes in markets with shareholder protection from dilution and loss of control than we see in markets where no such rights exist. An interpretation may be that the right to contract, including transferability and the threat of post-announcement litigation, as observed in the US, provide a stronger means of protecting shareholders than providing ex-ante pre-emptive rights. The upsurge in securities market litigation including the growth in Third Party Funded actions lends support this observation (Clifford Chance: The In-House Lawyer, 2019; McIntosh and Starykh, NERA, 2022).

Though it seems based upon the above results the price of equity already incorporates the possibility of changes to capital structure, exhibiting strong-form market efficiency and conforming to MM theory, making the nature and extent of pre-emptive rights immaterial, it may be instructive to see how various financial metrics respond.[30] Under CAPM, if the value of share ownership is reduced, then share prices should fall until the earnings stream is correctly repriced, restoring equilibrium along the Security Market Line. Until this transpires however, price adjustment may be associated with changes in financial performance through explained wealth effect. To investigate this possibility, we have considered performance metrics for the three groups of shares found in Table 2. Under the two theoretical frameworks of whether potential changes to capital structure are priced into the cost of capital, we have four possible outcomes upon announcement of a Rights Issue as shown in Table 8 below with regard to the two performance metrics of Return on Equity (ROE) and Return on Capital (ROC).

ALTERNTIVE OUTCOMES: IMPACT UPON FINANCIAL PERFORMANCE METRICS POST ISSUANCE ANNOUNCEMENT		
	No Pre-emptive Protection	Pre-emptive Protection
MM theory	ROE & ROC unaffected	ROE and ROC unaffected
BS theory	ROE & ROC reduced	ROE & ROC unaffected

Table 8 Possible Alternative Outcomes on Financial Performance

[30] N.B., we are not examining if, prior to the announcement, protection has a 'cost' in lower returns, trading-off risk and reward along the Security Market Line of the CAPM model as well as different risk premia or beta though such a risk appears idiosyncratic rather than systematic. Rather we are examining what happens to such metrics upon announcement of new share issuance (Doidge, Karolyi and Stulz, 2004). Whether firms with greater risk of dilution earn greater returns, may be a topic for future research.

Looking at results, we begin by reporting the percentage changes in these metrics before and after new share issuance announcement. Looking first at EU Shares we see in Table 9 below how various financial measures responded. It appears that post announcement, risk and reward increased. Post announcement the Weighted Average Cost of Capital (WACC) might increase due to greater equity in the capital structure.

PERCENT CHANGE IN FINANCIAL METRICS POST ANNOUNCEMENT EU SHARES				
	AVERAGE	**MAX**	**MIN**	**STDEV**
Return on Common Equity	32%	1830%	-482%	226%
Return on Capital	16%	1744%	-1244%	307%
Risk Premium	23%	565%	-211%	95%
Weighted Average Cost of Capital	9%	180%	-334%	71%
Adjusted Beta	102%	2798%	-109%	364%

Table 9 Percent Changes in Financial Metrics Post Issuance Announcement

We next show the pre and post announcement percent changes in financial metrics for UK shares, in Table 10. We observe, for the UK, return and risk premium increased although beta fell.

PERCENT CHANGE IN FINANCIAL METRICS POST ANNOUNCEMENT UK SHARES				
	AVG	**MAX**	**MIN**	**STDEV**
Return on Common Equity	12%	511%	-268%	123%
Return on Capital	25%	389%	-162%	119%
Risk Premium	19%	154%	-192%	65%
Weighted Average Cost of Capital	12%	112%	-35%	30%
Adjusted Beta	-83%	467%	-3290%	488%

Table 10 Percent Changes in Financial Metrics Post Issuance Announcement

Lastly, in Table 11, we show the percent changes post issuance announcement for our sample of US shares: Return measures fell with small changes to the risk premium and beta on average.

PERCENT CHANGE IN FINANCIAL METRICS POST ANNOUNCEMENT US SHARES				
	AVG	**MAX**	**MIN**	**STDEV**
Return on Common Equity	-46%	377%	-3106%	355%
Return on Capital	-23%	108%	-492%	90%
Risk Premium	-4%	60%	-144%	26%
Weighted Average Cost of Capital	9%	148%	-97%	36%
Adjusted Beta	6%	853%	-138%	96%

Table 11 Percent Changes in Financial Metrics Post Issuance Announcement

According to our two propositions, page 10, if share prices already capitalise the wealth impact of the threat of new issuance, then there should be no differences in percent changes comparing the various markets. Comparing Table 11 with Tables 9 and 10 however we observe that both measures of returns fell in the US market but not in EU and United Kingdom share markets. As already noted, perhaps until share prices adjust, as per CAPM, returns and risk are affected. Interestingly, the risk premium increased considerably in both the EU and United Kingdom markets while falling slightly, by 4%, in the US share market. Though less intuitive, these results *suggest* that notwithstanding pre-emptive protection in the UK and EU markets, shareholders demand a higher return though it may as well reflect changes to capital structure (the aforementioned endogeneity issue). In all markets, the weighted average cost of capital, post announcement increased, presumably because equity is more expensive than debt and their respective costs do not conform to MM capital structure theory because of frictions and taxes.[31] Possibly reflecting control issues, the results with regard to Beta are difficult to interpret increasing in EU markets, falling in UK markets and hardly changing for US shares.

Analysing further, we undertook statistical tests to see if any of the above results are significant. The computed Z-Values and their respective two-tail probabilities are shown in Table 12.

Z TEST FOR DIFFERENCES IN PERCENT CHANGE POST ANNOUNCEMENT			
FINANCIAL METRICS	**EU VS UK**	**EU VS USA**	**UK VS USA**
	Z Value and P(Z=z)	Z Value and P(Z=z)	Z Value and P(Z=z)
RETURN_COM_EQY	-0.23	-1.45	-1.28
	(82%)	(15%)	(20%)
RETURN_ON_CAP	0.49	-1.13	-1.77
	(63%)	(26%)	(8%)
RISK_PREMIUM	0.35	-2.26	-2.25
	(73%)	(2%)	(2%)
WACC	0.83	0.43	-0.52
	(41%)	(67%)	(60%)
BETA_ADJ_OVERRIDABLE	-1.80	-1.43	1.30
	(7%)	(15%)	(19%)
Z Two Tail = 1.95996 @ 95%			

Table 12 Z Tests for Differences

Notwithstanding the above points, the percent changes in key financial metrics before and after the issuance announcement, we see no statistically significant difference in the percentages comparing EU and UK markets. Comparing both the EU and the UK with the US markets yields some statistically significant changes, particularly the Return on Capital for the EU versus the US and the Risk Premium UK versus US are statistically significant at the 96%

[31] Given the short periods over which the effects of announcements took place, changes in tax exposure, and hence the scope for interest deductibility, are likely to be de minimis.

and the 98% respectively. This result supports the possibility that until share prices change via CAPM, financial returns are affected adversely.

5.0 Discussion and Conclusion

The debate over the benefits of pre-emptive rights for existing shareholders is long running. Faced with the principal-agent conflict, are such rights a key means of ensuring good governance, protecting shareholders and ensuring control, or is it is an impediment to growth denigrating the professionalism of management? Within their frame of reference, legal scholars have made persuasive arguments for both perspectives. According to *a priori* financial theory, however, developed since the 1950s, protecting shareholders from wealth distribution should only be of justifiable concern, if the risk has *not* been capitalised into prices, i.e., a change to capital structure, e.g. new share issuance, can be a surprise. Markets are not *strong-form* efficient. Moreover, given typical discounts upon new issues, post announcement, shareholders must have an expectation of potential wealth transfer (Westaway, 2023). If capital structure as well as potential changes to capital structure are already priced into the required returns, MM theory and *strong-form efficient*, then whether shareholders are strongly protected against loss of wealth and control through dilution as in EU markets, or weakly protected as in US markets, it should not matter. There might be greater 'safety' in EU markets but it comes at a price. These observations ignore differences between markets ex-post remedies for a loss of wealth, the scope for transferability or the impact of a loss in control, through litigation. Indeed, the *threat* of litigation may be sufficient to restrict the behaviour of senior management. The infrequency of Rights Issues in the United States, may represent a form of feed-back in this respect (see footnote 16). Our capital market level observations ignore the macro level implications: Regulators might acknowledge the neutrality of impact upon individual shareholders of a Rights Issue but maintain that at the macro level, capital formation for economic growth, takes precedent. Further, we have not taken into account the relative size of issues along with other possible control issues.

Reflecting upon our results, for all three markets as we see in Tables 3, 4 and 5, the impact on share prices of a Rights Issue is quite small. If pre-emptive rights were important, ignoring the scope for post announcement litigation, one would see a noticeable difference between these three markets but this is not the case. Moreover, from Table 7, counter-intuitively, it appears that the changes in EU and UK market share prices have greater statistical significance. But we also investigated the possibility that share prices are not responding according to the CAPM framework and that other metrics might indicate the different effects of strong versus weak pre-emptive rights. Comparing Tables 9, 10 and 11 we see that financial performance improves for UK and EU firms while falling for US firms post announcement, under-cutting the signalling argument. On average for our sample, ROC and ROE fell for US firms. If the possibility of a Rights Issue is an idiosyncratic risk, unique to the individual firm, then it would not be capitalised into share prices, supporting the view that

such events are neither anticipated nor reflected in share prices.[32] As a limitation to our research, we recognise that controlling for other information or even noise is an inherent challenge to event studies. As well, we ignore the non-equilibrium signalling hypothesis related to capital structure, debt and new share issuance as first proposed by Ross (1977). Fresh share issuance *may* indicate enhanced future earnings which *may* offset dilution and wealth transfer, but our focus is upon ex-ante protection from loss of control or dilution through pre-emptive rights under capital market equilibrium. The existence of ex-post remedies for loss of control or dilution through litigation may have a role in explaining why such risks are not capitalised into share prices but similarly, this is outside the scope of our research.

We find the evidence mixed with regard to the two alternative propositions that either the cost of equity includes the threat of wealth transfer making shareholder protection through pre-emptive rights of no consequence; or that the cost of equity ignores the threat of wealth transfer, implying that shareholders lacking pre-emptive rights will see share prices and/or returns fall upon an issuance announcement. Though even a statistically robust sample cannot categorically *prove* a theoretical proposition, our results illustrate the possibility that pre-emptive rights protection for existing shareholders either has a cost or that shareholders without such protection, capitalise future earnings and the threat of wealth reduction accordingly, conforming with a stronger form of market efficiency: They anticipate a higher return given the risks.

Setting aside macro arguments for favouring either strong or weak pre-emptive rights, at a shareholder level, jurisprudence should recognise the possibility that the prices of shares and related metrics are unlikely to ignore the risks of wealth transfer and loss of control as may arise through new issuance. The argument that in large, liquid and efficient capital markets, the risks associated with a Rights Issue, a loss of wealth or control, are not capitalised into share prices, seems implausible. Even if the risks of wealth transfer are not *precisely* capitalised into share prices and the cost of capital, rationality is bounded, the assertion that price of shares and related metrics ignore relevant information including the need for more capital and the scope of pre-emptive rights ex post remedies like litigation, appears improbable. The merits of a shareholder claim in litigation of being adversely affected by a Rights Issue, a loss in wealth or in control, should take cognisance of established financial research.[33]

Returning to our earlier discussion of legal aspects, we observe that the case for pre-emptive rights falls within the positivist approaches to Agency Theory (Jensen & Meckling, 1976 and Jensen, 1983): It is designed to address what governance mechanisms are needed to ensure the interests of agents and principals are aligned. It is a non-equilibrium perspective ignoring the scope for markets adjusting to changes in rules and regulations. Issuing fresh

[32] Whether through portfolio diversification such idiosyncratic risk might be eliminated might be an interesting avenue of future research.

[33] Interestingly, according to Ross (1977) '… implicit to the MM irrelevance proposition is the assumption that the market understands the random return stream of the firm and values the stream to set the value of the firm. The market in contrast values the perceived stream of returns for the firm.' (Copeland, Weston, Shastri, page 562.)

share capital may support growth and expansion, but it might dilute control, reduce wealth of existing shareholders and present new risks. Within the legal framework, proponents of pre-emptive rights see them as a means of protecting the democratic character of the limited liability corporation from the high-handed actions senior management. It presumes that there is Agency problem. Opponents of pre-emptive rights argue either that shareholders do not need protecting, there is no Agency problem or that other means exist to ensure alignment with the wishes of principals…. like litigation. Our research articulates why theoretically, the debate may not be unhelpful: Theoretically shares may embody relevant risks and has some statistical support. Our research casts doubt on claims for compensation in legal regimes with weak or non-existent pre-emptive rights, exist. As we have illustrated empirically with our three data sets, prices or returns may not adjust because such risks were already capitalised into prices or that returns may have compensated for greater risks. Unless we adopt a macro-prudential argument for protecting shareholders, the normative economics position of ranking different Pareto efficient points on the contract curve, alternative legal approaches to pre-emptive rights, appear immaterial. The case that risk of wealth transfer is not capitalised into the share price, is weak.

APPENDIX I. EXAMPLE OF EARNINGS DILUTION

Dilution affects the value of a share holding according to the number of additional shares issued and the number of shares held. Dilution affects the earnings per share (EPS) of the company and consequently the price of shares which typically sell at a multiple of earnings.

As an illustration, in the following example we have a firm doubling its share issuance thereby spreading the same earnings over greater number of shares, i.e. dilution. Book value may fall as well. We see the EPS falls from £1.00 to £0.50 per share after the number of shares are doubled from 100 to 200. The market capitalisation is unchanged as the price earnings ratio is assumed to be unchanged. But shareholder 'A' has seen his earnings fall by 50%.

EXAMPLE OF EARNINGS DILUTION PER SHARE OUTSTANDING	
ISSUED SHARES BEFORE DILUTION	100
TOTAL EARNINGS	£ 100.00
EARNINGS PER SHARE PRE-ISSUANCE	£ 1.00
PRICE/EARNINGS RATIO	10
MARKET VALUE OF TOTAL SHARES CAPITAL PRE-ISSUANCE	£ 1,000.00
ADDITIONAL SHARE ISSUANCE	100
TOTAL SHARES OUTSTANDING	200
OWNERSHIP BY SHAREHOLDER 'A' 10%	10%
SHARES OWNED BY SHAREHOLDER 'A' PRE-ISSUANCE	10
EARNINGS OF SHAREHOLDER A PRE-ISSUEANCE	£ 10.00
PERCENT OWNERSHIP NO TAKE-UP/NO RIGHTS	5%
SHARES OWNED BY 'A' POST ISSUANCE	10
EARNINGS PER SHARE POST ISSUANCE	£ 0.50
EARNINGS OF 'A' POST ISSUANCE	£ 5.00
MARKET VALUE OF TOTAL SHARES POST-ISSUANCE	£ 1,000.00

It is possible that the issuance of new shares may suggest a firm has new growth opportunities in which case, if the dilution leads to an increase in earnings, then earnings may not be diluted. The issuance may 'signal' to the market that the firm has improved growth prospects leading to a higher price to earnings ratio and greater market capitalisation. Investigating how changes to capital structure may impact valuation through signalling is a non-equilibrium approach as first introduced by Ross (1977). It is outside the focus of our research. (Public companies may also calculate diluted EPS to determine the potential effect of dilution on stock prices in case share options are exercised.)

As explained analytically in the Literature Review; to analyse the effect on firm valuation however we need to look at the entire capital structure of debt and equity moving from an accounting to a financial theory perspective on how changes to capital structure may impact valuation. Under MM Theory, the price of equity and debt adjusts to changes in capital structure. Unless there is tax benefit (interest deductibility) from debt, the value of the firm is invariant to adjustments in capital structure. If the cost of capital takes into account, ex ante,

the potential for changes to new share issuance or for that matter any change to capital structure, the overall valuation of the firm, the market capitalisation of equity minus debt, should not change, unless the aforementioned signalling argument is relevant. If the *potential* for changes to capital structure, ex ante, are *not* capitalised into the cost of debt and equity, according to Option Theory, then redistributions of wealth between shareholders and bond holders may occur along with changes to valuation. In either paradigm, wealth transfer between existing shareholders and new shareholders may occur according to equations (3) and (4) of page 8. Whether the extent of protection from dilution is embodied in the share prices is the subject of our empirical event analysis.

APPENDIX II EU RIGHTS ISSUES
(Source: Bloomberg Corporate Action Calendar. Note: Repetitions reflect multiple listings.)

Announcement Date	Security ID
29/06/2017	ELT3EUR EU Equity
29/06/2017	LONG EU Equity
30/06/2017	SVHEUR EU Equity
30/06/2017	TKO1EUR EU Equity
30/06/2017	ODX EU Equity
30/06/2017	ALHYGEUR EU Equity
30/06/2017	VER2 EU Equity
30/06/2017	TRP1EUR EU Equity
30/06/2017	TRP1 EU Equity
30/06/2017	700EUR EU Equity
30/06/2017	WESCEUR EU Equity
30/06/2017	WESC EU Equity
03/07/2017	BSYXFEUR EU Equity
03/07/2017	AEBEUR EU Equity
03/07/2017	JINGBX EU Equity
03/07/2017	JIN EU Equity
03/07/2017	JINEUR EU Equity
04/07/2017	ESPGBX EU Equity
04/07/2017	ESPEUR EU Equity
06/07/2017	SCE1 EU Equity
06/07/2017	SCE1EUR EU Equity
06/07/2017	EKIEUR EU Equity
06/07/2017	HNRGBX EU Equity
06/07/2017	INY EU Equity
10/07/2017	TPGGBX EU Equity
10/07/2017	TPGEUR EU Equity
10/07/2017	V3V EU Equity
11/07/2017	ALODIEUR EU Equity
12/07/2017	AVXEUR EU Equity
12/07/2017	4INEUR EU Equity
12/07/2017	4IN EU Equity
12/07/2017	EQNGBX EU Equity
12/07/2017	EQNEUR EU Equity
14/07/2017	CNMI EU Equity
14/07/2017	CNMIEUR EU Equity
17/07/2017	VXREUR EU Equity
17/07/2017	0QDWEUR EU Equity
17/07/2017	0QDW EU Equity
18/07/2017	GFC EU Equity
18/07/2017	GFCGBX EU Equity
19/07/2017	ZMIEUR EU Equity
19/07/2017	EKSOEUR EU Equity
23/07/2017	861EUR EU Equity
24/07/2017	ALNAVEUR EU Equity
24/07/2017	PICOEUR EU Equity
27/07/2017	MYRN EU Equity
27/07/2017	MYRNEUR EU Equity
28/07/2017	FAM2EUR EU Equity
28/07/2017	876EUR EU Equity
31/07/2017	MZZEUR EU Equity
31/07/2017	INK1EUR EU Equity
31/07/2017	VJBA EU Equity
31/07/2017	VJBAEUR EU Equity
31/07/2017	FAM1 EU Equity
01/08/2017	BRU1EUR EU Equity
02/08/2017	WEB1EUR EU Equity
03/08/2017	BYOT EU Equity
03/08/2017	BYOTEUR EU Equity

04/08/2017	AZMEUR EU Equity
04/08/2017	AYC EU Equity
04/08/2017	ACZ EU Equity
05/08/2017	POLYEUR EU Equity
05/08/2017	POLY EU Equity
08/08/2017	IODEUR EU Equity
08/08/2017	FFXGBX EU Equity
10/08/2017	CTPEUR EU Equity
11/08/2017	CIN1 EU Equity
15/08/2017	MEOEUR EU Equity
15/08/2017	4L4 EU Equity
15/08/2017	4L4EUR EU Equity
17/08/2017	RFVVFEUR EU Equity
17/08/2017	DRYSEUR EU Equity
18/08/2017	GETIBEUR EU Equity
18/08/2017	GETIBUSD EU Equity
18/08/2017	GETIB EU Equity
18/08/2017	GETIBGBX EU Equity
18/08/2017	6S6EUR EU Equity
18/08/2017	6S6 EU Equity
22/08/2017	SPAGSEK EU Equity
22/08/2017	GABIGBX EU Equity
25/08/2017	MSBEUR EU Equity
25/08/2017	FINLEUR EU Equity
28/08/2017	MRG1EUR EU Equity
28/08/2017	ESUN EU Equity
28/08/2017	EILEUR EU Equity
28/08/2017	BELEEUR EU Equity
28/08/2017	BELEUSD EU Equity
28/08/2017	BELE EU Equity
28/08/2017	ERRES EU Equity
29/08/2017	COE1EUR EU Equity
30/08/2017	MWREUR EU Equity
30/08/2017	INSREUR EU Equity
30/08/2017	INSRNOK EU Equity
30/08/2017	HOVDSEK EU Equity
30/08/2017	BNT EU Equity
31/08/2017	IHLEUR EU Equity
31/08/2017	MLFXOEUR EU Equity
01/09/2017	CEABSEK EU Equity
01/09/2017	OPTISEK EU Equity
01/09/2017	JXR EU Equity
01/09/2017	CSSOFEUR EU Equity
01/09/2017	CSSOFSEK EU Equity
04/09/2017	EEM EU Equity
04/09/2017	PLE1 EU Equity
05/09/2017	WNTSEK EU Equity
05/09/2017	EURIB EU Equity
06/09/2017	SND1EUR EU Equity
06/09/2017	OGXEUR EU Equity
06/09/2017	HMXEUR EU Equity
06/09/2017	CUR1 EU Equity
06/09/2017	GTGMTSEK EU Equity
07/09/2017	LBKEUR EU Equity
07/09/2017	LBKUSD EU Equity
08/09/2017	ULEDMSEK EU Equity
11/09/2017	STEL EU Equity
11/09/2017	SFP1 EU Equity
11/09/2017	ARV2EUR EU Equity
12/09/2017	ACAD1EUR EU Equity
12/09/2017	ACADSEK EU Equity
13/09/2017	MONT EU Equity
13/09/2017	MONTGBX EU Equity
14/09/2017	REALMSEK EU Equity
14/09/2017	SALBEUR EU Equity
14/09/2017	SALB EU Equity
14/09/2017	VIPRO EU Equity
14/09/2017	VIPROEUR EU Equity
15/09/2017	SBX EU Equity
15/09/2017	SBXGBX EU Equity
15/09/2017	SBXEUR EU Equity
18/09/2017	TRC1EUR EU Equity
19/09/2017	SYR1EUR EU Equity
19/09/2017	PCA1 EU Equity
19/09/2017	NRENCHF EU Equity
20/09/2017	BSMEUR EU Equity
20/09/2017	FRIGO EU Equity
21/09/2017	CCT2EUR EU Equity
21/09/2017	943EUR EU Equity
22/09/2017	MPENSEK EU Equity
25/09/2017	SENS EU Equity
25/09/2017	SENSEUR EU Equity
26/09/2017	POH1 EU Equity
26/09/2017	POH1EUR EU Equity
26/09/2017	6S5 EU Equity
26/09/2017	6S5EUR EU Equity

26/09/2017	STACHF EU Equity
28/09/2017	BPT1EUR EU Equity
28/09/2017	DONEUR EU Equity

APPENDIX III UK RIGHTS ISSUES (Source: Bloomberg UK Corporate Action Calendar)

Announcement Date	Security ID
05/01/2010	STA LN Equity
14/01/2010	MMC LN Equity
27/01/2010	SPO LN Equity
02/02/2010	HAMP LN Equity
11/02/2010	VER LN Equity
15/02/2010	MXF LN Equity
05/03/2010	KMR LN Equity
05/03/2010	AXN LN Equity
11/03/2010	HGT LN Equity
23/03/2010	VKW LN Equity
26/03/2010	PSPI LN Equity
31/03/2010	FWUK LN Equity
01/04/2010	CMIP LN Equity
01/04/2010	BNK LN Equity
26/04/2010	BKIR LN Equity
26/04/2010	BIRG LN Equity
27/04/2010	FPM LN Equity
30/04/2010	BSLA LN Equity
02/05/2010	NHY LN Equity
05/05/2010	DEO LN Equity
14/05/2010	MFX LN Equity
20/05/2010	NG/ LN Equity
26/05/2010	BGBL LN Equity
27/05/2010	BIOM LN Equity
28/05/2010	JRIC LN Equity
04/06/2010	CRND LN Equity
07/06/2010	TRT LN Equity
07/06/2010	PRM LN Equity
10/06/2010	BCAP LN Equity
15/06/2010	NMB LN Equity
15/06/2010	NMBA LN Equity
24/06/2010	FLG LN Equity
25/06/2010	AVE LN Equity
25/06/2010	GPRT LN Equity
07/07/2010	WATR LN Equity

28/09/2017	DON EU Equity
28/09/2017	PRLEUR EU Equity
28/09/2017	CSHGBX EU Equity

22/07/2010	UAI LN Equity
02/08/2010	EVOL LN Equity
17/08/2010	EVN LN Equity
17/08/2010	RECI LN Equity
20/08/2010	CFU LN Equity
26/08/2010	SPH LN Equity
08/09/2010	TAN LN Equity
17/09/2010	SGZ LN Equity
23/09/2010	HIW LN Equity
23/09/2010	1876652D LN Equity
01/10/2010	IAEM LN Equity
01/10/2010	IAES LN Equity
05/10/2010	AAT LN Equity
13/10/2010	STAN LN Equity
20/10/2010	POWR LN Equity
21/10/2010	XAR LN Equity
02/11/2010	BVA LN Equity
03/11/2010	SCE LN Equity
04/11/2010	DME LN Equity
08/11/2010	NEPI LN Equity
12/11/2010	TPG LN Equity
16/11/2010	HICL LN Equity
16/11/2010	1707299D LN Equity
17/11/2010	MWH LN Equity
30/11/2010	XEL LN Equity
30/11/2010	UBG LN Equity
03/12/2010	FCSS LN Equity
07/12/2010	NAD LN Equity
07/12/2010	IVO LN Equity
07/12/2010	IVO LN Equity
10/12/2010	DGN LN Equity
13/12/2010	SYNT LN Equity
13/12/2010	OXB LN Equity
14/12/2010	OTE LN Equity
16/12/2010	RPC LN Equity
24/12/2010	JJB LN Equity
13/01/2011	TILS LN Equity
19/01/2011	AGR LN Equity
02/02/2011	AEX LN Equity

02/02/2011	MXF LN Equity
04/02/2011	AXS LN Equity
11/02/2011	STU LN Equity
02/03/2011	FWEB LN Equity
02/03/2011	AUSC LN Equity
08/03/2011	QFI LN Equity
14/03/2011	ALTN LN Equity
16/03/2011	FTV LN Equity
31/03/2011	ABL LN Equity
01/04/2011	CIN LN Equity
06/04/2011	JJB LN Equity
06/04/2011	CZB LN Equity
06/04/2011	CZB LN Equity
13/04/2011	HSTN LN Equity

21/04/2011	ESKN LN Equity
27/04/2011	SLN LN Equity
11/05/2011	PTY LN Equity
17/05/2011	SFI LN Equity
19/05/2011	LAM LN Equity
23/05/2011	ELR LN Equity
26/05/2011	SBT LN Equity
31/05/2011	SLI LN Equity
03/06/2011	IPO LN Equity
03/06/2011	BKIR LN Equity
03/06/2011	BIRG LN Equity
20/06/2011	1500248D LN Equity
05/07/2011	PXS LN Equity
06/07/2011	QRM LN Equity

APPENDIX IV US RIGHTS ISSUES (Source: Bloomberg UK Corporate Action Calendar)

Announcement Date	Security ID
01/06/2010	UNCFF US
01/06/2010	UNCIF US
02/10/2010	SRMGF US
04/17/10	CWBC US
04/26/10	SNV US
04/26/10	BKRIF US
05/25/10	HAFC US
08/18/10	RCBC US
09/08/2010	NBGIF US
09/13/10	DB US
09/15/10	NBGIF US
10/13/10	SCBFF US
10/29/10	BPIRF US
11/02/2010	BBVXF US
11/23/10	CPF US
12/23/10	FMNB US
01/10/2011	FMBM US
02/10/2011	DNSKF US
02/17/11	CPF US
02/24/11	UCBI US
03/29/11	BKIMF US
04/06/2011	IITSF US
04/06/2011	CRZBF US
04/06/2011	CRZBF US
04/06/2011	IITOF US
04/11/2011	BMDPF US
04/20/11	BPCGF US

04/26/11	MCBC US
05/19/11	BPCGF US
06/03/2011	BKRIF US
07/29/11	SMMF US
10/06/2011	UVSP US
11/07/2011	BORT US
11/08/2011	CCBC US
11/14/11	UNCIF US
11/14/11	UNCFF US
11/15/11	IBCP US
11/22/11	CFBK US
02/01/2012	SRMGF US
02/27/12	BNDSF US
02/28/12	FXNC US
04/25/12	FFBB US
05/08/2012	LYBC US
09/07/2012	BPCGF US
09/25/12	HTBI US
02/20/13	BKIMF US
04/10/2013	CBKM US
05/02/2013	ALBKF US
05/14/13	CRZBF US
05/23/13	NBGIF US
EPGNF US Equity	2013/01/07
PTUUF US Equity	2013/01/10
WWR US Equity	2013/01/18

NTCXF US Equity	2013/01/22
GIGA US Equity	2013/01/24
LNNGF US Equity	2013/01/25
IESC US Equity	2013/01/28
UGDIF US Equity	2013/01/30
WEBNF US Equity	2013/01/30
DOMH US Equity	2013/01/30
RCMT US Equity	2013/01/31
NEPH US Equity	2013/02/04
KKPNF US Equity	2013/02/05
CACH US Equity	2013/02/05
QBAK US Equity	2013/02/06
BWEN US Equity	2013/02/13
NAUBF US Equity	2013/02/21
BXC US Equity	2013/02/22
NOURF US Equity	2013/02/25
ASPCQ US Equity	2013/02/27
MMTMF US Equity	2013/02/27
PBA US Equity	2013/03/01
PTNUF US Equity	2013/03/04
YOOIF US Equity	2013/03/15
ETFLF US Equity	2013/03/19
CTUNF US Equity	2013/03/21
NCFFF US Equity	2013/03/21
MYBUF US Equity	2013/03/28
NUSMF US Equity	2013/03/28
PRRUF US Equity	2013/04/02
SBFFF US Equity	2013/04/03
BVLDF US Equity	2013/04/03
CBKM US Equity	2013/04/10
SNMYF US Equity	2013/04/10
MNSEF US Equity	2013/04/15
CNNEF US Equity	2013/04/22
BVDRF US Equity	2013/04/23
GEAHF US Equity	2013/04/24
WRN US Equity	2013/04/25
FORD US Equity	2013/04/26
ALBKF US Equity	2013/05/02
SBLK US Equity	2013/05/02
MLMZF US Equity	2013/05/07
BABB US Equity	2013/05/07
BARUF US Equity	2013/05/09
COHN US Equity	2013/05/10
CRZBF US Equity	2013/05/14
CFXTF US Equity	2013/05/14
SRLTF US Equity	2013/05/15
QTEYF US Equity	2013/05/15
TNREF US Equity	2013/05/15
CEGMF US Equity	2013/05/15
ACKRF US Equity	2013/05/16
ABCFF US Equity	2013/05/16
TGB US Equity	2013/05/17
FGROF US Equity	2013/05/20

PPCCF US Equity	**2013/05/20**
AXR US Equity	**2013/05/21**
MGMLF US Equity	**2013/05/21**
AUNFF US Equity	**2013/05/22**
NBGIF US Equity	**2013/05/23**

PLM US Equity	**2013/05/24**
NWSA US Equity	**2013/05/24**
NWS US Equity	**2013/05/24**
CYH US Equity	**2013/05/24**
FNCJF US Equity	**2013/05/27**

APPENDIX V

DAILY PRICE VOLATILITY COMPARISONS AS USED TO CONTROL FOR PERCENTAGE CHANGES OF TABLE 2.	
EU SHARE PRICES	**10.9357%**
US SHARE PRICES	**1.1322%**
UNITED KINGDOM SHARE PRICES	**0.1597%**

REFERENCES

Adamson, F. L. 'Corporations: Pre-emptive Right to Subscribe to Stock Issues: Necessity of Action by the Shareholder." Michigan Law Review, vol. 47, no. 6, 1949, pp. 805–11. JSTOR, https://doi.org/10.2307/1284271. Accessed 15 Sept. 2023.

Barnard, C.I. (1938), *The Functions of the Executive*, Harvard University Press, Cambridge, MA.

Downes, J. and J.E. Goodman (2018), *Dictionary of Finance and Investment Terms*, Barrons Educational Series, New York, 2016.

Bebchuk, L.A. and C. Jolls, "Managerial value diversion and shareholder wealth", The Journal of Law, Economics, and Organization, Volume 15, Issue 2, July 1999, Pages 487–502, https://doi.org/10.1093/jleo/15.2.487

Bebchuk, L.A., "The Case for Increasing Shareholder Power." *Harvard Law Review*, vol. 118, no. 3, 2005, pp. 833–914. JSTOR, http://www.jstor.org/stable/4093350. Accessed 16 Sept. 2023.

Bebchuk, L.A., "Efficient and Inefficient Sales of Corporate Control." The Quarterly Journal of Economics, vol. 109, no. 4, 1994, pp. 957–93. JSTOR, https://doi.org/10.2307/2118353. Accessed 16 Sept. 2023.

Berle, A.A. and Means, G.C. (1932), The Modern Corporation and Private Property, Harcourt, Brace & World, New York, NY.

Bernstein, J., "Shareholder Agreements: A Tax and Legal Guide". CCH Canadian Limited, 1988.

Bhagat, S., "The effect of pre-emptive right amendments on shareholder wealth", Journal of Financial Economics, Volume 12, Issue 3, 1983, Pages 289-310, ISSN 0304-405X, https://doi.org/10.1016/0304-405X(83)90051-X.

Black F. and M. Scholes, "The Pricing of Options and Corporate Liabilities", The Journal of Political Economy, Vol. 81, No. 3 (May - Jun., 1973), pp. 637-654 http://www.jstor.org/stable/1831029

Brown, K. C., L.J. Lockwood, and S, L. Lummer, "An Examination of Event Dependency and Structural Change in Security Pricing Models", Journal of Financial and Quantitative Analysis, 20 (September 1985), pp. 315-334

Brown, S. and J.B. Warner, "Using Daily Stock Returns: The Case of Event Studies," Journal of Financial Economics, 14 (March 1985), pp. 3-32.

Burgess, K. (2-2-2010), "Pre-emption: Knowing your rights is a serious issue", Financial Times 2-2-2010.

Chemla, G. and M.A. Habib and A. Ljungqvist, "An Analysis of Shareholder Agreements (January 2002). NYU Working Paper No. S-CG-01-04, Available at SSRN: https://ssrn.com/abstract=1295756

Cline, J. S. "Corporations: Pre-Emptive Rights: Importance of Drafting in Protecting Shareholder against Dilution of Interest and Compulsory Reinvestment." California Law Review, vol. 40, no. 1, 1952, pp. 132–40. JSTOR, https://doi.org/10.2307/3477848. Accessed 30th Sept. 2023.
https://www.law.cornell.edu/wex/pre-emptive_right

Clifford Chance: The In-House Lawyer, August 2019. https://www.cliffordchance.com/content/dam/cliffordchance/briefings/2019/10/ihl_au19_pxx-xx_advertorial_cc2.pdf. Accessed 3rd Oct. 2023.

Company Act of 2006 ((https://www.legislation.gov.uk/ukpga/2006/46/part/17/chapter/3/crossheading/disapplication-of-pre-emption-rights

The Corporation Law Committee of the Association of the Bar of the City of New York. "The Enforceability and Effectiveness of Typical Shareholders Agreement Provisions." The Business Lawyer, vol. 65, no. 4, 2010, pp. 1153–203. JSTOR, http://www.jstor.org/stable/25758511. Accessed 16 Sept. 2023.

Copeland, T.E. and J.F. Weston (1992), *Financial Theory and Corporate Policy*, Third Edition, New York: Addison-Wesley Publishing Company, 1992. ISBN-13 978-0201106480.

Copeland, T.E., J.F. Weston and K. Shastri, (2014), *Financial Theory and Corporate Policy*, Fourth Edition, Harlow, Essex: Pearson, 2014. ISBN-13 978-1292021584

Dain C. D., L. Kettell, J. McInnis, S. Toynbee, "The need to validate exogenous shocks: Shareholder derivative litigation, universal demand laws and firm behavior," Journal of Accounting and Economics, Volume 73, Issue 1, 2022, 101427

DLA Piper Intelligence: https://www.dlapiperintelligence.com/goingglobal/corporate/index.html?t=38-restrictions-transferability-of-shares&c=US

Doidge, C., A. Karolyi and R.M. Stulz, "Why are foreign firms listed in the U.S. worth more?", Journal of Financial Economics February 2004

Donelson, D.C., Tori, E. and Yust, C.G. (2022), The Effects of Independent Director Litigation Risk†. *Contemporary Account Research*, 39: 982-1022. https://doi.org/10.1111/1911-3846.12750

Downar, B. and M. Keiling, "Shareholder Rights and Capital Structure: Evidence from Derivative Lawsuits (December 25, 2019). Available at SSRN: https://ssrn.com/abstract=3511349 or http://dx.doi.org/10.2139/ssrn.3511349

Drinker, H. S., "The Preëmptive Right of Shareholders to Subscribe to New Shares." *Harvard Law Review,* vol. 43, no. 4, 1930, pp. 586–616. JSTOR, https://doi.org/10.2307/1330288. Accessed 15 Sept. 2023.

Echterling, F. and B. Eberle, "Mean reversion adjusted betas used in business valuation practice: a research note." *Journal of Business Economics* 85, 759–792 (2015). https://doi.org/10.1007/s11573-014-0750-4.

Eckbo, B.E. and Masulis, R.W. (1992), 'Adverse selection and the rights offer paradox', Journal of Financial Economics, Volume 32, Issue 3, 1992, Pages 293-332, ISSN 0304-405X, https://doi.org/10.1016/0304-405X(92)90030-2.

Eckbo, B.E., *Handbook of Empirical Corporate Finance*, Elsevier, 2007. ISBN 978-0-444-53265-7. https://doi.org/10.1016/B978-0-444-53265-7.X5001-X

European Savings Institute and Insead, (MARKT/2012/077/H) (2013), 'UNDER THE TENDER: WHO OWNS THE EUROPEAN ECONOMY ? EVOLUTION OF THE OWNERSHIP OF EU-LISTED COMPANIES BETWEEN 1970 AND 2012'.
https://finance.ec.europa.eu/system/files/2016-12/1308-report-who-owns-european-economy_en_0.pdf
Fama, E. (1965), "The Behavior of Stock Market Prices". Journal of Business. 38: 34–105. doi:10.1086/294743.

Fama, E., L. Fisher, M. Jensen and R. Roll, "The Adjustment of Stock Prices to New Information," International Economic Review, 10 (February 1969), pp. 1-21.

Ferran, Eilís, (2008), 'What's wrong with Rights Issues?', *Law and Financial Markets Review*, 2:6, 523-536, DOI: 10.1080/17521440.2008.11428012.

Freedman, S., (1994), "The Shareholder Agreement: Unprecedented Challenges". Law Society of Upper Canada

Fried, J.M. and H. Spamann, (2020), "Cheap-stock tunnelling around pre-emptive rights", *Journal of Financial Economics,* 7 March 2020.

Galai, D. and Masulis, R.W., (1976) "The option pricing model and the risk factor of stock", Journal of Financial Economics, Volume 3, Issues 1–2, 1976, Pages 53-81, ISSN 0304-405X, https://doi.org/10.1016/0304-405X(76)90020-9.

Hess, A. C., & Bhagat, S. (1986). "Size Effects of Seasoned Stock Issues: Empirical Evidence", The Journal of Business, 59(4), 567–584. http://www.jstor.org/stable/2353009

Holderness, C. G. and J. Pontiff, (2016), 'Shareholder nonparticipation in valuable rights offerings: New findings for an old puzzle', *Journal of Financial Economics*, Volume 120, Issue 2, 2016, Pages 252-268, ISSN 0304-405X, https://doi.org/10.1016/j.jfineco.2016.01.011.

Janku, M., 'Statutory Pre-emption Right as Changed by the New Civil Code', Procedia Economics and Finance, Volume 12, 2014, Pages 259-264, ISSN 2212-5671, https://doi.org/10.1016/S2212-5671(14)00343-8.

Jensen, M.C. and Meckling, W.H. (1976), "Theory of the firm: managerial behavior, agency costs and ownership structure", *Journal Financial Economics*, Vol. 3 No. 4, pp. 305-360.

Layard, P.R.G. and A.A. Walters (1978), Microeconomic Theory, McGraw Hill Book Company, Maidenhead, Great Britain. ISBN 13: 9780070367869

La Porta, Rafael, Florencio López de-Silanes, Andrei Shleifer, and Robert Vishny, 'Which countries give investors the best protection', *Public Policy for the Private Sector,* World Bank Group: Note No. 109, April, 1997. https://documents1.worldbank.org/curated/en/950791468781530973/pdf/16709-Replacement-file-109LOPEZ.pdf

Le, H. and Gregoriou, A. (2022), "Liquidity and asset pricing: evidence from a new free-float-adjusted price impact ratio", *Journal of Economic Studies*, Vol. 49 No. 4, pp. 751-771. https://doi.org/10.1108/JES-04-2021-0182.

Marsh, P., (1979), "Equity Rights Issues and the Efficiency of the UK Stock Market Published": 09/01/1979, *The Journal of Finance*. | DOI: 10.1111/j.1540-6261. 1979.tb03439.

Marsh, P., (1980), 'Valuation of Underwriting Agreements for UK Rights Issues', *The Journal of Finance*, 06/01/1980 | DOI: 10.1111/j.1540-6261. 1980.tb03493.x

Marsh, P. (1982). 'The Choice Between Equity and Debt: An Empirical Study', The *Journal of Finance*, 37(1), 121–144. https://doi.org/10.2307/2327121

Martel, P. (1991). Les Conventions entre Actionnaires. Wilson and Lafleur.

Masulis, R. W., Wang, C. and Xie, F., (2009), 'Agency problems at dual-class companies', *Journal of Finance,* Volume 64, Issue 4, Pages 1697 – 1727 August 2009. DOI 10.1111/j.1540-6261.2009. 01477.x

McIntosh, J. and S. Starykh, "Recent Trends in Securities Class Action Litigation: 2021 Full-Year Review , NERA, 2022 (https://www.nera.com/content/dam/nera/publications/2022/PUB_2021_Full-Year_Trends_012022.pdf)

Mikkelson, W. H. and M. M. Partch, "Valuation Effects of Security Offerings and the Issuance Process," *Journal of Financial Economics*, 15 (January/February 1986), pp. 31-6.

Morawetz, V. "The Pre-emptive Right of Shareholders." *Harvard Law Review*, vol. 42, no. 2, 1928, pp. 186–97. JSTOR, https://doi.org/10.2307/1329860. Accessed 15 Sept. 2023.

Myers, S.C. and N.S Majluf (1984), 'Corporate financing and investment decisions when firms have information that investors do not have', *Journal of Financial Economics*, Volume 13, Issue 2, 1984, Pages 187-221, ISSN 0304-405X, https://doi.org/10.1016/0304-405X(84)90023-0.

Myners, P. (2005), "Pre-Emption Rights: Final Report", Department of Trade and Industry, February, 2005.

Pathak, P. and S. Gupta (2018), 'Rights Offering and Its Effect on Share Price Movement: A Study of Commercial Banks', *Journal of Nepalese Business Studies*, Vol. XI, No.1, https://api.semanticscholar.org/CorpusID:182755247

PRATT, J. W., "Risk Aversion in the Small in the Large", Econometrica, 32 (1964), 122 – 136.

Renders, A. and Gaeremynck, A. (2012), 'Corporate Governance, Principal-Principal Agency Conflicts, and Firm Value in European Listed Companies'. *Corporate Governance: An International* Review, 20: 125-143. https://doi.org/10.1111/j.1467-8683.2011.00900.x

Ross, S. A. "The Determination of Financial Structure: The Incentive-Signalling Approach." The Bell Journal of Economics, vol. 8, no. 1, 1977, pp. 23–40. JSTOR, https://doi.org/10.2307/3003485. Accessed 10 Oct. 2023.

Samuelson, Paul (1965). "Proof That Properly Anticipated Prices Fluctuate Randomly". Industrial Management Review. 6: 41–49.

Sealy, L. S., "Shareholders" Agreements. An Endorsement and a Warning from the House of Lords." The Cambridge Law Journal, vol. 51, no. 3, 1992, pp. 437–39. JSTOR, http://www.jstor.org/stable/4507715. Accessed 16 Sept. 2023.

Serpoul, F. "Beyond Legal Origins: Shareholder Protection and Stock Market Development in France (1882 – 2007) 19 London School of Economics and Political Sciences.

Stedman, G. and J. Jones (1990). Shareholders" Agreements, 2nd edition, Longman.

TOREM, C., and L. FOCSANEANU, “MINORITY STOCKHOLDERS” RIGHTS UNDER FRENCH LAW.” The Business Lawyer, vol. 15, no. 2, 1960, pp. 331–42. JSTOR, http://www.jstor.org/stable/40683411.

Vos, T. (2023), ‘Authorisations to issue shares and disapply pre-emption rights in the UK, Belgium and France: law, economics and practice’, Journal of Corporate Law Studies, 23:1, 231-269, DOI: 10.1080/14735970.2023.2244677

Westaway, K. (2023). Contributhttps://www.forbes.com/sites/kylewestaway/2023/01/10/what-founders-need-to-know-about-convertible-notes-discounts-caps-and-more/

ETHICAL STATEMENT DECLARATION

The submitted article entitled, 'Pre-emptive Rights Issues: A Theoretical and Empirical Examination' is an *observational study* using publicly available, third-party generated, financial data downloaded from the Bloomberg® Information Service. Given the nature of the data utilised, the authors sought no ethical approval from the University of Brighton Research Ethics Committee. Further, the authors declare that there was no conflict of interest in producing this research.